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LOCAÇÃO DE EQUIPAMENTOS DE INFORMÁTICA INCLUINDO ASSISTÊNCIA TÉCNICA E TREINAMENTO

COBRA TECNOLOGIA – MANUAL VOLUME 5

2003
PASTA 33

COBRA TECNOLOGIA
Integradora de Soluções em TI e Serviços

19.964

ANEXO SWITCH TIPO 03
PARTE 15/D

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Dell – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
17	PowerEdge 2650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4	Emulex: LP9002-E (LP9002L-E)[14, 15], LP9002DC-E[20, 25, 27, 31], LP9802-E[18, 19], LP9802DC-E[18, 19, 27], LP982-E[18, 19, 20]; QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 14, 16]

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA
4. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
5. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
6. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
7. Supports PowerPath 3.0 or greater
8. No MirrorView or SnapView used on boot LUNs.
9. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability
10. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
11. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
12. MSCS cluster configurations are supported with CX600, CX400 and FC4700
13. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32
14. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
15. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.**
16. **CLARiiON FC4500 array is also supported for these configurations.**
17. **Not supported with Emulex LP8000-EMC HBA.**
18. **Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.**
19. **CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.**
20. **The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.**
21. **If using ATF/CDE, requires 2.1.6 or greater.**
22. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
23. **PowerPath supported. ATF/CDE not supported.**
24. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
25. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.**
26. **The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.**
27. **QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).**
28. **PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.**
29. **Supported on CX600, CX400, CX200 and FC4700-2 only.**
30. **PowerPath not supported. ATF is supported only using Emulex 5-2.11a2 driver.**
31. **Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.**
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

Fuji Serv (ICL)

Fuji Serv (ICL) – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Trimetra Nova	PCI	Microsoft Windows 2000 Advanced Server: SP2[13], SP3[13], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[13], Server SP3[13], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[3, 5], LP9002DC-E[9, 14, 15, 16], LP9802-E[7, 8], LP9802DC-E[7, 8, 14], LP982-E[7, 8, 9]; QLogic: QLA2310F-E-SP[10, 11], QLA2340-E-SP[10, 12], QLA2342-E-SP[10, 12]	FC-AL, FC-SW	N	See[1, 2, 5, 6]

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.**
4. **The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.**
5. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
6. **CLARiiON FC4500 array is also supported for these configurations.**
7. **Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.**
8. **CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.**
9. **The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.**
10. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
11. **If using ATF/CDE, requires 2.1.6 or greater.**
12. **PowerPath supported. ATF/CDE not supported.**
13. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
14. **QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).**
15. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.**
16. **Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.**
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Primergy T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[10, 11], SP3[10], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[7, 8, 12], LP9002-E (LP9002L-E)[3, 4, 6, 7, 8], LP9802-E[4, 14, 15], LP9802DC-E[3, 14, 15], LP982-E[4, 14, 15]	FC-AL, FC-SW	N	See[9]
2	Primergy: F200, H200, H400, K400, L200, N400, N800, P200, P250, R450, RX100	PCI	Microsoft Windows 2000 Advanced Server: SP2[10, 11], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[10, 11], Server SP3[10, 11], Server SP4	Emulex: LP8000-EMC[8, 12], LP850-EMC[8], LP9002-E (LP9002L-E)[3, 4, 6, 8], LP9002DC-E[3, 4, 8, 17], LP9802-E[4, 14], LP9802DC-E[3, 14], LP982-E[4, 14]	FC-AL, FC-SW	N	See[9]
3	Primergy: B210, C200, E200, N200	PCI	Microsoft Windows 2000 Advanced Server: SP2[10, 11], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[10, 11], Server SP3[10, 11], Server SP4	Emulex: LP8000-EMC[8, 12], LP850-EMC[8], LP982-E[14]	FC-AL, FC-SW	N	See[9]

Fujitsu Siemens – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
4	Primergy T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[10, 11], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[10, 11], Server SP3[10, 11], Server SP4	Emulex: LP850-EMC[8], LP9002DC-E[3, 4, 8, 17]	FC-AL, FC-SW	N	See[9]
5	Primergy: B210, C200, E200, N200	PCI	Microsoft Windows 2000 Advanced Server: SP2[10, 11], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[10, 11], Server SP3[10, 11], Server SP4	Emulex: LP9002-E (LP9002L-E)[3, 4, 5, 6, 7, 8], LP9002DC-E[3, 4, 8, 17]	FC-AL, FC-SW	N	See[1, 2, 5, 9]
6	Primergy T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic: QLA2300F-E-SP[3, 16], QLA2310F-E-SP[3, 16], QLA2340-E-SP[3, 16], QLA2342-E-SP[3, 16]	FC-AL, FC-SW	N	See[9]
7	Primergy T850	PCI	Microsoft Windows 2000 Server: SP2[10, 11], SP3[10, 11], SP4	Emulex: LP8000-EMC[8, 12], LP9002-E (LP9002L-E)[3, 4, 6, 8], LP9802-E[4, 14], LP9802DC-E[3, 14], LP982-E[4, 14]	FC-AL, FC-SW	N	See[9]
8	Primergy H450	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[10, 11], SP3[10], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[7, 8, 12], LP9002-E (LP9002L-E)[3, 4, 6, 7, 8], LP9802-E[4, 14, 15], LP9802DC-E[3, 14, 15], LP982-E[4, 14, 15]	FC-AL, FC-SW	N	See[9]
9	Primergy F250[13]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[10, 11], SP3[10], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[7, 8, 12], LP9802-E[4, 14, 15], LP9802DC-E[3, 14, 15], LP982-E[4, 14, 15]	FC-AL, FC-SW	N	See[9]
10	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[10, 11], SP3[10], SP4; Microsoft Windows 2000 Datacenter: SP2[10, 11], SP3[10, 11] SP4; Microsoft Windows 2000 Server: SP2[10, 11], SP3[10, 11], SP4	Emulex: LP8000-EMC[8, 12], LP9002-E (LP9002L-E)[3, 4, 6, 8], LP9002DC-E[3, 4, 8, 17]	FC-AL, FC-SW	N	See[9]
11	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[10, 11], SP3[10], SP4; Microsoft Windows 2000 Server: SP2[10, 11], SP3[10, 11], SP4	Emulex: LP850-EMC[8], LP9802-E[4, 14], LP9802DC-E[3, 14], LP982-E[4, 14]	FC-AL, FC-SW	N	See[9]
12	Primergy: H250[13], R450, T850	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[10, 11], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[10, 11], Server SP3[10, 11], Server SP4	Emulex: LP8000-EMC[8, 12], LP850-EMC[8], LP9002-E (LP9002L-E)[3, 4, 6, 8], LP9002DC-E[3, 4, 8, 17], LP9802-E[4, 14], LP9802DC-E[3, 14], LP982-E[4, 14]	FC-AL, FC-SW	N	See[9]
13	Primergy F250[13]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[10, 11], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[10, 11], Server SP3[10, 11], Server SP4	Emulex: LP850-EMC[8], LP9002-E (LP9002L-E)[3, 4, 6, 7, 8], LP9002DC-E[3, 4, 8, 17]	FC-AL, FC-SW	N	See[9]
14	Primergy H450	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[10, 11], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[10, 11], Server SP3[10, 11], Server SP4	Emulex: LP850-EMC[8], LP9002DC-E[3, 4, 8, 17]	FC-AL, FC-SW	N	See[9]
15	Primergy: F250[13], H450	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic: QLA2300F-E-SP[3, 16], QLA2310F-E-SP[3, 16], QLA2340-E-SP[3, 16], QLA2342-E-SP[3, 16]	FC-AL, FC-SW	N	See[9]
16	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter: SP2[10, 11], SP3[10, 11], SP4; Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Emulex: LP8000-EMC[8, 12], LP850-EMC[8], LP9002-E (LP9002L-E)[3, 4, 6, 8], LP9802DC-E[3, 14]	FC-AL, FC-SW	N	See[9]
17	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter: SP3[10, 11], SP4; Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Emulex: LP9002DC-E[3, 4, 8, 17], LP9802-E[4, 14]	FC-AL, FC-SW	N	See[9]
18	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[10], Server SP3[10], Server SP4	Emulex LP982-E[4, 14]	FC-AL, FC-SW	N	See[9]
19	Primergy N800	PCI-X	Microsoft Windows 2000 Datacenter SP2[10, 11]	Emulex: LP9002DC-E, LP9802-E[14]	FC-AL, FC-SW	N	See[9]

Fujitsu Siemens – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
20	Primergy N800	PCI-X	Microsoft Windows 2000 Datacenter: SP2[10, 11], SP3[10, 11]	Emulex LP982-E[14]	FC-AL, FC-SW	N	See[9]
21	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Datacenter: SP2[10, 11], SP3[10, 11], SP4	Emulex: LP850-EMC[3, 4, 8], LP9802-E[3, 4, 14], LP9802DC-E[3, 4, 14], LP982-E[3, 4, 14]; QLogic: QLA2340-E-SP[3, 16], QLA2342-E-SP[3, 16]	FC-AL, FC-SW	N	See[9]
22	Primergy N800	PCI-X	Microsoft Windows 2000 Datacenter: SP2[10, 11], SP3[10, 11], SP4	QLogic: QLA2340-E-SP[3, 16], QLA2342-E-SP[3, 16]	FC-AL, FC-SW	N	See[9]
23	Primergy H450	PCI-X	Microsoft Windows 2000 Server: SP2[10, 11], SP3[10, 11], SP4	Emulex: LP8000-EMC[8, 12], LP9002-E (LP9002L-E)[3, 4, 6, 8], LP9802-E[4, 14], LP9802DC-E[3, 14], LP982-E[4, 14]	FC-AL, FC-SW	N	See[9]
24	Primergy F250[13]	PCI-X	Microsoft Windows 2000 Server: SP2[10, 11], SP3[10, 11], SP4	Emulex: LP8000-EMC[8, 12], LP9802-E[4, 14], LP9802DC-E[3, 14], LP982-E[4, 14]	FC-AL, FC-SW	N	See[9]
25	Primergy R450	PCI PCI-X	Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Emulex LP8000-EMC[12]	FC-AL, FC-SW	N	See[9]

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
4. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
5. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
6. The LP9002-E now ships with the LP9002L-E low profile adapter.
7. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
8. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
9. CLARiiON FC4500 array is also supported for these configurations.
10. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
11. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
13. Must use standard PCI 32bit/33MHz slot for SCSI
14. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
15. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
16. Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.
17. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

HPQ

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Proliant DL380(G3)	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9002-E (LP9002L-E)[15, 16, 27], LP9002DC-E[21, 31, 38, 39], LP9802-E[19, 20], LP9802DC-E[19, 20, 31], LP982-E[19, 20, 21]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 17]
2	Proliant DL380(G3)	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic: QLA2310F-E-SP[22, 23, 31], QLA2340-E-SP[22, 24, 31], QLA2342-E-SP[22, 24, 31]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 16, 17]
3	Netserver LH III; Proliant 850[26]	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex LP8000-EMC[14, 15]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 16, 17]
4	Netserver LH: II, PRO; Netserver: LX PRO, LXR PRO, LXR PRO8	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex LP8000-EMC[14, 15]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[17]
5	Proliant DL380(G3)	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex LP8000-EMC[14, 15]	FC-AL, FC-SW	N	See[1, 2, 16, 17]
6	Netserver LH 3, 4; Proliant: 1600[26, 30], 1850[26], 3000[26], 5000[26], 5500[26, 29], 6000[26, 29], 7000[26, 29], 8000[26, 29]	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex LP8000-EMC[14, 15]; QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 24], QLA2342-E-SP[22, 24]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 16, 17]
7	Proliant 6500[26, 29]	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex LP9802DC-E[19, 20, 31]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 17]
8	Netserver LC, 2000 U3, 2000r; Netserver LH, 3000, 6000; Netserver LT 6000R, LXR 8000, LXR 8500; Proliant: 2500[26], 6400R[26], 8500, DL320[26], DL360[26], DL360(G2)[26, 28], DL380[26], DL380(G2)[26], DL580[26], ML350[26], ML350(G2)[26], ML370[26], ML370(G2), ML370(G3), ML530[26], ML530(G2)[26], ML570[26], ML750[18]	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex: LP8000-EMC[14, 15], LP9002-E (LP9002L-E)[15, 16], LP9002DC-E[21, 31, 38, 39], LP9802-E[19, 20], LP9802DC-E[19, 20, 31], LP982-E[19, 20, 21]; QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 24], QLA2342-E-SP[22, 24]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 16, 17]

HPQ – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
9	Netserver LP 2000r, LPR	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex: LP8000-EMC[14, 15], LP9002-E (LP9002L-E)[15, 16], LP9002DC-E[21, 31, 38, 39], LP9802-E[19, 20], LP9802DC-E[19, 20, 31], LP982-E[19, 20, 21]; QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 24], QLA2342-E-SP[22, 24]	FC-AL, FC-SW	N	See[1, 2, 16, 17]
10	Proliant 6500[26, 29]	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex: LP8000-EMC[14, 15], LP9002-E (LP9002L-E)[15, 16], LP9002DC-E[21, 31, 38, 39], LP9802-E[19, 20], LP982-E[19, 20, 21]; QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 24], QLA2342-E-SP[22, 24]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 16, 17]
11	Proliant, 1600[26, 30] 1850[26]	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex: LP9002-E (LP9002L-E)[15, 16], LP9002DC-E[21, 31, 38, 39], LP9802-E[19, 20], LP9802DC-E[19, 20, 31], LP982-E[19, 20, 21]	FC-AL, FC-SW	N	See[1, 2, 16, 17]
12	Proliant 850[26]	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex: LP9002-E (LP9002L-E)[15, 16], LP9002DC-E[21, 31, 38, 39], LP9802-E[19, 20], LP9802DC-E[19, 20, 31], LP982-E[19, 20, 21]; QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 24], QLA2342-E-SP[22, 24]	FC-AL, FC-SW	N	See[1, 2, 16, 17]
13	Netserver LH III	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 24], QLA2342-E-SP[22, 24]	FC-AL, FC-SW	N	See[1, 2, 16, 17]
14	Proliant DL380(G3)	PCI	Microsoft Windows 2000 Server: SP2[25], SP3[25], SP4	Emulex: LP9002-E (LP9002L-E)[15, 16], LP9002DC-E[21, 31, 38, 39], LP9802-E[19, 20], LP9802DC-E[19, 20, 31], LP982-E[19, 20, 21]; QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 24], QLA2342-E-SP[22, 24]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 16, 17]
15	Proliant: BL40p, DL740, DL760[26], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9002-E (LP9002L-E)[15, 16, 27]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 16, 17]
16	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex: LP8000-EMC[14, 15], LP9002-E (LP9002L-E)[15, 16], LP9002DC-E[21, 31, 38, 39], LP9802-E[19, 20], LP9802DC-E[19, 20, 31], LP982-E[19, 20, 21]; QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 24], QLA2342-E-SP[22, 24]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 16, 17]
17	Proliant: BL40p, DL740, DL760[26], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex: LP8000-EMC[14, 15], LP9002DC-E[21, 31, 38, 39], LP9802-E[19, 20], LP9802DC-E[19, 20, 31], LP982-E[19, 20, 21]; QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 24], QLA2342-E-SP[22, 24]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 16, 17]
18	Proliant: DL740, DL760[26], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter: SP2[25], SP3[25], SP4	Emulex: LP9002-E (LP9002L-E)[15, 16, 21, 27], LP9002DC-E[21, 31, 38, 39]	FC-AL, FC-SW	N	See[1, 2, 16, 17]
19	Proliant: BL40p, DL740, DL760[26], DL760 (G2)	PCI-X	Microsoft Windows 2000 Server: SP2[25], SP3[25], SP4	Emulex LP9002-E (LP9002L-E)[15, 16]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 16, 17]
20	Proliant BL20p (G2)[35, 36]	PCI-X[37]	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	HPQ Dual-port mezzanine controller card[33, 34]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 32]	See[17]
21	Proliant BL20p (G2)[35, 36]	PCI-X[37]	Microsoft Windows 2000 Datacenter: SP2[25], SP3[25], SP4	HPQ Dual-port mezzanine controller card[33, 34]	FC-AL, FC-SW	N	See[17]
22	Proliant: DL580(G2)[26], DL580(G3)	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[25], Server SP3[25], Server SP4	Emulex: LP8000-EMC[14, 15], LP9002-E (LP9002L-E)[15, 16], LP9002DC-E[21, 31, 38, 39], LP9802-E[19, 20], LP9802DC-E[19, 20, 31], LP982-E[19, 20, 21]; QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 24], QLA2342-E-SP[22, 24]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 16, 17]
23	Proliant 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[25], SP3[25], SP4; Microsoft Windows 2000 Datacenter: SP2[25], SP3[25]; Microsoft Windows 2000 Server: SP2[25], SP3[25], SP4	HPQ: FCA2354 (LP9002)[21, 31, 38, 39], FCA2355 (LP9002DC)[21, 31, 38, 39]	FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 16, 17]

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1. Windows 2000 Professional is supported as the management workstation
2. CX200 available through selected channels.
3. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA
4. Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
5. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
6. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
7. Supports PowerPath 3.0 or greater
8. No MirrorView or SnapView used on boot LUNs.
9. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability
10. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
11. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation
12. MSCS cluster configurations are supported with CX600, CX400 and FC4700.
13. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
14. **The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.**
15. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.**
16. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
17. **CLARiiON FC4500 array is also supported for these configurations.**
18. **HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.**
19. **Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.**
20. **CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.**
21. **The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.**
22. **Requires driver 8.2.2.25. and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
23. **If using ATF/CDE, requires 2.1.6 or greater.**
24. **PowerPath supported. ATF/CDE not supported.**
25. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
26. **Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.**
27. **The LP9002-E now ships with the LP9002L-E low profile adapter.**
28. **Requires minimum BIOS v4.01 rev A (5/17/2002) for use with Emulex HBAs.**
29. **Includes both Pentium PRO and XEON models**
30. **This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.**
31. **QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).**
    BIOS for the BL20p mezzanine card must be obtained from HP. Cannot use BIOS from Qlogic web site. EMC NVRAM settings must be configured manually. Refer to page 2-6 of the Readme document "EMC Fibre Channel with QLogic Host Bus Adapters in the Windows NT/Windows 2000 Environment" found at http://www.qlogic.com for the settings.
32. **Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789**
33. **Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.**
34. **Booting off of an EMC storage array is not currently supported with the HPQ BL20P.**
35. **BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.**
36. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.
37. **Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.**
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
38. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.**

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Netfinity 8500R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Emulex LP9002-E (LP9002L-E)[3, 7];** **IBM 19K1246(QLA2310)[30];** **QLogic: QLA2340-E-SP[9, 12], QLA2342-E-SP[9, 12]**	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[6]
2	**Netfinity 6000R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[3, 7], LP9002DC-E[9, 11, 32, 33];** **IBM 19K1246(QLA2310)[30];** **QLogic: QLA2340-E-SP[9, 12], QLA2342-E-SP[9, 12]**	FC-AL, FC-SW	N	See[6]
3	**Netfinity 8500**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Emulex: LP9002-E (LP9002L-E)[3, 5, 7], LP9802-E[8, 9, 10], LP982-E[8, 9, 10, 11];** **IBM 24P0960(QLA2340)[14, 31];** **QLogic: QLA2310F-E-SP[9, 12, 13], QLA2340-E-SP[9, 12, 14], QLA2342-E-SP[9, 12, 14]**	FC-AL, FC-SW	N	See[1, 2, 5, 6]
4	**Netfinity 6000R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Emulex: LP9802-E[8, 9, 10], LP9802DC-E[8, 9, 10], LP982-E[8, 9, 10, 11];** **QLogic QLA2310F-E-SP[9, 12]**	FC-AL, FC-SW	N	See[1, 2, 6]
5	**Netfinity 8500R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**QLogic QLA2310F-E-SP[9, 12]**	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[1, 2, 6]
6	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7100**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[15], Server SP3[15], Server SP4**	**Emulex LP8000-EMC[3, 4];** **IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[31];** **QLogic: QLA2310F-E-SP[12, 13], QLA2340-E-SP[12, 14], QLA2342-E-SP[12, 14]**	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[1, 2, 5, 6]
7	**Netfinity 7000 M10[27]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[15], Server SP3[15], Server SP4**	**Emulex LP8000-EMC[3, 4];** **QLogic: QLA2310F-E-SP[12, 13], QLA2340-E-SP[12, 14], QLA2342-E-SP[12, 14]**	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28]	See[1, 2, 5, 6]
8	**Netfinity: 5600, 7600, xSeries, X330[29], X335, X340 (4500R)[29], X342[29], x230, x232[29], x240[29], x250[29], x350 (6000R)[29], x370[29]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15] SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[15], Server SP3[15], Server SP4**	**Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[3, 5], LP9002DC-E[9, 11, 32, 33] LP9802-E[8, 10], LP9802DC-E[8, 9, 10], LP982-E[8, 10, 11];** **IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[31];** **QLogic: QLA2310F-E-SP[12, 13], QLA2340-E-SP[12, 14], QLA2342-E-SP[12, 14]**	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[1, 2, 5, 6]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
9	xSeries x255[29]	PCI	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15] Server SP3[15], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[3, 5], LP9002DC-E[9, 11, 32, 33], LP9802-E[8, 10], LP9802DC-E[8, 9, 10], LP982-E[8, 10, 11]; IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[31]; QLogic: QLA2310F-E-SP[12, 13], QLA2340-E-SP[12, 14], QLA2342-E-SP[12, 14]	FC-AL, FC-SW	N	See[1, 2, 5, 6]
10	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15] Server SP3[15], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002DC-E[9, 11, 32, 33]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[6]
11	Netfinity 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15], Server SP3[15], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002DC-E[9, 11, 32, 33], LP9802DC-E[8, 9, 10]; IBM 19K1246(QLA2310)[30]	FC-AL, FC-SW	N	See[1, 2, 5, 6]
12	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[27], 7100	PCI	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15], Server SP3[15], Server SP4	Emulex: LP9002-E (LP9002L-E)[3, 5], LP9002DC-E[9, 11, 32, 33], LP9802-E[8, 10], LP9802DC-E[8, 9, 10], LP982-E[8, 10, 11]	FC-AL, FC-SW	N	See[1, 2, 5, 6]
13	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15], Server SP3[15], Server SP4	Emulex: LP9802-E[8, 9, 10], LP9802DC-E[8, 9, 10], LP982-E[8, 9, 10, 11]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[1, 2, 6]
14	Netfinity 7000 M10[28]	PCI	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15], Server SP3[15], Server SP4	IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[31]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[1, 2, 5, 6]
15	Netfinity 8500R	PCI	Microsoft Windows 2000 Datacenter: SP2[15], SP3[15], SP4	Emulex: LP9802-E[8, 9, 10], LP9802DC-E[8, 9, 10], LP982-E[8, 9, 10, 11]; QLogic QLA2310F-E-SP[12]	FC-AL, FC-SW	N	See[1, 2, 5, 6]
16	Netfinity 8500R	PCI	Microsoft Windows 2000 Server: SP2[15], SP3[15], SP4	Emulex LP9002-E (LP9002L-E)[3, 7, 11]; IBM 19K1246(QLA2310)[12, 30]; QLogic: QLA2340-E-SP[9, 12, 34], QLA2342-E-SP[9, 12, 34]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[6]
17	Netfinity 8500	PCI	Microsoft Windows 2000 Server: SP2[15], SP3[15], SP4	Emulex: LP9002-E (LP9002L-E)[3, 5], LP9802-E[8, 10], LP982-E[8, 10, 11]; IBM 24P0960(QLA2340)[31]; QLogic: QLA2310F-E-SP[12, 13], QLA2340-E-SP[12, 14], QLA2342-E-SP[12, 14]	FC-AL, FC-SW	N	See[1, 2, 5, 6]
18	Netfinity 8500R	PCI	Microsoft Windows 2000 Server: SP2[15], SP3[15], SP4	QLogic QLA2310F-E-SP[12]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[1, 2, 6]
19	xSeries x440[29]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000 Server: SP2[15], SP3[15], SP4	Emulex LP850-EMC[3]	FC-AL, FC-SW	N	See[1, 2, 5, 6]
20	xSeries x360[29]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15], Server SP3[15], Server SP4	Emulex LP850-EMC[3]	FC-AL, FC-SW	N	See[1, 2, 5, 6]
21	xSeries: x360[29], x440[29]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15], Server SP3[15], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[3, 5], LP9002DC-E[9, 11, 32, 33], LP9802-E[8, 10], LP9802DC-E[8, 9, 10], LP982-E[8, 10, 11]; IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[31]; QLogic: QLA2310F-E-SP[12, 13], QLA2340-E-SP[12, 14], QLA2342-E-SP[12, 14]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[1, 2, 5, 6]
22	xSeries x235[29]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15], Server SP3[15], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[3, 5], LP9802-E[8, 10], LP9802DC-E[8, 9, 10], LP982-E[8, 10, 11]; IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[31]; QLogic: QLA2310F-E-SP[12, 13], QLA2340-E-SP[12, 14], QLA2342-E-SP[12, 14]	FC-AL, FC-SW	N	See[1, 2, 5, 6]
23	xSeries x235[29]	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[15], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9002DC-E[9, 11, 32, 33]	FC-AL, FC-SW	N	See[1, 2, 5, 6]
24	xSeries x440[29]	PCI-X	Microsoft Windows 2000 Datacenter SP4	Emulex LP850-EMC[3]	FC-AL, FC-SW	N	See[1, 2, 6]
25	xSeries x440[29]	PCI-X	Microsoft Windows 2000 Datacenter: SP2[15], SP3[15]	Emulex LP850-EMC[3]	FC-AL, FC-SW	N	See[6]
26	xSeries x440[29]	PCI-X	Microsoft Windows 2000 Datacenter: SP2[15], SP3[15], SP4	IBM 19K1246(QLA2310)[30], QLogic QLA2310F-E-SP[12]	FC-AL, FC-SW	N	See[6]

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No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
27	xSeries x235[29]	PCI-X	Microsoft Windows 2000: Advanced Server SP2[15], Server SP2[15], Server SP3[15], Server SP4	Emulex LP9002DC-E[3, 9, 11, 32, 33]	FC-AL, FC-SW	N	See[1, 2, 6]
28	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[15, 45], SP3[15], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP2[15, 45], Server SP3[15, 45], Server SP4	Emulex: LP9002-E (LP9002L-E)[3, 5, 9], LP9002DC-E[9, 11, 32, 33, 44]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 41, 42, 43]	See[1, 2, 5, 6]
29	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4 Microsoft Windows 2000 Server: SP2[15], SP3[15], SP4	Emulex LP850-EMC[3]	FC-AL, FC-SW	N	See[1, 2, 5, 6]
30	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15] SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15] Server SP3[15, 45], Server SP4	Emulex: LP9802-E[8, 10, 11], LP9802DC-E[8, 9, 10], LP982-E[8, 10, 11]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 41, 42, 43]	See[1, 2, 5, 6]
31	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15] Server SP3[15], Server SP4	Emulex LP8000-EMC[3, 4, 33]; IBM 24P0960(QLA2340)[31]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 41, 42, 43]	See[1, 2, 5, 6]
32	xSeries x345[29]	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15], Server SP3[15], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[3, 5], LP9002DC-E[9, 11, 32, 33] LP9802-E[8, 10], LP9802DC-E[8, 9, 10], LP982-E[8, 10, 11]; IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[31]; QLogic: QLA2310F-E-SP[12, 13], QLA2340-E-SP[12, 14], QLA2342-E-SP[12, 14]	FC-AL, FC-SW	N	See[1, 2, 5, 6]
33	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15], Server SP3[15], Server SP4	IBM 19K1246(QLA2310)[30]; QLogic: QLA2310F-E-SP[12, 13], QLA2340-E-SP[12, 14], QLA2342-E-SP[12, 14]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[1, 2, 5, 6]
34	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Datacenter SP4	Emulex LP850-EMC[3]	FC-AL, FC-SW	N	See[1, 2, 6]
35	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Datacenter: SP2[15, 45], SP3[15, 45], SP4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E[9, 11, 32, 33, 44]	FC-AL, FC-SW	N	
36	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Datacenter: SP2[15], SP3[15]	Emulex LP850-EMC[3]	FC-AL, FC-SW	N	See[6]
37	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Datacenter: SP2[15], SP3[15]	IBM 24P0960(QLA2340)[31]	FC-AL, FC-SW	Y[41, 42, 43]	
38	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Datacenter: SP2[15], SP3[15], SP4	IBM 19K1246(QLA2310)[30]; QLogic QLA2310F-E-SP[12]	FC-AL, FC-SW	N	See[6]
39	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000 Datacenter SP4	IBM 24P0960(QLA2340)[14, 31]	FC-AL, FC-SW[5]	N	See[1, 2, 5, 6]
40	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[15]	IBM 24P0960(QLA2340)[14, 31]	FC-AL, FC-SW[5]	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[1, 2, 5, 6]
41	Netfinity 8500R	PCI	Microsoft Windows 2000 Datacenter: SP2[15], SP3[15], SP4	IBM 24P0960(QLA2340)[14, 31]	FC-AL, FC-SW[5]	N	See[1, 2, 5, 6]
42	Netfinity 8500R	PCI	Microsoft Windows 2000 Server: SP3[15], SP4	IBM 24P0960(QLA2340)[12, 14, 31]	FC-AL, FC-SW[5]	Y[16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26]	See[1, 2, 5, 6]
43	eServer BladeCenter HS20 (Model 8678)[39]	PCI-X[40]	Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15], SP4; Microsoft Windows 2000 Datacenter: SP2[15], SP3[15], SP4; Microsoft Windows 2000 Server: SP2[15], SP3[15], SP4	IBM HS20 FC Expansion card 48P7061[35, 36, 37, 38]	FC-SW	Y	

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
6. CLARiiON FC4500 array is also supported for these configurations.
7. The LP9002-E now ships with the LP9002L-E low profile adapter.
8. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
9. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
10. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
11. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
12. Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.
13. If using ATF/CDE, requires 2.1.6 or greater.
14. PowerPath supported. ATF/CDE not supported.
15. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
16. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.

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17. Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
18. If using ATF/CDE with Emulex, requires v2.1 5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
19. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
20. Supports PowerPath 3.0 or greater.
21. No MirrorView or SnapView used on boot LUNs.
22. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
23. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
24. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation
25. MSCS cluster configurations are supported with CX600, CX400 and FC4700.
26. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
27. **This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850**
28. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
29. **For IBM xSeries Servers running Windows NT and Windows 2000 with IBM ServerRaid controller 4M, the ServerRaid Driver must be 6.00 or above for use with EMC PowerPath 3.0 and above. IBM driver can be downloaded at: http://www-3.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-39723**
30. **This HBA is equivalent to the qLogic QLA2310.**
31. **This HBA is equivalent to the qLogic QLA2340.**
32. **Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API. NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.**
33. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.**
34. **If using ATF/CDE, requires 2.0.9 or greater.**
35. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)" This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.**
36. **This server has a built-in FC-SW and must be direct-attached to the external storage.**
37. **Due to the HS20's embedded FC-SW design, EMC Access Logix is required to assign LUNS to each individual blade server.**
38. **IBM BIOS 1.34, EMC Approved Qlogic Driver Version 8.2.2.25. Available at http://www.qlogic.com.**
39. **EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.**
40. **IBM HS20 Fibre Channel Expansion Card (48P7061)**
41. **Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.**
42. **Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.**
43. **MSCS cluster configurations are supported. PowerPath 3.0 or greater required. Host must be offline for interfamily Symmetrix microcode upgrade. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.**

NEC

NEC – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Express 5800: 320La, 320La-R, 320Lb, 320Lb-R, 330Ma-R, 330Mb-R, 340Ha-R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8]**	**QLogic QLA2310F-E-SP[2, 3]**	FC-AL, FC-SW	N	**See[1, 4, 5, 6, 7]**

1. Windows 2000 Professional is supported as the management workstation.
2. **Qlogic SANSurfer/SANBlade Manager is not supported.**
3. **Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**
4. **RPQ required for CX200.**
5. **FC-SW applies only to CX600, CX400, FC4500, FC4700, and FC5300. FC5300 with FC-SW available from selected channels.**
6. **For FC-AL, only direct attach is supported.**
7. **CLARiiON FC4500 array is also supported for these configurations.**
8. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**

SUPERMICRO

SUPERMICRO – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Super P3TDL3[18]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[26], SP3[26], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[26], Server SP3[26], Server SP4**	**Emulex LP850-EMC[14]**	FC-AL, FC-SW	N	**See[1, 2, 16, 17]**
2	**Super: P3TDL3[18], S2DL3[18]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[26], SP3[26], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[26], Server SP3[26], Server SP4**	**Emulex: LP8000-EMC[14, 15], LP9002-E (LP9002L-E)[14, 16, 19] LP9002DC-E[19, 21, 27, 28], LP9802-E[20, 21, 22], LP9802DC-E[20, 21, 22], LP982-E[19, 20, 21, 22]; QLogic: QLA2310F-E-SP[23, 24], QLA2340-E-SP[23, 25], QLA2342-E-SP[23, 25]**	FC-AL, FC-SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]**	**See[1, 2, 16, 17]**

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
4. Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
5. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
6. If using ATF/CDE with QLogic, requires v2.1 6 or greater.
7. Supports PowerPath 3.0 or greater.
8. No MirrorView or SnapView used on boot LUNs.
9. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability
10. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
11. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation
12. MSCS cluster configurations are supported with CX600, CX400 and FC4700.
13. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
14. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.**
15. **The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.**
16. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
17. **CLARiiON FC4500 array is also supported for these configurations.**
18. **64-bit slots for 3.3v HBAs only.**
19. **The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.**
20. **Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.**
21. **QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).**
22. **CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.**
23. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
24. **If using ATF/CDE, requires 2.1.6 or greater.**
25. **PowerPath supported. ATF/CDE not supported.**
26. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
27. **Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.**

NOTE: LP8000/850 HBAs without –EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

28. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

Stratus

Stratus – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	ftServer: 5240, 6500	PCI	Microsoft Windows 2000 Advanced Server SP3[7, 8, 9, 10]	QLogic QLA2310F–E–SP[2, 3, 4]	FC–AL, FC–SW	N	See[1, 5, 6]
2	ftServer: 3210, 3220, 3300, 5200	PCI	Microsoft Windows 2000 Advanced Server: SP2[7, 8, 9], SP3[7, 8, 9, 10]	QLogic QLA2310F–E–SP[2, 3, 4]	FC–AL, FC–SW	N	See[1, 5, 6]

1. Windows 2000 Professional is supported as the management workstation.
2. Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.
3. FC–AL supported for direct attach only. No support for hubs or Quickloop at this time.
4. Qlogic SANSurfer/SANBlade Manager is not supported.
5. CLARiiON FC4500 array is also supported for these configurations.
6. FC–SW applies only to CX600, CX400, FC4500, FC4700, and FC5300. FC5300 with FC–SW available from selected channels.
7. Refer to the Stratus, Bull or NEC documentation for hardware, software and non–storage related setup and configuration.
8. Requires Stratus ftServer 1.2.2.x.
   Requires Microsoft HotFix Q327477, available from Microsoft customer support.
   Requires VxVM 2.7 HotFix 5A, available from http://support.veritas.com/index.htm choose support downloads, choose Volume Manager, choose Volume Manager for Windows 2000. Choose VM2K27HF05aENU 248733.exe Patch – VERITAS Volume Manager 2.7 for Windows 2000 HotFix05a, English Version Size: 5892Kb
   Requires PowerPath 3.0.0 or higher.
9. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
10. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.

Unisys

Unisys – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4	QLogic QLA2310F–E–SP[12, 17]; Unisys FCH732213–P64 (LP9002L–F2)[18]	FC–AL, FC–SW	N	See[8]
2	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000–EMC[5, 6], LP9002–E (LP9002L–E)[5, 16], LP9002DC–E[11, 17, 18, 19], LP9802–E[14], LP9802DC–E[17], LP982–E[11, 14]; QLogic: QLA2340–E–SP[12, 17], QLA2342–E–SP[12, 17]	FC–AL, FC–SW	N	See[8]
3	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000–EMC[5, 6], LP9002–E (LP9002L–E)[5, 16], LP9002DC–E[11, 17, 18, 19]; QLogic: QLA2310F–E–SP[12, 17], QLA2340–E–SP[12, 17], QLA2342–E–SP[12, 17]	FC–AL, FC–SW	N	See[8]
4	ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000 Datacenter: SP2[9], SP3[9], SP4; Microsoft Windows 2000 Server: SP2[9], SP3[9], SP4	Unisys FCH732213–P64 (LP9002L–F2)[18]	FC–AL, FC–SW	N	See[8]
5	ES7000/230	PCI	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000 Server: SP2[9], SP3[9], SP4	Unisys FCH732213–P64 (LP9002L–F2)[18]	FC–AL, FC–SW	N	See[8]
6	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[9], Server SP3[9], Server SP4	Emulex: LP9802–E[14], LP9802DC–E[17], LP982–E[14]	FC–AL, FC–SW	N	See[8]
7	ES7000/520; ES7000/530; ES7000/540	PCI	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[9], Server SP3[9], Server SP4	Unisys FCH732213–P64 (LP9002L–F2)[18]	FC–AL, FC–SW	N	See[8]
	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Datacenter SP4	QLogic QLA2310F–E–SP[12, 13, 17]	FC–AL, FC–SW	N	See[1, 2, 7, 8]
9	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Datacenter: SP2[9, 10], SP3[9]	QLogic QLA2310F–E–SP[12, 13]	FC–AL, FC–SW	N	See[1, 2, 7, 8]
10	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[9, 10], SP3[9], SP4	Emulex: LP8000–EMC[5, 6], LP9002–E (LP9002L–E)[5, 11], LP9002DC–E[11, 17, 18, 19]	FC–AL, FC–SW	Y[3, 4]	See[1, 2, 7, 8]
11	ES7000/100; ES7000/200; ES7000/230	PCI	Microsoft Windows 2000 Datacenter: SP2[9, 10], SP3[9], SP4	Unisys FCH732213–P64 (LP9002L–F2)[18]	FC–AL, FC–SW	N	See[1, 2, 7, 8]
12	ES7000/200	PCI	Microsoft Windows 2000 Datacenter: SP2[9], SP3[9]	QLogic: QLA2340–E–SP[12], QLA2342–E–SP[12]	FC–AL, FC–SW	N	See[8]
13	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[9], SP3[9], SP4	Emulex LP9802DC–E[17]	FC–AL, FC–SW	Y[3, 4, 14, 15]	See[8]
14	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[9], SP3[9], SP4	Emulex: LP9802–E[11, 14], LP982–E[11, 14]	FC–AL, FC–SW	Y[3, 4, 15]	See[8]
15	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Datacenter: SP2[9], SP3[9], SP4	Emulex: LP9802–E[14], LP982–E[14]	FC–AL, FC–SW	Y[3, 4, 15]	See[8]

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. CX600 only.
4. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
5. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. ATF/CDE is not supported with driver 2.20a12. For ATF/CDE, use driver version 2.11a2. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com. NOTE: LP8000/850 HBAs without –EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC. Supports SNIA HBA API.
6. The LP8000–EMC HBA has a permanent GBIC, and does not have copper cable support.
7. FC–SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC–SW available from selected channels.
8. CLARiiON FC4500 array is also supported for these configurations.
9. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
10. PowerPath not supported. ATF is supported only using Emulex 5–2.11a2 driver.

11 The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
12 Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.
13. If using ATF/CDE, requires 2.1.6 or greater.
14. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only
15. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
16. The LP9002-E now ships with the LP9002L-E low profile adapter.
17. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
18. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
19. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

Microsoft Windows 2003

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Dell

Dell – Microsoft Windows 2003							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerEdge: 6400, 6450, 8450	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 6], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N	See[2]
2	PowerEdge: 2600, 2650, 4600, 6600, 6650	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 6], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N	See[2]

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. CLARiiON FC4500 array is also supported for these configurations.
3. PowerPath is not supported.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
8. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2003							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Primergy: B210, C200, E200, F200, H200, H400, K400, L200, N200, N400, P200, P250, R450, RX100, T850	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 7], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[8], LP9802DC-E[8], LP982-E[8]; QLogic: QLA2310F-E-SP[9] QLA2340-E-SP[9], QLA2342-E-SP[9]	FC-AL, FC-SW	N	See[2]
2	Primergy: F250[6], H250[6], H450, N800, RX200, RX300	PCI-X	Microsoft Windows 2003, DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 7], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[8], LP9802DC-E[8], LP982-E[8]; QLogic: QLA2310F-E-SP[9] QLA2340-E-SP[9], QLA2342-E-SP[9]	FC-AL, FC-SW	N	See[2]

1 Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. CLARiiON FC4500 array is also supported for these configurations.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4 PowerPath is not supported.
5. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
6 Must use standard PCI 32bit/33MHz slot for SCSI
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
8. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
9 Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

HPQ

HPQ – Microsoft Windows 2003							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Proliant: 8500, DL320[6], DL360[6], DL360(G2)[6], DL380[6], DL380(G2)[6], DL380(G3), DL580[6], ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML750[6]	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 12], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[13], LP9802DC-E[13], LP982-E[13]; QLogic: QLA2310F-E-SP[9], QLA2340-E-SP[9], QLA2342-E-SP[9]	FC-AL, FC-SW	N	See[2]

HPQ – Microsoft Windows 2003							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
2	Proliant: BL40p, DL360(G3), DL560, DL560 (G2), DL740, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 12], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[13], LP9802DC-E[13], LP982-E[13]; QLogic: QLA2310F-E-SP[9], QLA2340-E-SP[9], QLA2342-E-SP[9]	FC-AL, FC-SW	N	See[2]
3	Proliant BL20p (G2)[10, 11]	PCI-X[7]	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	HPQ Dual-port mezzanine controller card[8, 9]	FC-AL, FC-SW	N	See[2]
4	Proliant: DL580(G2)[6], DL580(G3)	PCI, PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 12], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[13], LP9802DC-E[13], LP982-E[13]; QLogic: QLA2310F-E-SP[9] QLA2340-E-SP[9], QLA2342-E-SP[9]	FC-AL, FC-SW	N	See[2]
5	Proliant: 8500, DL320[6], DL360[6], DL360(G2)[6], DL380[6], DL380(G2)[6], DL380(G3), DL580[6], ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML750[6]	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	HPQ: FCA2354 (LP9002)[1], FCA2355 (LP9002DC)[1]	FC-SW	N	See[2]
6	Proliant: BL40p, DL360(G3), DL560, DL560 (G2), DL740, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	HPQ: FCA2354 (LP9002)[1], FCA2355 (LP9002DC)[1]	FC-SW	N	See[2]
7	Proliant: DL580(G2)[6], DL580(G3)	PCI, PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	HPQ: FCA2354 (LP9002)[1], FCA2355 (LP9002DC)[1]	FC-SW	N	See[2]

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. CLARiiON FC4500 array is also supported for these configurations.
3. PowerPath is not supported.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
7. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.
8. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
9. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
10. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
11. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
13. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

IBM

IBM – Microsoft Windows 2003							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x350 (6000R), x370	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 10], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[9], LP9802DC-E[9], LP982-E[9]; IBM: 19K1246(QLA2310)[7, 8], 24P0960(QLA2340)[6, 7]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N	See[2]
2	xSeries: x235, x255, x360, x440	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 10], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[9], LP9802DC-E[9], LP982-E[9]; IBM: 19K1246(QLA2310)[7, 8], 24P0960(QLA2340)[6, 7]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N	See[2]
3	xSeries: x345 x445	PCI, PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 10], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[9], LP9802DC-E[9], LP982-E[9]; IBM: 19K1246(QLA2310)[7, 8], 24P0960(QLA2340)[6, 7]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N	See[2]
4	eServer BladeCenter HS20 (Model 8678)[15]	PCI-X[16]	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	IBM HS20 FC Expansion card 48P7061[11, 12, 13, 14]	FC-SW	Y	

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. CLARiiON FC4500 array is also supported for these configurations.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. PowerPath is not supported.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. This HBA is equivalent to the qLogic QLA2340.
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
8. This HBA is equivalent to the qLogic QLA2310.
9. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. Due to the HS20's embedded FC-SW design, EMC Access Logix is required to assign LUNS to each individual blade server.
12. This server has a built-in FC-SW and must be direct-attached to the external storage.
13. IBM BIOS 1.34, EMC Approved Qlogic STORPort Driver Version 8.2.2.20. Available at http://www.qlogic.com.
14. When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"

This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.
15. EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.
16. IBM HS20 Fibre Channel Expansion Card (48P7061)

NCR

NCR – Microsoft Windows 2003							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Worldmark 45xx	MCA	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 6], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N	See[2]
2	Worldmark 4500, 4700, 47XX, 4850, 48XX 4900 4950, 5100 Series, 5150, 5250, 52XX, 5300, 5350, 8550, S50	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 6], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[8] QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N	See[2]

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. CLARiiON FC4500 array is also supported for these configurations.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. PowerPath is not supported.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
8. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

NEC

NEC – Microsoft Windows 2003							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Express 5800: 320La, 320La-R, 320Lb, 320Lb-R, 330Ma-R, 330Mb-R, 340Ha-R	PCI	Microsoft Windows 2003: DataCenter[11, 12, 13], Enterprise Edition (Advanced Server)[11, 12, 13], Standard Edition (Server)[11, 12, 13]	NEC N8803-031 (QLA2310F)[7, 8, 9, 10]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5, 6]

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. RPQ required for CX200.
4. For FC-AL, only direct attach is supported.
5. FC-SW applies only to CX600, CX400, FC4500, FC4700, and FC5300. FC5300 with FC-SW available from selected channels.
6. CLARiiON FC4500 array is also supported for these configurations.
7. Qlogic SANSurfer/SANBlade Manager is not supported.
8. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
9. Qlogic SanBlade Manager is not supported.
10. Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.
11. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
12. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
13. PowerPath is not supported.

Unisys

Unisys – Microsoft Windows 2003							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 7], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[8], LP9802DC-E[8], LP982-E[8]; QLogic: QLA2310F-E-SP[6], QLA2340-E-SP[6], QLA2342-E-SP[6]; Unisys: FCH20111-P64 (LP8000-D1)[1], FCH20113-P64 (LP8000-EMC, LP8000-F1)[1], FCH732213-P64 (LP9002L-F2)[1]	FC-AL, FC-SW	N	See[2]

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. CLARiiON FC4500 array is also supported for these configurations.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. PowerPath is not supported.
6. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
8. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

Microsoft Windows NT

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

DG

DG – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON AV3704	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[6, 7]; QLogic: QLA2310F-E-SP[8, 9], QLA2340-E-SP[9], QLA2342-E-SP[9]	FC-AL, FC-SW	N	See[2]
2	AViiON: AV8900, AV8950, AV8950R	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[6, 7], LP9002-E (LP9002L-E)[5, 6], LP9802-E[3, 4, 5, 11], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5, 11]; QLogic: QLA2310F-E-SP[8, 9], QLA2340-E-SP[9], QLA2342-E-SP[9]	FC-AL, FC-SW	N	See[2]
3	AViiON: AV1400, AV2300, AV2700, AV2800, AV3600, AV3700, AV3704R, AV3800, AV8700	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[6, 7], LP9002-E (LP9002L-E)[5, 6], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4]; QLogic: QLA2310F-E-SP[8, 9], QLA2340-E-SP[9], QLA2342-E-SP[9]	FC-AL, FC-SW	N	See[2]
4	AViiON AV3704	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[5, 6], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4]	FC-AL, FC-SW	Y[10]	See[2]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. CLARiiON FC4500 array is also supported for these configurations.
3. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
4. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
5. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
6. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
8. If using ATF/CDE, requires 2.0.9 or greater.
9. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
10. Booting Windows NT systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
11. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).

Dell

Dell – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerEdge: 1650, 4300, 4350	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[6, 10]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N	See[2]
2	PowerEdge: 2300, 6100, 6300, 6350	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[6, 10], LP9002-E (LP9002L-E)[5, 6], LP9002DC-E[5, 6, 14], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N	See[2]
3	PowerEdge: 1550, 2400, 2450, 2500, 2550[11, 12], 4400, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[6, 10], LP9002DC-E[5, 6, 14]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N	See[2]
4	PowerEdge: 1550, 1650, 2400, 2450, 2500, 2550[11, 12], 4400, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[5, 6], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4]	FC-AL, FC-SW	Y[9]	See[2]
5	PowerVault: 770N, 775N	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[5, 6], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N	See[2]
6	PowerEdge 1750	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[6, 10]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N	See[2]
7	PowerEdge 2600	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[6, 10], LP9002-E (LP9002L-E)[5, 6], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N	See[2]
8	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[6, 10], LP9002DC-E[5, 6, 14]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N	See[2]
9	PowerEdge 2650	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[10, 15], LP9002DC-E[5, 6, 14]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N	See[2]
10	PowerEdge 6600	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[5, 6], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5]	FC-AL, FC-SW	Y[9]	See[2]
11	PowerEdge: 1750, 2650, 4600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[5, 6], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4]	FC-AL, FC-SW	Y[9]	See[2]
12	PowerEdge 6600	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP982-E[3, 4, 5]	FC-AL, FC-SW[13]	Y[9]	See[2]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. CLARiiON FC4500 array is also supported for these configurations.
3. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
4. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
5. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
6. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
7. If using ATF/CDE, requires 2.0.9 or greater.
8. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
9. Booting Windows NT systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. Dell PowerEdge supports a maximum of 2 Emulex HBAs at one time and the total power cannot exceed 20 Watts.
12. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
13. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.

14. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
15. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

HPQ

HPQ – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Proliant DL380(G3)	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[8, 9]; HPQ: 176479-B21[8], KGPSA-CB[8], KGPSA-CY[8]; QLogic: QLA2310F-E-SP[10, 11], QLA2340-E-SP[11], QLA2342-E-SP[11]	FC-AL, FC-SW	N	See[3]
2	Proliant 8000 Pro, Xeon	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[8, 9]; QLogic: QLA2310F-E-SP[11, 16], QLA2340-E-SP[11, 16], QLA2342-E-SP[11, 16]	FC-AL, FC-SW	N	See[3]
3	Netserver LH 3, 4, II, PRO, III; Netserver LXR: 8000, 8500, PRO, PRO8; Proliant: 2500[12], 3000[12], 5000[12], 5500[12, 14], 6000[12, 14], 6400R[12], 7000[12, 14], 8000[12, 14], 8500, DL320[12], DL360[12], DL360(G2)[12, 13], DL380[12], DL380(G2)[12], DL580[12], ML350[12], ML350(G2)[12], ML370[12], ML370(G2), ML370(G3), ML530[12], ML530(G2)[12], ML570[12], ML750[6]	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[8, 9]; QLogic: QLA2310F-E-SP[10, 11], QLA2340-E-SP[11], QLA2342-E-SP[11]	FC-AL, FC-SW	N	See[3]
4	Proliant 1850[12]	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[8, 9]; QLogic: QLA2310F-E-SP[10, 11], QLA2340-E-SP[11], QLA2342-E-SP[11]	FC-AL, FC-SW	Y[1]	See[3]
5	Netserver LX PRO	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[8, 9], LP850-EMC[8]; QLogic: QLA2310F-E-SP[10, 11], QLA2340-E-SP[11], QLA2342-E-SP[11]	FC-AL, FC-SW	N	See[3]
	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LPR, LT 6000R; Proliant: 1600[12, 15], 6500[12, 14], 850[12]	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[8, 9], LP9002-E (LP9002L-E)[7, 8], LP9802-E[4, 5, 7], LP9802DC-E[4, 5, 7], LP982-E[4, 5]; QLogic: QLA2310F-E-SP[10, 11], QLA2340-E-SP[11], QLA2342-E-SP[11]	FC-AL, FC-SW	N	See[3]
7	Netserver LXR: 8000, 8500; Proliant: 2500[12], 6400R[12], DL320[12], DL360[12], DL360(G2)[12, 13], DL380[12], DL380(G2)[12], DL580[12], ML350[12], ML350(G2)[12], ML370[12], ML530[12], ML530(G2)[12], ML570[12], ML750[6]	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[7, 8], LP9802-E[4, 5, 7], LP9802DC-E[4, 5, 7], LP982-E[4, 5]	FC-AL, FC-SW	Y[1]	See[3]
8	Proliant 1850[12]	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[7, 8], LP9802-E[4, 5, 7], LP9802DC-E[4, 5, 7], LP982-E[4, 5]	FC-AL, FC-SW	N	See[3]
9	Proliant: 8500, DL380(G3), ML370(G2), ML370(G3)	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[7, 8], LP9802-E[4, 5, 7], LP9802DC-E[4, 5, 7], LP982-E[4, 5]	FC-AL, FC-SW	Y[1, 12]	See[3]
10	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[12], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[8, 9]; QLogic: QLA2310F-E-SP[10, 11], QLA2340-E-SP[11], QLA2342-E-SP[11]	FC-AL, FC-SW	N	See[3]
11	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[12], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[7, 8], LP9802-E[4, 5, 7], LP9802DC-E[4, 5, 7], LP982-E[4, 5]	FC-AL, FC-SW	Y[1]	See[3]
12	Proliant: DL580(G2)[12], DL580(G3)	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[8, 9]; QLogic: QLA2310F-E-SP[10, 11], QLA2340-E-SP[11], QLA2342-E-SP[11]	FC-AL, FC-SW	N	See[3]
13	Proliant: DL580(G2)[12], DL580(G3)	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[7, 8], LP9802-E[4, 5, 7], LP9802DC-E[4, 5, 7], LP982-E[4, 5]	FC-AL, FC-SW	Y[1]	See[3]

1. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. CLARiiON FC4500 array is also supported for these configurations.
4. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
5. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
6. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
7. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
8. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
10. If using ATF/CDE, requires 2.0.9 or greater.
11. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
12. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
13. Requires BIOS v4.01 rev A (5/17/2002) for use with Emulex HBAs.
14. Includes both Pentium PRO and XEON models
15. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
16. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).

IBM

IBM – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity: 5600, 7600, 8500R; xSeries: X340 (4500R)[12], X342[12], x230, x240[12], x250[12], x350 (6000R)[12], x370[12]	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[7, 8]; IBM: 19K1246(QLA2310)[10, 16], 24P0960(QLA2340)[10, 17]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[10], QLA2342-E-SP[10]	FC-AL, FC-SW	N	See[3]

IBM – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
2	xSeries: X330[12], X335, x232[12]	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[7, 8]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[10], QLA2342-E-SP[10]	FC-AL, FC-SW	N	See[3]
3	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 6000R, 7000, 7000 M10[11], 7100	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[7, 8], LP9002-E (LP9002L-E)[6, 7], LP9802-E[4, 5, 6], LP9802DC-E[4, 5, 6], LP982-E[4, 5]; IBM: 19K1246(QLA2310)[10, 16], 24P0960(QLA2340)[10, 17]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[10], QLA2342-E-SP[10]	FC-AL, FC-SW	N	See[3]
4	xSeries x255[12]	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[7, 8], LP9002-E (LP9002L-E)[6, 7], LP9802-E[4, 5, 6], LP9802DC-E[4, 5, 6], LP982-E[4, 5]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[10], QLA2342-E-SP[10]	FC-AL, FC-SW	N	See[3]
5	Netfinity: 5600, 7600, 8500R; xSeries: X330[12], X335, X340 (4500R)[12], X342[12], x230, x232[12], x240[12], x250[12], x350 (6000R)[12], x370[12]	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[6, 7], LP9802-E[4, 5, 6], LP9802DC-E[4, 5, 6], LP982-E[4, 5]	FC-AL, FC-SW	Y[1]	See[3]
6	xSeries x360[12]	PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[7, 8], LP850-EMC[7]; IBM: 19K1246(QLA2310)[10, 16], 24P0960(QLA2340)[10, 17]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[10], QLA2342-E-SP[10]	FC-AL, FC-SW	N	See[3]
7	xSeries x440[12]	PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[7, 8], LP850-EMC[7], LP9002-E (LP9002L-E)[6, 7], LP9802-E[4, 5, 6], LP9802DC-E[4, 5, 6], LP982-E[4, 5]; IBM: 19K1246(QLA2310)[10, 16], 24P0960(QLA2340)[10, 17]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[10], QLA2342-E-SP[10]	FC-AL, FC-SW	N	See[3]
8	xSeries x235[12]	PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[7, 8], LP9002-E (LP9002L-E)[7, 15], LP9802-E[4, 5, 6], LP9802DC-E[4, 5, 6]; IBM: 19K1246(QLA2310)[10, 16], 24P0960(QLA2340)[10, 17]; QLogic: QLA2310F-E-SP[9, 10, 15], QLA2340-E-SP[10, 15], QLA2342-E-SP[10, 15]	FC-AL, FC-SW	N	See[3]
9	xSeries x360[12]	PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[6, 7], LP9802-E[4, 5, 6], LP9802DC-E[4, 5, 6], LP982-E[4, 5]	FC-AL, FC-SW	Y[1]	See[3]
10	xSeries x255[12]	PCI-X	Microsoft Windows NT 4.0 SP6A[2]	IBM: 19K1246(QLA2310)[10, 16], 24P0960(QLA2340)[10, 17]	FC-AL, FC-SW	N	See[3]
11	xSeries x445	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[7, 8], LP850-EMC[7], LP9002-E (LP9002L-E)[6, 7], LP9802-E[4, 5, 6], LP9802DC-E[4, 5, 6], LP982-E[4, 5]; IBM: 19K1246(QLA2310)[10, 16], 24P0960(QLA2340)[10, 17]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[10], QLA2342-E-SP[10]	FC-AL, FC-SW	N	See[3]
12	xSeries x345[12]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[7, 8], LP9002-E (LP9002L-E)[7, 18]; IBM: 19K1246(QLA2310)[10, 16], 24P0960(QLA2340)[10, 17]	FC-AL, FC-SW	N	See[3]
13	xSeries x345[12, 14]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9802-E[4, 5, 6], LP9802DC-E[4, 5, 6]	FC-AL, FC-SW	N	See[3]
14	xSeries x345	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[2]	QLogic: QLA2310F-E-SP[10, 15], QLA2340-E-SP[10, 15], QLA2342-E-SP[10, 15]	FC-AL, FC-SW	N	See[3]
15	xSeries x235[12]	PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP982-E[4, 5, 6]	FC-AL, FC-SW[13]	N	See[3]
16	xSeries x345[12, 14]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP982-E[4, 5, 6]	FC-AL, FC-SW[13]	N	See[3]

1. Booting Windows NT systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. CLARiiON FC4500 array is also supported for these configurations.
4. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
5. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
6. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
7. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
8. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
9. If using ATF/CDE, requires 2.0.9 or greater.
10. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
11. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable). qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
12. For IBM xSeries Servers running Windows NT and Windows 2000 with IBM ServerRaid controller 4M, the ServerRaid Driver must be 6.00 or above for use with EMC PowerPath 3.0 and above. IBM driver can be downloaded at: http://www-3.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-39723
13. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
14. It is recommended that the QLogic QLA2340 is not installed in Slot 1.
15. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
16. This HBA is equivalent to the qLogic QLA2310.
17. This HBA is equivalent to the qLogic QLA2340.
18. The LP9002-E now ships with the LP9002L-E low profile adapter.

Unisys

Unisys – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	ES7000/100, ES7000/230, ES7000/500	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[1]	FC-AL, FC-SW	N	See[3]
2	ES7000/200	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[1], QLogic: QLA2340-E-SP[9], QLA2342-E-SP[9]	FC-AL, FC-SW	N	See[3]
3	ES7000/230	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[4], LP9802-E[4, 7], LP9802DC-E[4], LP982-E[4, 7, 8]	FC-AL, FC-SW	Y[5, 6]	See[3]
4	ES7000/500	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[4], LP9802-E[4, 7], LP9802DC-E[4], LP982-E[4, 7, 8]	FC-AL, FC-SW	Y[6]	See[3]
5	ES7000/100, ES7000/200	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[4], LP9802-E[7], LP9802DC-E[4], LP982-E[7, 8]	FC-AL, FC-SW	Y[5, 6]	See[3]

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. CLARiiON FC4500 array is also supported for these configurations.
4. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
5. CX600 only.
6. Booting Windows NT systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops
7. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
8. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
9. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.

Novell Netware

Dell

Dell – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerEdge 8450	PCI	Novell Netware 5.10: SP2[18] SP2A[18]	IBM: 00N6881 (QLA2200)[34, 35, 36] 19K1246(QLA2310)[35, 36, 37], 24P0960(QLA2340)[35, 36, 38]; QLogic: QLA2200F-EMC[21, 30] QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41], QLA2310F-E-SP[24, 30], QLA2340-E-SP[24, 30]	FC-AL, FC-SW	N	See[16]
2	PowerEdge 1650	PCI	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 27]
3	PowerEdge: 1550, 2400, 2450, 2500, 2550[29], 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 27]
4	PowerEdge: 2300, 6400	PCI	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	N	See[14, 15, 16, 17, 27]
5	PowerEdge 8450	PCI	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic: QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41], QLA2340-E-SP[23, 24, 26, 30]	FC-AL, FC-SW	N	See[14, 15, 16, 17, 27]
6	PowerEdge 8450	PCI	Novell Netware 6.0 SP1[18]	IBM: 00N6881 (QLA2200)[34, 35, 36] 19K1246(QLA2310)[35, 36, 37], 24P0960(QLA2340)[35, 36, 38]	FC-AL, FC-SW	N	See[14, 15, 16, 17]
7	PowerEdge 1650	PCI	Novell Netware 6.0 SP1[18, 19]	QLogic QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17]
8	PowerEdge: 1550, 2400, 2450, 2500, 2550[29], 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 6.0 SP1[18, 19]	QLogic QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17]
9	PowerEdge: 2300, 6400	PCI	Novell Netware 6.0 SP1[18, 19]	QLogic QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL FC-SW	N	See[14, 15, 16, 17]
10	PowerEdge 8450	PCI	Novell Netware 6.0 SP1[18, 19]	QLogic: QLA2200F-EMC[21, 22, 30, 31], QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41], QLA2310F-E-SP[23, 24, 30], QLA2340-E-SP[23, 24, 26, 30]	FC-AL, FC-SW	N	See[14, 15, 16, 17]
11	PowerEdge 8450	PCI	Novell Netware 6.0: SP2[18, 19], SP3	QLogic: QLA2200F-EMC[21, 22, 30, 31], QLA2310F-E-SP[23, 24, 30]	FC-AL, FC-SW	N	See[14, 15, 16, 17, 27]
12	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP5[18, 19, 40] SP6	QLogic: QLA2200F-EMC[12, 15, 20, 21, 22, 27, 39] QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 28]	See[16]
13	PowerEdge 1750	PCI-X	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 27]
14	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	N	See[14, 15, 16, 17, 27]
15	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP5[18], SP6	QLogic QLA2310F-E-SP[24, 30]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 20, 28]	See[16, 27]
16	PowerEdge: 4600, 6600, 6650	PCI-X	Novell Netware 5.10: SP5[18], SP6	QLogic: QLA2200F-EMC[21], QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41], QLA2310F-E-SP[24, 30]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 20, 28]	See[16, 27]
17	PowerEdge: 4600, 6600, 6650	PCI-X	Novell Netware 6.0 SP1[18]	QLogic QLA2310F-E-SP[24, 30]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 20, 28]	See[16, 27]
18	PowerEdge 1750	PCI-X	Novell Netware 6.0 SP1[18, 19]	QLogic QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17]
19	PowerEdge 2600	PCI-X	Novell Netware 6.0 SP1[18, 19]	QLogic QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	N	See[14, 15, 16, 17]

Dell – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
20	PowerEdge: 4600, 6600, 6650	PCI-X	Novell Netware 6.0 SP1[18, 19, 40]	QLogic: QLA2200F-EMC[12, 15, 20, 21, 22, 27, 39] QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14]	See[16]
21	PowerEdge 2650	PCI-X	Novell Netware 6.0: SP1[18, 19, 40], SP2[18, 19, 40], SP3	QLogic: QLA2200F-EMC[12, 15, 20, 21, 22, 27, 39] QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14]	See[16]
22	PowerEdge 2650	PCI-X	Novell Netware 6.0: SP1[18], SP2[18], SP3	QLogic QLA2310F-E-SP[24, 30]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 20]	See[16, 27]
23	PowerEdge: 4600, 6600, 6650	PCI-X	Novell Netware 6.0: SP2[18], SP3	QLogic QLA2202F-EMC[12, 15, 20, 21, 22, 27, 30, 31, 33, 39, 41]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 27]
24	PowerEdge: 4600 6600, 6650	PCI-X	Novell Netware 6.0: SP2[18], SP3	QLogic QLA2310F-E-SP[23, 24, 30]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 20]	See[14, 15, 16, 17, 27]
25	PowerEdge 8450	PCI	Novell Netware 5.10: SP5[18, 28], SP6	QLogic: QLA2200F-EMC[21, 22, 30, 31, 32, 33] QLA2310F-E-SP[23, 24, 30]	FC-AL, FC-SW[20]	N	See[14, 15, 16, 17, 27]
26	PowerEdge 1650	PCI	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic QLA2340-E-SP[24, 26]	FC-AL, FC-SW[20]	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 25]	See[14, 15, 16, 17, 27]
27	PowerEdge: 1550, 2400, 2450 2500, 2550[29], 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic QLA2340-E-SP[24, 26]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 25]	See[14, 15, 16, 17, 27]
28	PowerEdge 1650	PCI	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic: QLA2200F-EMC[21, 22], QLA2310F-E-SP[23, 24]	FC-AL, FC-SW[20]	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 27]
29	PowerEdge: 1550, 2400, 2450, 2500, 2550[29], 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic: QLA2200F-EMC[21, 22], QLA2310F-E-SP[23, 24]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 27]
30	PowerEdge: 2300, 6400	PCI	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic: QLA2200F-EMC[21, 22], QLA2310F-E-SP[23, 24], QLA2340-E-SP[24, 26]	FC-AL, FC-SW[20]	N	See[14, 15, 16, 17, 27]
31	PowerEdge 8450	PCI	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18], SP3	IBM: 00N6881 (QLA2200)[34, 35, 36], 19K1246(QLA2310)[35, 36, 37], 24P0960(QLA2340)[35, 36, 38]	FC-AL, FC-SW[20]	N	See[14, 15, 16, 17, 27]
32	PowerEdge 1650	PCI	Novell Netware 6.0 SP1[18, 19]	QLogic QLA2340-E-SP[24, 26]	FC-AL, FC-SW[20]	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 25]	See[14, 15, 16, 17]
33	PowerEdge: 1550, 2400, 2450, 2500, 2550[29], 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 6.0 SP1[18, 19]	QLogic QLA2340-E-SP[24, 26]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 25]	See[14, 15, 18, 17]
34	PowerEdge 1650	PCI	Novell Netware 6.0 SP1[18, 19]	QLogic: QLA2200F-EMC[21, 22], QLA2310F-E-SP[23, 24]	FC-AL, FC-SW[20]	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17]
35	PowerEdge: 1550, 2400, 2450, 2500, 2550[29], 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 6.0 SP1[18, 19]	QLogic: QLA2200F-EMC[21, 22], QLA2310F-E-SP[23, 24]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17]
36	PowerEdge: 2300 6400	PCI	Novell Netware 6.0 SP1[18, 19]	QLogic: QLA2200F-EMC[21, 22], QLA2310F-E-SP[23, 24], QLA2340-E-SP[24, 26]	FC-AL, FC-SW[20]	N	See[14, 15, 16, 17]
37	PowerEdge 1750	PCI-X	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic QLA2340-E-SP[24, 26]	FC-AL, FC-SW[20]	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 25]	See[14, 15, 16, 17, 27]
38	PowerEdge: 2650, 4600, 6600, 6650	PCI-X	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic QLA2340-E-SP[24, 26]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 25]	See[14, 15, 16, 17, 27]
39	PowerEdge 1750	PCI-X	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic: QLA2200F-EMC[21, 22], QLA2310F-E-SP[23, 24]	FC-AL, FC-SW[20]	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 27]
40	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP5[18, 28], SP6; Novell Netware 6.0: SP2[18, 19], SP3	QLogic: QLA2200F-EMC[21, 22], QLA2310F-E-SP[23, 24], QLA2340-E-SP[24, 26]	FC-AL, FC-SW[20]	N	See[14, 15, 16, 17, 27]
41	PowerEdge 1750	PCI-X	Novell Netware 6.0 SP1[18, 19]	QLogic QLA2340-E-SP[24, 26]	FC-AL, FC-SW[20]	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 25]	See[14, 15, 16, 17]
42	PowerEdge: 2650, 4600, 6600 6650	PCI-X	Novell Netware 6.0 SP1[18, 19]	QLogic QLA2340-E-SP[24, 26]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 25]	See[14, 15, 16, 17]
43	PowerEdge 1750	PCI-X	Novell Netware 6.0 SP1[18, 19]	QLogic: QLA2200F-EMC[21, 22], QLA2310F-E-SP[23, 24]	FC-AL, FC-SW[20]	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17]
44	PowerEdge 2600	PCI-X	Novell Netware 6.0 SP1[18, 19]	QLogic: QLA2200F-EMC[21, 22], QLA2310F-E-SP[23, 24], QLA2340-E-SP[24, 26]	FC-AL, FC-SW[20]	N	See[14, 15, 16, 17]
45	PowerEdge: 4600 6600, 6650	PCI-X	Novell Netware 6.0: SP2[18], SP3	IBM: 00N6881 (QLA2200)[34, 35, 36], 19K1246(QLA2310)[35, 36, 37], 24P0960(QLA2340)[35, 36, 38]	FC-AL, FC-SW[20]	N	See[14, 15, 16, 17, 27]
46	PowerEdge: 4600, 6600, 6650	PCI-X	Novell Netware 6.0: SP2[18], SP3	QLogic QLA2200F-EMC[21, 22]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 27]

1. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
2. Supports eight (8) hosts per array
3. FC-SW environments using Brocade 2800 or EMC DS-16B require switch firmware 2.5.0d or greater.
4. Remote boot not supported with PERC controllers enabled in system BIOS.
5. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
6. No MirrorView or SnapView used on boot LUNs.
7. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability

8. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
9. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation
10. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
11. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT_C: partition will.
12. PowerPath and ATF supported.
13. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
14. Powerpath & ATF supported.
15. Novell Storage Services supported.
16. **CLARiiON FC4500 array is also supported for these configurations.**
17. **Optical cables apply to CX600, CX400, FC4500 and FC4700.**
18. **Maximum number of NWFS volumes that can be mounted is 64.**
19. **HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.**
20. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
21. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
22. **Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.**
23. **Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)**
24. **Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com**
25. PowerPath supported. ATF/CDE not supported.
26. **Support for CX600, CX400, CX200, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)**
27. **CX200 available through selected channels.**
28. Requires NetWare patches: NWPAPT2A and NSS5J.
29. **PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.**
30. **Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.**
31. **Requires HBA bios 1.83 and driver 6.50v.**
32. **Requires HBA firmware revision 1.83 and HBA driver revision 6.50v, available at http://www.qlogic.com**
Requires SP4 or higher for NetWare 5.00.
33. **Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.**
(QLA2200) For IBM xSeries and Netfinity servers only.
Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
36. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
37. **This HBA is equivalent to the qLogic QLA2310.**
38. **This HBA is equivalent to the qLogic QLA2340.**
39. **Optical cables apply to CX600, CX400, CX200, FC4500 and FC4700.**
40. **For ATF on Pre CX series, Multipath support or connections to the secondary port are not supported at this time. One path per SP, 2 HBAs per host.**
41. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.**

HPQ

HPQ - Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Netserver LC 2000 U3**	PCI	**Novell Netware 5.10 SP2A[21]**	**QLogic QLA2340-E-SP[25]**	FC-AL, FC-SW	N	**See[15]**
2	**Proliant DL380(G3)[31]**	PCI	**Novell Netware 5.10; SP5[21, 22], SP6**	**QLogic QLA2340-E-SP[24, 25]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	**See[14, 15, 16, 17, 18]**
3	**Proliant: 1600[23, 29], 1850[23], 2500[23], 3000[23], 5000[23], 5500[23, 30], 6000[23, 30], 6400R[23], 6500[23, 30], 7000[23, 30], 850[23], 8500, DL320[23], DL360[23], DL360(G2)[23], DL380[23], DL380(G2)[23], DL380(G3), DL580[23], DL580(G2)[23], ML350[23], ML350(G2)[23], ML370[23], ML370(G2), ML370(G3), ML530[23], ML530(G2)[23], ML570[23], ML750[31]**	PCI	**Novell Netware 5.10; SP5[21, 22], SP6**	**QLogic QLA2340-E-SP[25, 27]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	**See[14, 15, 16, 17, 18]**
4	**Proliant: 1600[23, 29], 1850[23], 2500[23], 3000[23], 5000[23], 5500[23, 30], 6000[23, 30], 6400R[23], 6500[23, 30], 7000[23, 30], 850[23], 8500, DL320[23], DL360[23], DL360(G2)[23], DL380[23], DL380(G2)[23], DL380(G3)[31], DL580[23], DL580(G2)[23], ML350[23], ML350(G2)[23], ML370[23], ML370(G2), ML370(G3), ML530[23], ML530(G2)[23], ML570[23], ML750[31]**	PCI	**Novell Netware 5.10; SP5[21, 22], SP6**	**QLogic: QLA2200F-EMC[19, 20], QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36], QLA2310F-E-SP[24, 25]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	**See[14, 15, 16, 17, 18]**
	Netserver LH: (LH Pro), 3, 3000, 6000; Netserver LT 6000R	PCI	**Novell Netware 5.10; SP5[21, 22], SP6; Novell Netware 6.0: SP2[21, 28], SP3**	**QLogic QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36]**	FC-AL, FC-SW	N	**See[14, 15, 16, 17, 18]**
6	**Netserver LH, 4, II, III; Netserver: LP 2000r, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8**	PCI	**Novell Netware 5.10; SP5[21, 22], SP6, Novell Netware 6.0: SP2[21, 28], SP3**	**QLogic QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	**See[14, 15, 16, 17, 18]**
7	**Proliant 8000[23, 30]**	PCI	**Novell Netware 5.10; SP5[21, 22], SP6; Novell Netware 6.0: SP2[21, 28], SP3**	**QLogic: QLA2200F-EMC[19, 20], QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36], QLA2310F-E-SP[24, 25], QLA2340-E-SP[25, 27]**	FC-AL, FC-SW	N	**See[14, 15, 16, 17, 18]**
8	**Netserver LC 2000r**	PCI	**Novell Netware 5.10; SP5[21], SP6**	**QLogic: QLA2200F-EMC[19], QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36]**	FC-AL, FC-SW	N	**See[15, 36]**

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No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
9	Netserver LH PRO	PCI	Novell Netware 5.10: SP5[21], SP6	QLogic: QLA2200F-EMC[19] QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36] QLA2310F-E-SP[25, 33]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 22]	See[15, 16]
10	Netserver LC 2000r	PCI	Novell Netware 5.10: SP5[21], SP6; Novell Netware 6.0: SP1[21], SP2[21], SP3	QLogic QLA2310F-E-SP[25, 33]	FC-AL, FC-SW	N	See[15, 16]
11	Netserver LC 2000 U3	PCI	Novell Netware 5.10: SP5[21], SP6; Novell Netware 6.0: SP2[21], SP3	QLogic: QLA2200F-EMC[19] QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36] QLA2310F-E-SP[25] QLA2340-E-SP[25, 27]	FC-AL, FC-SW	N	See[15, 16]
12	Netserver LC 2000 U3	PCI	Novell Netware 6.0 SP1[21]	QLogic QLA2340-E-SP[25, 27]	FC-AL, FC-SW	N	See[15]
13	Netserver LH: (LH Pro), 3, 3000, 6000: Netserver LT 6000R	PCI	Novell Netware 6.0 SP1[21, 28]	QLogic QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36]	FC-AL, FC-SW	N	See[14, 15, 17, 18]
	Netserver LH: 4, II, PRO, III: Netserver: LP 2000r, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Novell Netware 6.0 SP1[21, 28]	QLogic QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 17, 18]
15	Proliant DL380(G3)[31]	PCI	Novell Netware 6.0 SP1[21, 28]	QLogic QLA2340-E-SP[24, 25]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 17, 18]
16	Proliant: 1600[23, 29], 1850[23], 2500[23], 3000[23], 5000[23], 5500[23, 30], 6000[23, 30], 6400R[23], 6500[23, 30], 7000[23, 30], 850[23], 8500, DL320[23], DL360[23], DL360(G2)[23], DL380[23], DL380(G2)[23], DL380(G3), DL580[23], DL580(G2)[23], ML350[23], ML350(G2)[23], ML370[23], ML370(G2), ML370(G3), ML530[23], ML530(G2)[23], ML570[23], ML750[31]	PCI	Novell Netware 6.0 SP1[21, 28]	QLogic QLA2340-E-SP[25, 27]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 17, 18]
17	Proliant: 1600[23, 29], 1850[23], 2500[23], 3000[23], 5000[23], 5500[23, 30], 6000[23, 30], 6400R[23], 6500[23, 30], 7000[23, 30], 850[23], 8500, DL320[23], DL360[23], DL360(G2)[23], DL380[23], DL380(G2)[23], DL380(G3)[31], DL580[23], DL580(G2)[23], ML350[23], ML350(G2)[23], ML370[23], ML370(G2), ML370(G3), ML530[23], ML530(G2)[23], ML570[23], ML750[31]	PCI	Novell Netware 6.0 SP1[21, 28]	QLogic: QLA2200F-EMC[19, 20] QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36] QLA2310F-E-SP[24, 25]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 17, 18]
18	Proliant 8000[23, 30]	PCI	Novell Netware 6.0 SP1[21, 28]	QLogic: QLA2200F-EMC[19, 20] QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36] QLA2310F-E-SP[24, 25] QLA2340-E-SP[25, 27]	FC-AL, FC-SW	N	See[14, 15, 17, 18]
19	Netserver LH PRO	PCI	Novell Netware 6.0: SP1[21], SP2[21], SP3	QLogic QLA2310F-E-SP[25, 33]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18]	See[15, 16]
20	Netserver LH PRO	PCI	Novell Netware 6.0: SP2[21, 28], SP3	QLogic QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
21	Proliant DL380(G3)[31]	PCI	Novell Netware 6.0: SP2[21, 28], SP3	QLogic QLA2340-E-SP[24, 25]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 16, 17, 18]
22	Proliant: 1600[23, 29], 1850[23], 2500[23], 3000[23], 5000[23], 5500[23, 30], 6000[23, 30], 6400R[23], 6500[23, 30], 7000[23, 30], 850[23], 8500, DL320[23], DL360[23], DL360(G2)[23], DL380[23], DL380(G2)[23], DL380(G3), DL580[23], DL580(G2)[23], ML350[23], ML350(G2)[23], ML370[23], ML370(G2), ML370(G3), ML530[23], ML530(G2)[23], ML570[23], ML750[31]	PCI	Novell Netware 6.0: SP2[21, 28], SP3	QLogic QLA2340-E-SP[25, 27]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 28]	See[14, 15, 16, 17, 18]
23	Proliant: 1600[23, 29], 1850[23], 2500[23], 3000[23], 5000[23], 5500[23, 30], 6000[23, 30], 6400R[23], 6500[23, 30], 7000[23, 30], 850[23], 8500, DL320[23], DL360[23], DL360(G2)[23], DL380[23], DL380(G2)[23], DL380(G3)[31], DL580[23], DL580(G2)[23], ML350[23], ML350(G2)[23], ML370[23], ML370(G2), ML370(G3), ML530[23], ML530(G2)[23], ML570[23], ML750[31]	PCI	Novell Netware 6.0: SP2[21, 28], SP3	QLogic: QLA2200F-EMC[19, 20] QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36] QLA2310F-E-SP[24, 25]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
24	Netserver LC 2000 U3	PCI	Novell Netware: 5.10 SP2A[21] 6.0 SP1[21]	QLogic: QLA2200F-EMC[19] QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36] QLA2310F-E-SP[25]	FC-AL, FC-SW	N	See[15]
25	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[23], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.10: SP5[21, 22], SP6	QLogic QLA2340-E-SP[25, 27]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 16, 17, 18]
26	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[23], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.10: SP5[21, 22], SP6	QLogic: QLA2200F-EMC[19, 20] QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36] QLA2310F-E-SP[24, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
27	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[23], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 6.0 SP1[21, 28]	QLogic QLA2340-E-SP[25, 27]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 17, 18]
28	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[23], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 6.0 SP1[21, 28]	QLogic: QLA2200F-EMC[19, 20] QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36] QLA2310F-E-SP[24, 25]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 17, 18]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
29	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[23], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 6.0: SP2[21, 28], SP3	QLogic QLA2340-E-SP[25, 27]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 16, 17, 18]
30	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[23], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 6.0: SP2[21, 28], SP3	QLogic: QLA2200F-EMC[19, 20] QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36] QLA2310F-E-SP[24, 25]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
31	Proliant DL580(G3)	PCI, PCI-X	Novell Netware 5.10 SP5[21, 22]	QLogic QLA2340-E-SP[25, 27]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 16, 17, 18]
32	Proliant DL580(G3)	PCI, PCI-X	Novell Netware 5.10 SP5[21, 22]	QLogic: QLA2200F-EMC[19, 20] QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36] QLA2310F-E-SP[24, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
33	Proliant DL580(G3)	PCI, PCI-X	Novell Netware 5.10 SP6	QLogic QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
34	Proliant DL580(G2)[23]	PCI, PCI-X	Novell Netware 5.10: SP5[21, 22], SP6	QLogic QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
35	Proliant DL580(G2)[23]	PCI, PCI-X	Novell Netware 6.0 SP1[21, 28]	QLogic QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36]	FC-AL, FC-SW	Y[2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 17, 18]
36	Proliant DL580(G3)	PCI, PCI-X	Novell Netware 6.0 SP1[21, 28]	QLogic QLA2340-E-SP[25, 27]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 17, 18]
37	Proliant DL580(G3)	PCI, PCI-X	Novell Netware 6.0 SP1[21, 28]	QLogic: QLA2200F-EMC[19, 20] QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36] QLA2310F-E-SP[24, 25]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 17, 18]
38	Proliant DL580(G2)[23]	PCI, PCI-X	Novell Netware 6.0: SP2[21, 28], SP3	QLogic QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36]	FC-AL, FC-SW	Y[2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
39	Proliant DL580(G3)	PCI, PCI-X	Novell Netware 6.0: SP2[21, 28], SP3	QLogic QLA2340-E-SP[25, 27]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 16, 17, 18]
40	Proliant DL580(G3)	PCI, PCI-X	Novell Netware 6.0: SP2[21, 28], SP3	QLogic: QLA2200F-EMC[19, 20] QLA2202F-EMC[1, 12, 16, 18, 19, 20, 32, 33, 34, 35, 36] QLA2310F-E-SP[24, 25]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
41	Netserver LC 2000r	PCI	Novell Netware 5.10: SP5[21, 22], SP6	QLogic QLA2340-E-SP[25, 27]	FC-AL, FC-SW[1]	N	See[14, 15, 16, 17, 18]
42	Netserver LH: 4, II, PRO, III; Netserver: LP 2000r, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Novell Netware 5.10: SP5[21, 22], SP6; Novell Netware 6.0: SP2[21, 28], SP3	QLogic QLA2340-E-SP[25, 27]	FC-AL, FC-SW[1]	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 16, 17, 18]
43	Netserver LH: 4, II, III; Netserver: LP 2000r, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Novell Netware 5.10: SP5[21, 22], SP6; Novell Netware 6.0: SP2[21, 28], SP3	QLogic: QLA2200F-EMC[19, 32], QLA2310F-E-SP[24, 25]	FC-AL, FC-SW[1]	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
44	Netserver LH: (LH Pro), 3, 3000, 6000; Netserver LT 6000R	PCI	Novell Netware 5.10: SP5[21, 22], SP6; Novell Netware 6.0: SP2[21, 28], SP3	QLogic: QLA2200F-EMC[19, 32], QLA2310F-E-SP[24, 25], QLA2340-E-SP[25, 27]	FC-AL, FC-SW[1]	N	See[14, 15, 16, 17, 18]
45	Netserver LH PRO	PCI	Novell Netware 6.0 SP1[21, 28]	QLogic QLA2200F-EMC[19, 32]	FC-AL, FC-SW[1]	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 17, 18]
46	Netserver LH: 4, II, PRO, III; Netserver: LP 2000r, LX PRO, LXR 8000, LXR 8500 LXR PRO, LXR PRO8	PCI	Novell Netware 6.0 SP1[21, 28]	QLogic QLA2340-E-SP[25, 27]	FC-AL, FC-SW[1]	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 17, 18]
47	Netserver LH: 4, II, III; Netserver: LP 2000r, LX PRO LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Novell Netware 6.0 SP1[21, 28]	QLogic: QLA2200F-EMC[19, 32], QLA2310F-E-SP[24, 25]	FC-AL, FC-SW[1]	Y[2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 17, 18]
48	Netserver LH: (LH Pro), 3, 3000, 6000; Netserver LT 6000R	PCI	Novell Netware 6.0 SP1[21, 28]	QLogic: QLA2200F-EMC[19, 32], QLA2310F-E-SP[24, 25], QLA2340-E-SP[25, 27]	FC-AL, FC-SW[1]	N	See[14, 15, 17, 18]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
49	**Netserver LH PRO**	PCI	**Novell Netware 6.0: SP2[21, 28], SP3**	**QLogic QLA2200F-EMC[19, 32]**	FC-AL, FC-SW[1]	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
50	**Proliant DL580(G3)**	PCI, PCI-X	**Novell Netware 5.10 SP6**	**QLogic QLA2340-E-SP[25, 27]**	FC-AL, FC-SW[1]	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 16, 17, 18]
51	**Proliant DL580(G3)**	PCI, PCI-X	**Novell Netware 5.10 SP6**	**QLogic: QLA2200F-EMC[19, 20], QLA2310F-E-SP[24, 25]**	FC-AL, FC-SW[1]	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
52	**Proliant DL580(G2)[23]**	PCI, PCI-X	**Novell Netware 5.10: SP5[21, 22], SP6**	**QLogic QLA2340-E-SP[25, 27]**	FC-AL, FC-SW[1]	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 16, 17, 18]
53	**Proliant DL580(G2)[23]**	PCI, PCI-X	**Novell Netware 5.10: SP5[21, 22], SP6**	**QLogic: QLA2200F-EMC[19] QLA2310F-E-SP[24, 25]**	FC-AL, FC-SW[1]	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]
54	**Proliant DL580(G2)[23]**	PCI, PCI-X	**Novell Netware 6.0 SP1[21, 28]**	**QLogic QLA2340-E-SP[25, 27]**	FC-AL, FC-SW[1]	Y[2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 17, 18]
55	**Proliant DL580(G2)[23]**	PCI, PCI-X	**Novell Netware 6.0 SP1[21, 28]**	**QLogic: QLA2200F-EMC[19], QLA2310F-E-SP[24, 25]**	FC-AL, FC-SW[1]	Y[2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 17, 18]
56	**Proliant DL580(G2)[23]**	PCI, PCI-X	**Novell Netware 6.0: SP2[21, 28], SP3**	**QLogic QLA2340-E-SP[25, 27]**	FC-AL, FC-SW[1]	Y[2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26]	See[14, 15, 16, 17, 18]
57	**Proliant DL580(G2)[23]**	PCI, PCI-X	**Novell Netware 6.0: SP2[21, 28], SP3**	**QLogic: QLA2200F-EMC[19], QLA2310F-E-SP[24, 25]**	FC-AL, FC-SW[1]	Y[2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[14, 15, 16, 17, 18]

1. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
2. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
3. Supports eight (8) hosts per array.
4. FC-SW environments using Brocade 2800 or EMC DS-16B require switch firmware 2.5.0d or greater.
5. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
6. No MirrorView or SnapView used on boot LUNs.
7. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
8. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
9. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
10. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
11. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT C: partition will.
12. PowerPath and ATF supported.
13. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
14. **Optical cables apply to CX600, CX400, FC4500 and FC4700.**
15. **CLARiiON FC4500 array is also supported for these configurations.**
16. **CX200 available through selected channels.**
17. Powerpath & ATF supported.
18. Novell Storage Services supported.
19. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
20. **Requires HBA bios 1.83 and driver 6.50v.**
21. **Maximum number of NWFS volumes that can be mounted is 64.**
22. Requires NetWare patches: NWPAPT2A and NSS5J.
23. **Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.**
24. **Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)**
25. **Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com**
26. PowerPath supported. ATF/CDE not supported.
27. **Support for CX600, CX400, CX200, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)**
28. **HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.**
29. **This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.**
30. **Includes both Pentium PRO and XEON models**
31. **HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.**
32. **Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.**
33. **Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.**
34. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.**
35. **Optical cables apply to CX600, CX400, CX200, FC4500 and FC4700.**
36. **Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.**

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IBM – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Netfinity 8500R**	PCI	**Novell Netware 5.10: SP2[21] SP2A[21]**	**IBM: 00N6881 (QLA2200)[30, 31, 32], 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]; QLogic: QLA2200F-EMC[18, 29], QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39], QLA2310F-E-SP[22, 29], QLA2340-E-SP[22, 29]**	FC-AL, FC-SW	N	See[14]

IBM – Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
2	Netfinity 7000 M10[28]	PCI	Novell Netware 5.10: SP5[21, 26], SP6 Novell Netware 6.0: SP2[21], SP3	QLogic QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 27]	See[13, 14, 15, 16, 17]
3	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.10: SP5[21, 26], SP6. Novell Netware 6.0: SP2[21], SP3	QLogic QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16, 17]
4	Netfinity 8500R	PCI	Novell Netware 5.10: SP5[21], SP6	QLogic QLA2340-E-SP[22, 25, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 20, 24, 26]	See[14, 17]
5	Netfinity 8500R	PCI	Novell Netware 5.10: SP5[21], SP6	QLogic: QLA2200F-EMC[18, 29], QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39], QLA2310F-E-SP[22, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 20, 26]	See[14, 17]
6	Netfinity 7000 M10[28]	PCI	Novell Netware 6.0 SP1[21]	IBM: 00N6881 (QLA2200)[30, 31, 32], 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 27]	See[13, 14, 15, 16]
7	Netfinity 8500R	PCI	Novell Netware 6.0 SP1[21]	IBM: 00N6881 (QLA2200)[30, 31, 32], 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15]	See[14]
8	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 6.0 SP1[21]	IBM: 00N6881 (QLA2200)[30, 31, 32], 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16]
9	xSeries X335	PCI	Novell Netware 6.0 SP1[21]	IBM: 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16]
10	Netfinity 7000 M10[28]	PCI	Novell Netware 6.0 SP1[21]	QLogic QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 27]	See[13, 14, 15, 16]
11	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 6.0 SP1[21]	QLogic QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39]	FC-AL FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16]
12	Netfinity 8500R	PCI	Novell Netware 6.0 SP1[21]	QLogic QLA2340-E-SP[22, 25, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 20, 24]	See[14]
13	Netfinity 8500R	PCI	Novell Netware 6.0 SP1[21]	QLogic: QLA2200F-EMC[18, 29], QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39], QLA2310F-E-SP[22, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 20]	See[14]
14	Netfinity 8500R	PCI	Novell Netware 6.0: SP2[21], SP3	QLogic QLA2340-E-SP[22, 25, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 20, 24]	See[14, 17]
15	Netfinity 8500R	PCI	Novell Netware 6.0: SP2[21], SP3	QLogic: QLA2200F-EMC[18, 29], QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39], QLA2310F-E-SP[22, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 20]	See[14, 17]
16	xSeries x440	PCI-X	Novell Netware 5.10: SP5[21, 26] SP6	IBM 19K1246(QLA2310)[20, 31, 33]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16, 17]
17	xSeries x360	PCI-X	Novell Netware 5.10: SP5[21, 26] SP6	IBM: 19K1246(QLA2310)[20, 31, 33], 24P0960(QLA2340)[20, 31, 34]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16, 17]
18	xSeries x440	PCI-X	Novell Netware 5.10: SP5[21], SP6	IBM 00N6881 (QLA2200)[19, 25, 30, 31, 32]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 26]	See[13, 14, 15, 16, 17]
19	xSeries x360	PCI-X	Novell Netware 5.10: SP5[21], SP6	IBM 00N6881 (QLA2200)[19, 30, 31, 32]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 26]	See[13, 14, 15, 16, 17]
20	xSeries: x360, x440	PCI-X	Novell Netware 5.10: SP5[21], SP6	QLogic: QLA2200F-EMC[18], QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39], QLA2310F-E-SP[22, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 20, 26]	See[14, 17]
21	xSeries x235	PCI-X	Novell Netware 5.10: SP5[21], SP6	QLogic: QLA2200F-EMC[18], QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39], QLA2310F-E-SP[22, 29], QLA2340-E-SP[22, 25, 29]	FC-AL, FC-SW	N	See[14]
22	xSeries: x360, x440	PCI-X	Novell Netware 6.0 SP1[21]	IBM: 00N6881 (QLA2200)[30, 31, 32], 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16]
23	xSeries, x360, x440	PCI-X	Novell Netware 6.0 SP1[21]	QLogic QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16]
24	xSeries x440	PCI-X	Novell Netware 6.0 SP1[21]	QLogic QLA2310F-E-SP[22, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 20]	See[14, 17]
25	xSeries x360	PCI-X	Novell Netware 6.0: SP1[21], SP2[21], SP3	QLogic QLA2310F-E-SP[22, 23, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 20]	See[13, 14, 15, 16, 17]
26	xSeries x360, x440	PCI-X	Novell Netware 6.0: SP2[21], SP3	QLogic QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16, 17]
27	xSeries x440	PCI-X	Novell Netware 6.0: SP2[21], SP3	QLogic QLA2310F-E-SP[22, 23, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 20]	See[13, 14, 15, 16, 17]
28	xSeries x440	PCI-X	Novell Netware 5.10[21] 5.10 SP2A[21]	IBM 00N6881 (QLA2200)[19, 25, 30, 31, 32]	FC-AL, FC-SW	N	See[13, 14, 15, 16, 17]
29	xSeries x360	PCI-X	Novell Netware 5.10[21] 5.10 SP2A[21]	IBM 00N6881 (QLA2200)[19, 30, 31, 32]	FC-AL, FC-SW	N	See[13, 14, 15, 16, 17]
30	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP5[21, 26] SP6	IBM 19K1246(QLA2310)[20, 31, 33]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16, 17]
31	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP5[21], SP6	IBM 00N6881 (QLA2200)[19, 25, 30, 31, 32]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 26]	See[13, 14, 15, 16, 17]
32	xSeries x345	PCI, PCI-X	Novell Netware 5.10: SP5[21], SP6	QLogic: QLA2200F-EMC[18], QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39]	FC-AL, FC-SW	N	See[14, 17]
33	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP5[21], SP6	QLogic: QLA2200F-EMC[18], QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39], QLA2310F-E-SP[22, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 20, 26]	See[14, 17]
34	xSeries x345	PCI, PCI-X	Novell Netware 5.10: SP5[21], SP6, Novell Netware 6.0: SP1[21], SP2[21], SP3	QLogic QLA2310F-E-SP[22, 29]	FC-AL, FC-SW	N	See[14, 17]

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IBM – Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
35	xSeries x445	PCI PCI-X	Novell Netware 6.0 SP1[21]	IBM: 00N6881 (QLA2200)[30, 31, 32] 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16]
36	xSeries x445	PCI, PCI-X	Novell Netware 6.0 SP1[21]	QLogic QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16]
37	xSeries x445	PCI, PCI-X	Novell Netware 6.0 SP1[21]	QLogic QLA2310F-E-SP[22, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 20]	See[14, 17]
38	xSeries x445	PCI, PCI-X	Novell Netware 6.0: SP2[21], SP3	QLogic QLA2202F-EMC[11, 15, 17, 18, 19, 20, 29, 36, 37, 38, 39]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16, 17]
39	xSeries x445	PCI, PCI-X	Novell Netware 6.0: SP2[21], SP3	QLogic QLA2310F-E-SP[22, 23, 29]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 20]	See[13, 14, 15, 16, 17]
40	xSeries x445	PCI PCI-X	Novell Netware 5.10[21], 5.10 SP2A[21]	IBM 00N6881 (QLA2200)[19, 25, 30, 31, 32]	FC-AL, FC-SW	N	See[13, 14, 15, 16, 17]
41	Netfinity 7000 M10[28]	PCI	Novell Netware 5.10: SP5[21, 26], SP6; Novell Netware 6.0: SP2[21], SP3	IBM: 00N6881 (QLA2200)[30, 31, 32] 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]	FC-AL FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 27]	See[13, 14, 15, 16, 17]
42	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.10: SP5[21, 26], SP6; Novell Netware 6.0: SP2[21], SP3	IBM: 00N6881 (QLA2200)[30, 31, 32] 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16, 17]
43	xSeries X335	PCI	Novell Netware 5.10: SP5[21, 26], SP6; Novell Netware 6.0: SP2[21], SP3	IBM: 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16, 17]
44	xSeries X335	PCI	Novell Netware 5.10: SP5[21, 26], SP6; Novell Netware 6.0: SP2[21], SP3	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16, 17]
45	xSeries x370	PCI	Novell Netware 5.10: SP5[21, 26], SP6; Novell Netware 6.0: SP2[21], SP3	QLogic QLA2340-E-SP[22, 23]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 24]	See[13, 14, 15, 16, 17]
46	Netfinity 7000 M10[28]	PCI	Novell Netware 5.10: SP5[21, 26], SP6; Novell Netware 6.0: SP2[21], SP3	QLogic QLA2340-E-SP[22, 25]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 24, 27]	See[13, 14, 15, 16, 17]
47	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R)	PCI	Novell Netware 5.10: SP5[21, 26], SP6; Novell Netware 6.0: SP2[21], SP3	QLogic QLA2340-E-SP[22, 25]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 24]	See[13, 14, 15, 16, 17]
48	Netfinity 7000 M10[28]	PCI	Novell Netware 5.10: SP5[21, 26] SP6; Novell Netware 6.0: SP2[21], SP3	QLogic: QLA2200F-EMC[18, 19], QLA2310F-E-SP[22, 23]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 27]	See[13, 14, 15, 16, 17]
49	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.10: SP5[21, 26], SP6; Novell Netware 6.0: SP2[21], SP3	QLogic: QLA2200F-EMC[18, 19], QLA2310F-E-SP[22, 23]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16, 17]
50	Netfinity 8500R	PCI	Novell Netware 5.10: SP5[21], SP6	IBM: 00N6881 (QLA2200)[30, 31, 32] 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 26]	See[14, 17]
51	xSeries X335	PCI	Novell Netware 6.0 SP1[21]	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16]
52	xSeries x370	PCI	Novell Netware 6.0 SP1[21]	QLogic QLA2340-E-SP[22, 23]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 24]	See[13, 14, 15, 16]
53	Netfinity 7000 M10[28]	PCI	Novell Netware 6.0 SP1[21]	QLogic QLA2340-E-SP[22, 25]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 24, 27]	See[13, 14, 15, 16]
54	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R)	PCI	Novell Netware 6.0 SP1[21]	QLogic QLA2340-E-SP[22, 25]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 24]	See[13, 14, 15, 16]
55	Netfinity 7000 M10[28]	PCI	Novell Netware 6.0 SP1[21]	QLogic: QLA2200F-EMC[18, 19], QLA2310F-E-SP[22, 23]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 27]	See[13, 14, 15, 16]
56	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 6.0 SP1[21]	QLogic: QLA2200F-EMC[18, 19], QLA2310F-E-SP[22, 23]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16]
57	Netfinity 8500R	PCI	Novell Netware 6.0: SP2[21], SP3	IBM: 00N6881 (QLA2200)[30, 31, 32] 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15]	See[14, 17]
58	xSeries x440	PCI-X	Novell Netware 5.10: SP5[21, 26], SP6; Novell Netware 6.0: SP2[21], SP3	IBM 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16, 17]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
59	xSeries: x360, x440	PCI-X	Novell Netware 5.10: SP5[21, 26], SP6 Novell Netware 6.0: SP2[21], SP3	QLogic QLA2340-E-SP[22, 25]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 24]	See[13, 14, 15, 16, 17]
60	xSeries: x360, x440	PCI-X	Novell Netware 6.0 SP1[21]	QLogic QLA2200F-EMC[18, 19]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16]
61	xSeries: x360, x440	PCI-X	Novell Netware 6.0 SP1[21, 35]	QLogic QLA2340-E-SP[22, 25]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 24]	See[13, 14, 15, 16]
62	xSeries x440	PCI-X	Novell Netware 6.0: SP2[21], SP3	IBM: 00N6881 (QLA2200)[30, 31, 32], 19K1246(QLA2310)[30, 31, 33]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16, 17]
63	xSeries x360	PCI-X	Novell Netware 6.0: SP2[21], SP3	IBM: 00N6881 (QLA2200)[30, 31, 32], 19K1246(QLA2310)[30, 31, 33], 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16, 17]
64	xSeries: x360, x440	PCI-X	Novell Netware 6.0: SP2[21], SP3	QLogic QLA2200F-EMC[18, 19]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16, 17]
65	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP5[21, 26], SP6 Novell Netware 6.0: SP2[21], SP3	IBM 24P0960(QLA2340)[30, 31, 34]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16, 17]
66	xSeries x345	PCI, PCI-X	Novell Netware 5.10: SP5[21, 26], SP6 Novell Netware 6.0: SP2[21], SP3	QLogic QLA2340-E-SP[22, 25]	FC-AL, FC-SW[20]	N	See[13, 14, 15, 16, 17]
67	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP5[21, 26], SP6 Novell Netware 6.0: SP2[21], SP3	QLogic QLA2340-E-SP[22, 25]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 24]	See[13, 14, 15, 16, 17]
68	xSeries x445	PCI, PCI-X	Novell Netware 6.0 SP1[21]	QLogic QLA2200F-EMC[18, 19]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16]
69	xSeries x345	PCI, PCI-X	Novell Netware 6.0 SP1[21, 35]	QLogic QLA2340-E-SP[22, 25]	FC-AL, FC-SW[20]	N	See[13, 14, 15, 16]
70	xSeries x445	PCI, PCI-X	Novell Netware 6.0 SP1[21, 35]	QLogic QLA2340-E-SP[22, 25]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 24]	See[13, 14, 15, 16]
71	xSeries x445	PCI, PCI-X	Novell Netware 6.0: SP2[21], SP3	IBM: 00N6881 (QLA2200)[30, 31, 32], 19K1246(QLA2310)[30, 31, 33]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12]	See[13, 14, 15, 16, 17]
72	xSeries x445	PCI, PCI-X	Novell Netware 6.0: SP2[21], SP3	QLogic QLA2200F-EMC[18, 19]	FC-AL, FC-SW[20]	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[13, 14, 15, 16, 17]

1. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
2. Supports eight (8) hosts per array.
3. FC-SW environments using Brocade 2800 or EMC DS-16B require switch firmware 2.5.0d or greater.
4. Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
5. No MirrorView or SnapView used on boot LUNs.
6. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
7. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
8. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
9. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
10. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT_C: partition will.
11. PowerPath and ATF supported.
12. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
13. Powerpath & ATF supported.
14. **CLARiiON FC4500 array is also supported for these configurations.**
15. Novell Storage Services supported.
16. **Optical cables apply to CX600, CX400, FC4500 and FC4700.**
17. **CX200 available through selected channels.**
18. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
19. **Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.**
20. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels
21. **Maximum number of NWFS volumes that can be mounted is 64.**
22. **Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com**
23. **Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)**
24. PowerPath supported. ATF/CDE not supported.
25. **Support for CX600, CX400, CX200, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)**
26. Requires NetWare patches: NWPAPT2A and NSS5J.
27. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
28. **This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850**
29. **Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.**
30. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
31. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
32. **(QLA2200) For IBM xSeries and Netfinity servers only.**
33. **This HBA is equivalent to the qLogic QLA2310.**
34. **This HBA is equivalent to the qLogic QLA2340.**
35. **HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.**
36. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.**
37. **Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.**
38. **Optical cables apply to CX600, CX400, CX200, FC4500 and FC4700.**
39. **Requires HBA bios 1.83 and driver 6.50v.**

19.939

Red Hat Linux
DG

DG – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 14, 21, 22]	Emulex LP9002–E (LP9002L–E)[11, 30]	FC–AL, FC–SW	Y[1, 4, 5, 6, 7, 8, 9, 10, 26, 29]	See[16, 17, 18, 19, 20]
2	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 14, 21, 22]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[1, 4, 5, 6, 7, 8, 9, 10, 26, 29, 31]	See[16, 17, 18, 19, 20]
3	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 14, 21, 22]	Emulex: LP9802–E[11, 31], LP982–E[11, 31]	FC–AL, FC–SW	Y[1, 4, 5, 6, 7, 8, 9, 10, 26]	See[16, 17, 18, 19, 20]
4	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 14, 21, 22]	QLogic QLA2200F[11, 12, 13, 14, 15]	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]	See[16, 17, 18, 19, 20]
5	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 14, 21, 22]	QLogic QLA2310F–E–SP[11, 24]	FC–AL, FC–SW	Y[1, 4, 5, 6, 7, 8, 9, 10, 25, 26]	See[16, 17, 18, 19, 20]
6	AViiON AV3704R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[22, 23], v2.4.9–E.12[22, 23], v2.4.9–E.16[22, 23], v2.4.9–E.3[22], v2.4.9–E.9[22, 23]. Red Hat Linux 2.1 ES: v2.4.9–e.12[22, 23], v2.4.9–e.16[22, 23]	QLogic QLA2200F[11, 12, 15]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
7	AViiON: AV1400, AV2800, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[22, 23], v2.4.9–E.12[22, 23], v2.4.9–E.9[22, 23]	QLogic QLA2200F[11, 12, 15]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
8	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[22, 23], v2.4.9–E.3[1, 14, 21, 22]; Red Hat Linux 2.1 ES: v2.4.9–e.12[22, 23], v2.4.9–e.16[22, 23]	QLogic: QLA2200F–EMC[11, 13], QLA2342–E–SP[32]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
9	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[22, 23], v2.4.9–E.3[1, 14, 21, 22], v2.4.9–e.24[22, 33]; Red Hat Linux 2.1 ES: v2.4.9–e.12[22, 23], v2.4.9–e.16[22, 23], v2.4.9–e.24[22, 33]; Red Hat Linux 7.3 (v2.4.18–3)[22]	QLogic QLA2202F–EMC[11, 12, 13, 14, 15, 27, 28, 34, 37]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
10	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[22, 23], ES v2.4.9–e.12[22, 23], ES v2.4.9–e.16[22, 23]	Emulex LP9002–E (LP9002L–E)[11, 30]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 29]	See[16, 17, 18, 19, 20]
11	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[22, 23], ES v2.4.9–e.12[22, 23], ES v2.4.9–e.16[22, 23]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 29, 31]	See[16, 17, 18, 19, 20]
12	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[22, 23], ES v2.4.9–e.12[22, 23], ES v2.4.9–e.16[22, 23]	Emulex: LP9802–E[11, 31], LP982–E[11, 31]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 26]	See[16, 17, 18, 19, 20]
13	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[22, 23], ES v2.4.9–e.12[22, 23], ES v2.4.9–e.16[22, 23]	QLogic QLA2310F–E–SP[11, 24]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 25, 26]	See[16, 17, 18, 19, 20]
14	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[22, 23], ES v2.4.9–e.12[22, 23], ES v2.4.9–e.16[22, 23]; Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[21, 22]	QLogic QLA2200F[11, 12, 13, 14, 15]	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]	See[16, 17, 18, 19, 20]
15	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[22, 33], ES v2.4.9–e.24[22, 33]	Emulex LP9002–E (LP9002L–E)[11, 12, 27, 28, 30]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 29]	See[16, 17, 18, 19, 20]
16	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[22, 33], ES v2.4.9–e.24[22, 33]	Emulex LP9802DC–E[11, 12, 27, 28, 31]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 29, 31]	See[16, 17, 18, 19, 20]
17	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[22, 33], ES v2.4.9–e.24[22, 33]	Emulex: LP9802–E[11, 12, 27, 28, 31], LP982–E[11, 12, 27, 28, 31]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 26]	See[16, 17, 18, 19, 20]
18	AViiON AV3704R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[22, 33], ES v2.4.9–e.24[22, 33]	QLogic QLA2200F[11, 12, 27, 28, 34, 36]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
19	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[22, 33], ES v2.4.9–e.24[22, 33]	QLogic QLA2200F[11, 12, 27, 28, 34, 36]	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]	See[16, 17, 18, 19, 20]
20	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[22, 33], ES v2.4.9–e.24[22, 33]	QLogic QLA2310F–E–SP[11, 12, 27, 28, 35]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 25, 26]	See[16, 17, 18, 19, 20]
21	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[22, 33], ES v2.4.9–e.24[22, 33]	QLogic: QLA2200F–EMC[11, 12, 27, 28, 34], QLA2342–E–SP[12, 27, 28, 35, 36]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
22	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4.18–3)[22]	Emulex LP9002–E (LP9002L–E)	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 21, 26, 29]	See[16, 17, 20]
23	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4.18–3)[22]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 21, 26, 29, 31]	See[16, 17, 20]
24	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4.18–3)[22]	Emulex: LP9802–E, LP982–E	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 21, 26, 31]	See[16, 17, 20]
25	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4.18–3)[22]	QLogic QLA2200F–EMC[11]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
26	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4.18–3)[22]	QLogic QLA2342–E–SP[32]	FC–AL, FC–SW	N	See[16, 17, 20]
27	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4.18–3)[22]	QLogic: QLA2310F–E–SP[12, 15], QLA2340–E–SP[12, 15]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 21, 25, 26]	See[16, 17, 20]

DG – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
28	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 14, 21, 22]	QLogic QLA2340-E-SP[11, 24]	FC-AL, FC-SW[27, 28]	Y[1, 4, 5, 6, 7, 8, 9, 10, 25, 26]	See[16, 17, 18, 19, 20]
29	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1; Advanced Server v2.4.9-E.16[22, 23], ES v2.4.9-e.12[22, 23], ES v2.4.9-e.16[22, 23]	QLogic QLA2340-E-SP[11, 24]	FC-AL, FC-SW[27, 28]	Y[4, 5, 6, 7, 8, 9, 10, 25, 26]	See[16, 17, 18, 19, 20]
30	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1, Advanced Server v2.4.9-e.24[22, 33] ES v2.4.9-e.24[22, 33]	QLogic QLA2340-E-SP[11, 12, 35]	FC-AL, FC-SW[27, 28]	Y[4, 5, 6, 7, 8, 9, 10, 25, 26]	See[16, 17, 18, 19, 20]

1. This kernel is limited to 110 devices, not 128.
2. Requires QLogic driver 4.47.18 and BIOS 1.83.
3. Install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.
4. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
5. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
6. No MirrorView or SnapView used on boot LUNs.
7. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
8. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
9. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
10. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
11. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
12. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
13. **Requires v6.0.5 or higher Navisphere host Agent/CLI.**
14. **Supported with QLogic driver v6.04.02 or v6.05.00.**
15. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
16. **PowerPath supported. ATF/CDE not supported.**
17. **CLARiiON FC4500 array is also supported for these configurations.**
18. **Not available for FC5700**
19. **Optical cables apply to CX600, CX400, FC4500 and FC4700.**
    CX200 available through selected channels.
20. Requires v6.2.1 or higher Navisphere host agent/CLI.
22. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
23. **This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath.**
    Booting from EMC storage arrays is NOT supported with PowerPath.
24. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
25. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
26. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
27. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
28. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
29. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
30. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
31. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
32. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
33. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
34. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
35. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
36. **Single HBA zoning is required regardless of the switch being utilized.**
37. **Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC-approved driver after installation.**

Dell

Dell – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerEdge: 1550[8], 1650[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[7, 10, 29, 33]	QLogic QLA2200F-EMC[6, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
2	PowerEdge: 1550, 2300, 2450, 2500, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[10, 29]	QLogic QLA2200F[6, 30, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9002-E (LP9002L-E)[6, 27]	FC-AL, FC-SW	Y[11, 14, 15, 16, 17, 18, 19, 20, 21, 26]	See[1, 2, 3, 4, 5]
4	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[11, 14, 15, 16, 17, 18, 19, 20, 21, 26, 28]	See[1, 2, 3, 4, 5]
5	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex: LP9802-E[6, 28], LP982-E[6, 28]	FC-AL, FC-SW	Y[11, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
6	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	Y[11, 14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
7	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2310F-E-SP[6, 22]	FC-AL, FC-SW	Y[11, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
8	PowerEdge 2550[25]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10]	QLogic QLA2200F[6, 30, 31]	FC-AL, FC-SW	Y[9, 11, 12, 14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
9	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[10, 29]	Emulex: LP9802-E[6, 28], LP982-E[6, 28]	FC-AL, FC-SW	N	See[1, 2, 3,

Dell – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
10	PowerEdge 1650[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	Emulex LP9802DC-E	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
11	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
12	PowerEdge 1650[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic: QLA2310F-E-SP[6, 22], QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
13	PowerEdge: 1550[8], 1650[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29], v2.4.9-e.24[10, 41]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29], v2.4.9-e.24[10, 41]; Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[9, 10]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 30, 31, 42, 43]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
14	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	Emulex LP9802DC-E	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
15	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2310F-E-SP[6, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
16	PowerEdge: 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.3[9, 10, 11, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
17	PowerEdge 4300	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[10, 12], v2.4.9-E.9[10, 29], v2.4.9-e.24[10, 41]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29], v2.4.9-e.24[10, 41]; Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[9, 10]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 30, 31, 42, 43]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
18	PowerEdge 2400	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10], 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 30, 31, 42, 43]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
19	PowerEdge 1650[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	Emulex LP9002-E (LP9002L-E)[6, 27]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
20	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]	Emulex LP9002-E (LP9002L-E)[6, 27]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
21	PowerEdge 2550[8, 25]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]	Emulex LP9002-E (LP9002L-E)[6, 27], QLogic QLA2200F[6, 30, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
22	PowerEdge: 1650[8], 2400, 2550[25]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]	QLogic QLA2200F[6, 30, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
23	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.9[10, 29]	QLogic QLA2200F[6, 30, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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Dell – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
24	PowerEdge: 1550[8], 1650[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[10, 29], v2.4.9–E.16[10, 29]; Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 29], v2.4.9–e.16[10, 29]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[10]	QLogic QLA2200F–EMC[6, 7, 12]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
25	PowerEdge 1650[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[10, 29], v2.4.9–E.16[10, 29], v2.4.9–E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 29], v2.4.9–e.16[10, 29]	QLogic QLA2340–E–SP[6, 22, 34]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
26	PowerEdge: 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[10, 29], v2.4.9–E.16[10, 29], v2.4.9–E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 29], v2.4.9–e.16[10, 29]	QLogic QLA2342–E–SP[34]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
27	PowerEdge: 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[10, 29], v2.4.9–E.9[10, 29]	QLogic QLA2340–E–SP[6, 22, 34]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
28	PowerEdge 2400	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[10, 29], v2.4.9–E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 29], v2.4.9–e.16[10, 29]	QLogic QLA2342–E–SP[34]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
29	PowerEdge 1650[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[10, 29], v2.4.9–E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 29], v2.4.9–e.16[10, 29]; Red Hat Linux: 7.3 updated w/ v2.4.18–27.7.x rpm[9, 10], 8.0 updated to v2.4.18–27.8.0[10]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
30	PowerEdge 2400	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[10, 29], v2.4.9–E.3[9, 10, 11, 12], v2.4.9–e.24[10, 41]; Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 29], v2.4.9–e.16[10, 29], v2.4.9–e.24[10, 41]; Red Hat Linux 7.3 (v2.4.18–3)[10]	QLogic QLA2202F–EMC[6, 7, 12, 23, 24, 30, 31, 42, 43]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
31	PowerEdge 4300	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[10, 29], v2.4.9–E.3[10, 12]; Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 29], v2.4.9–e.16[10, 29]; Red Hat Linux: 7.3 updated w/ v2.4.18–27.7.x rpm[9, 10], 8.0 updated to v2.4.18–27.8.0[10]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC–AL, FC–SW	N	See[2, 3, 4, 5]
32	PowerEdge 1650[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.3[9, 10, 11, 12], v2.4.9–E.9[10, 29]	Emulex: LP9802–E[6, 28], LP982–E[6, 28]; QLogic QLA2200F–EMC[6, 7]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
33	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.3[9, 10, 11, 12], v2.4.9–E.9[10, 29]	QLogic QLA2200F–EMC[6, 7]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
34	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 29], ES v2.4.9–e.12[10, 29], ES v2.4.9–e.16[10, 29]	Emulex LP9002–E (LP9002L–E)[6, 27]	FC–AL, FC–SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 26]	See[1, 2, 3, 4, 5]
35	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 29], ES v2.4.9–e.12[10, 29], ES v2.4.9–e.16[10, 29]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 26, 28]	See[1, 2, 3, 4, 5]
36	PowerEdge 2400	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 29], ES v2.4.9–e.12[10, 29], ES v2.4.9–e.16[10, 29]	Emulex: LP9802–E[6, 28], LP982–E[6, 28]	FC–AL, FC–SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
37	PowerEdge 2550[25]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 29], ES v2.4.9–e.12[10, 29], ES v2.4.9–e.16[10, 29]	QLogic QLA2200F[6, 30, 31]	FC–AL, FC–SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
38	PowerEdge: 1550, 2300, 2400, 2450, 2500, 4400 6100, 6300, 6350, 6400, 6450 8450	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 29], ES v2.4.9–e.12[10, 29], ES v2.4.9–e.16[10, 29]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC–AL, FC–SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
39	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 29], ES v2.4.9–e.12[10, 29], ES v2.4.9–e.16[10, 29]	QLogic QLA2310F–E–SP[6, 22]	FC–AL, FC–SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
40	PowerEdge: 6450, 8450	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 29], ES v2.4.9–e.12[10, 29], ES v2.4.9–e.16[10, 29]	QLogic QLA2340–E–SP[6, 22, 34]	FC–AL, FC–SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
41	PowerEdge 2550[8, 25]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 29], ES v2.4.9–e.12[10, 29], ES v2.4.9–e.16[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[9, 10]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC–AL, FC–SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
42	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[10, 41], ES v2.4.9–e.24[10, 41]	Emulex LP9002–E (LP9002L–E)[6, 23, 24, 27, 31]	FC–AL, FC–SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 26]	See[1, 2, 3, 4, 5]
43	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[10, 41], ES v2.4.9–e.24[10, 41]	Emulex LP9802DC–E[6, 23, 24, 28, 31]	FC–AL, FC–SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 26, 28]	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
44	PowerEdge 1650[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	Emulex: LP9002-E (LP9002L-E)[6, 23, 24, 27, 31], LP9802DC-E[6, 23, 24, 28, 31] QLogic: QLA2200F[6, 23, 24, 31, 39, 42], QLA2200F-EMC[6, 23, 24, 31, 42], QLA2310F-E-SP[6, 23, 24, 31, 40], QLA2340-E-SP[6, 31, 40], QLA2342-E-SP[23, 24, 31, 39, 40]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
45	PowerEdge 2400	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	Emulex: LP9802-E[6, 23, 24, 28, 31], LP982-E[6, 23, 24, 28, 31]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
46	PowerEdge: 6450[8], 8450[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2200F-EMC[6, 23, 24, 31, 42]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
47	PowerEdge 4300	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2200F[6, 23, 24, 31, 39, 42]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
48	PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[8, 25], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2200F[6, 23, 24, 31, 39, 42]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
49	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2310F-E-SP[6, 23, 24, 31, 40]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
50	PowerEdge: 6450, 8450	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2340-E-SP[6, 31, 40]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
51	PowerEdge: 2400, 6450, 8450	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2342-E-SP[23, 24, 31, 39, 40]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
52	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic: QLA2200F-EMC[6, 23, 24, 31, 42], QLA2342-E-SP[23, 24, 31, 39, 40]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
53	PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[25], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 26]	See[3, 4, 5]
54	PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[25], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 26, 28]	See[3, 4, 5]
55	PowerEdge 1650	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP[30, 31], QLA2340-E-SP[30, 31], QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[3, 4, 5]
56	PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[25], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[3, 4, 5]
57	PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[25], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	QLogic QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[3, 4, 5]
58	PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[25], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	QLogic: QLA2310F-E-SP[30, 31], QLA2340-E-SP[30, 31]	FC-AL, FC-SW	Y[9, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[3, 4, 5]
59	PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[25], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic QLA2200F	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
60	PowerEdge: 1550[8], 1650[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic: QLA2310F-E-SP[6], QLA2342-E-SP[6, 31, 34, 38, 39]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
61	PowerEdge: 1550[8], 1650[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic QLA2200F-EMC[6]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
62	PowerEdge 2400	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
63	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
64	PowerEdge: 1750, 2600[8], 2650[8], 4600[8], 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[7, 10, 29, 33]	QLogic QLA2200F-EMC[6, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
65	PowerEdge: 2600, 6600	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[10, 29]	QLogic QLA2200F[6, 30, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
66	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[10, 29]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 26, 28]	See[1, 2, 3, 4, 5]
67	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[10, 29]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
68	PowerEdge: 2600[8], 2650, 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9002-E (LP9002L-E)[6, 27]	FC-AL, FC-SW	Y[11, 14, 15, 16, 17, 18, 19, 20, 21, 26]	See[1, 2, 3, 4, 5]
69	PowerEdge: 2600[8], 2650, 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[11, 14, 15, 16, 17, 18, 19, 20, 21, 26, 28]	See[1, 2, 3, 4, 5]
70	PowerEdge: 2600[8], 2650, 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex: LP9802-E[6, 28], LP982-E[6, 28]	FC-AL, FC-SW	Y[11, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
71	PowerEdge: 2650, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2200F-EMC[6, 7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
72	PowerEdge: 2600[8], 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	Y[11, 14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
73	PowerEdge: 2600[8], 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2310F-E-SP[6, 22]	FC-AL, FC-SW	Y[11, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
74	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic: QLA2310F-E-SP[6, 22], QLA2340-E-SP[6, 22]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
75	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12, 35]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[3]
76	PowerEdge 2600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 11, 12, 35]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	Y[9, 11, 14, 16, 17, 18, 19, 20, 21, 36, 37]	See[2, 3, 4, 5]
77	PowerEdge: 2650, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 12]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL FC-SW	Y[9, 11, 14, 16, 17, 18, 19, 20, 21, 36, 37]	See[2, 3, 4, 5]
78	PowerEdge 2600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[10, 29]	Emulex: LP9802-E[6, 28], LP982-E[6, 28]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
79	PowerEdge 2650[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[10, 29]	Emulex: LP9802-E[6, 28], LP982-E[6, 28]; QLogic QLA2200F-EMC[6, 7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
80	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[10, 29]	QLogic QLA2200F-EMC[7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
81	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	QLogic QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
82	PowerEdge: 1750, 4600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	Emulex LP9802DC-E	FC-AL FC-SW	N	See[1, 2, 3, 4, 5]
83	PowerEdge 4600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2310F-E-SP[6, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
84	PowerEdge: 2600[8], 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
85	PowerEdge 1750	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic: QLA2310F-E-SP[6, 22], QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
86	PowerEdge: 1750, 2600[8], 4600[8], 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29], v2.4.9-e.24[10, 41]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29], v2.4.9-e.24[10, 41]; Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[9, 10]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 30, 31, 42, 43]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
87	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]	QLogic QLA2310F-E-SP[6, 22, 31, 34]	FC-AL, FC-SW	N	See[3]
88	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]	QLogic QLA2340-E-SP[6, 22, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
89	PowerEdge: 2600[8], 2650[8], 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	Emulex LP9802DC-E	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
90	PowerEdge 2650[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]; Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[9, 10]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 30, 31, 42, 43]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
91	PowerEdge: 2600[8], 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2310F-E-SP[6, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
92	PowerEdge 4600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.3[9, 10, 11, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
93	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29], v2.4.9-E.12[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F-EMC[7, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
94	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29], v2.4.9-e.24[10, 41]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29], v2.4.9-e.24[10, 41]; Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[9, 10]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 30, 31, 42, 43]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
95	PowerEdge: 2650, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[10, 12], v2.4.9-E.9[10, 29], v2.4.9-e.24[10, 41]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29], v2.4.9-e.24[10, 41]; Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[9, 10]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 30, 31, 42, 43]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
96	PowerEdge 2600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]; Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[9, 10]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 30, 31, 42, 43]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
97	PowerEdge: 1750, 4600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	Emulex LP9002-E (LP9002L-E)[6, 27]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
98	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	QLogic QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
99	PowerEdge: 2650[8], 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]	Emulex LP9002-E (LP9002L-E)[6, 27]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
100	PowerEdge 2600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]	Emulex LP9002-E (LP9002L-E)[6, 27]; QLogic: QLA2200F[6, 30, 31], QLA2340-E-SP[6, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
101	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]	Emulex: LP9002-E (LP9002L-E)[6, 27], LP9802-E[6, 28], LP9802DC-E, LP982-E[6, 28]; QLogic: QLA2200F[6, 30, 31], QLA2310F-E-SP, QLA2340-E-SP[6, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
102	PowerEdge: 1750, 2650, 4600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]	QLogic QLA2200F[6, 30, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
103	PowerEdge 2600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]	QLogic QLA2310F-E-SP[6, 31, 34]	FC-AL, FC-SW	N	See[3]
104	PowerEdge 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 29], v2.4.9-E.9[10, 29]	QLogic QLA2200F[6, 30, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
105	PowerEdge: 1750, 2600[8], 4600[8], 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F-EMC[6, 7, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
106	PowerEdge 1750	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	QLogic QLA2340-E-SP[6, 22, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
107	PowerEdge 2600	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	QLogic QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
108	PowerEdge 4600	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.9[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	QLogic: QLA2340-E-SP[6, 22, 34], QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
109	PowerEdge 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]	Emulex: LP9802-E[6, 28], LP982-E[6, 28]; QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
110	PowerEdge 2600	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]	QLogic QLA2340-E-SP[6, 22, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
111	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12, 35]	QLogic QLA2310F-E-SP[6, 22, 31, 34]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[3]
112	PowerEdge 2600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12, 35]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	QLogic QLA2310F-E-SP[6, 22, 31, 34]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[3]
3	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	Emulex LP9002-E (LP9002L-E)[6, 27]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 26]	See[1, 2, 3, 4, 5]
114	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 26, 28]	See[1, 2, 3, 4, 5]
115	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	Emulex: LP9802-E[6, 28], LP982-E[6, 28]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
116	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
117	PowerEdge: 1750, 4600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10], 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
118	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-e.24[10, 41]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29], v2.4.9-e.24[10, 41]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 30, 31, 42, 43]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
	PowerEdge: 1750, 4600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]	Emulex: LP9802-E[6, 28], LP982-E[6, 28]; QLogic QLA2200F-EMC[6, 7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
120	PowerEdge: 2600[8], 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 29]	QLogic QLA2200F-EMC[6, 7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
121	PowerEdge 2650[8]	PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 26, 28]	See[1, 2, 3, 4, 5]
122	PowerEdge 2650[8]	PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
123	PowerEdge 2650[8]	PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	QLogic QLA2310F-E-SP[6, 22, 31, 34]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
124	PowerEdge: 2600[8], 2650, 6600[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]	Emulex LP9002-E (LP9002L-E)[6, 27]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 26]	See[1, 2, 3, 4, 5]
125	PowerEdge, 2600[8], 6600[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 26, 28]	See[1, 2, 3, 4, 5]
126	PowerEdge: 2600[8], 2650, 6600[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]	Emulex: LP9802-E[6, 28], LP982-E[6, 28]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
127	PowerEdge: 2650, 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]	QLogic QLA2200F-EMC[6, 7, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
128	PowerEdge: 2600, 6600	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
129	PowerEdge: 2600, 2650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]	QLogic QLA2340-E-SP[6, 22, 34]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
130	PowerEdge 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]	QLogic: QLA2310F-E-SP, QLA2340-E-SP[6, 22, 34]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
131	PowerEdge 6600[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]	QLogic: QLA2310F-E-SP[6, 22], QLA2340-E-SP[6, 22]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
132	PowerEdge 2600[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]	QLogic: QLA2310F-E-SP[6, 22], QLA2340-E-SP[6, 22, 34]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
133	PowerEdge: 2650, 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[2, 3, 4, 5]
134	PowerEdge: 2600[8], 2650, 6600[8], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	Emulex LP9002-E (LP9002L-E)[6, 23, 24, 27, 31]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 26]	See[1, 2, 3, 4, 5]
135	PowerEdge: 2600[8], 2650, 6600[8], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	Emulex LP9802DC-E[6, 23, 24, 28, 31]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 26, 28]	See[1, 2, 3, 4, 5]
136	PowerEdge 4600[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	Emulex: LP9002-E (LP9002L-E)[6, 23, 24, 27, 31], LP9802DC-E[6, 23, 24, 28, 31]; QLogic: QLA2200F[6, 23, 24, 31, 39, 42], QLA2200F-EMC[6, 23, 24, 31, 42], QLA2310F-E-SP[6, 23, 24, 31, 40]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
137	PowerEdge 1750	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	Emulex: LP9002-E (LP9002L-E)[6, 23, 24, 27, 31], LP9802DC-E[6, 23, 24, 28, 31]; QLogic: QLA2200F[6, 23, 24, 31, 39, 42], QLA2200F-EMC[6, 23, 24, 31, 42], QLA2310F-E-SP[6, 23, 24, 31, 40], QLA2340-E-SP[6, 31, 40], QLA2342-E-SP[23, 24, 31, 39, 40]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
138	PowerEdge: 2600[8], 2650, 6600[8], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	Emulex: LP9802-E[6, 23, 24, 28, 31], LP982-E[6, 23, 24, 28, 31]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
139	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2200F[6, 23, 24, 31, 39, 42]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
140	PowerEdge: 2650, 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2200F[6, 23, 24, 31, 39, 42]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[2, 3, 4, 5]
141	PowerEdge: 2600[8], 2650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2310F-E-SP[6, 23, 24, 31, 40]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[3]
142	PowerEdge: 2600, 2650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2340-E-SP[6, 31, 40]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
143	PowerEdge 2600	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2342-E-SP[23, 24, 31, 39, 40]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
144	PowerEdge: 2600[8], 2650, 6600[8], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic: QLA2200F-EMC[6, 23, 24, 31, 42], QLA2342-E-SP[23, 24, 31, 39, 40]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
145	PowerEdge 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic: QLA2310F-E-SP[23, 24, 31, 40], QLA2340-E-SP[6, 31, 40]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
146	PowerEdge: 2600[8], 6600[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic: QLA2310F-E-SP[6, 23, 24, 31, 40], QLA2340-E-SP[6, 31, 40]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
147	PowerEdge 4600	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic: QLA2340-E-SP[6, 31, 40], QLA2342-E-SP[23, 24, 31, 39, 40]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
148	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 26]	See[3, 4, 5]
149	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 26, 28]	See[3, 4, 5]
150	PowerEdge: 1750, 4600	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP[30, 31], QLA2340-E-SP[30, 31], QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[3, 4, 5]
151	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[3, 4, 5]
152	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	QLogic QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[3, 4, 5]
153	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	QLogic: QLA2310F-E-SP[30, 31], QLA2340-E-SP[30, 31]	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21]	See[3, 4, 5]
154	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic QLA2200F	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 36, 37]	See[1, 2, 3, 4, 5]
155	PowerEdge: 1750, 2600[8], 2650[8], 4600[8], 6600[8]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic: QLA2310F-E-SP[6], QLA2342-E-SP[6, 31, 34, 38, 39]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
156	PowerEdge 6650	PCI-X	Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic QLA2200F-EMC	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
157	PowerEdge: 1750, 2600[8], 2650[8], 4600[8] 6600[8]	PCI-X	Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic QLA2200F-EMC[6]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
158	PowerEdge: 2600[8], 2650, 6650	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
159	PowerEdge: 2600[8], 6600[8] 6650	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F[6, 7, 12, 30, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
160	PowerEdge 2650[8]	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic: QLA2200F[6, 7, 12, 30, 31] QLA2310F-E-SP[6, 22], QLA2342-E-SP[34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
161	PowerEdge 2650[8]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.12[10, 29], 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F-EMC[6, 7, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
162	PowerEdge: 1650[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[7, 10, 29, 33]	QLogic QLA2340-E-SP[6, 22, 34]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
163	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8] 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	Y[11, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
164	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.9[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
165	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29] ES v2.4.9-e.12[10, 29] ES v2.4.9-e.16[10, 29]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
166	PowerEdge: 1550[8], 2300[8], 2400, 2450[8], 2500[8], 2550[8, 25], 4400[8] 6100[8], 6300[8], 6350[8], 6400[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41] ES v2.4.9-e.24[10, 41]	QLogic QLA2340-E-SP[6, 31, 40]	FC-AL, FC-SW[23, 24]	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
167	PowerEdge: 1550[8], 1650[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic QLA2340-E-SP[6]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
168	PowerEdge: 6450[8], 8450[8]	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
169	PowerEdge 1650[8]	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12], 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
170	PowerEdge: 1750, 2600[8] 4600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[7, 10, 29, 33]	QLogic QLA2340-E-SP[6, 22, 34]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
171	PowerEdge: 2600[8], 2650, 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	Y[11, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
172	PowerEdge: 1750, 2600[8], 2650[8], 4600[8], 6600[8]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic QLA2340-E-SP[6]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
173	PowerEdge: 2600[8], 2650[8]	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
174	PowerEdge 6600[8]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[7, 10, 29, 33], 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
175	PowerEdge: 1750, 4600[8]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12], 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
176	PowerEdge: 2400, 4300	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[10, 29]	QLogic QLA2200F-EMC[7]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
177	PowerEdge 2400	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29], v2.4.9-E.12[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F-EMC[7, 12]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
178	PowerEdge 4300	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[10, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F-EMC[7, 12]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
179	PowerEdge 2400	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]	QLogic QLA2200F-EMC[6, 7, 12]	FC-AL, FC-SW[24]	N	See[1, 2, 3, 4, 5]
180	PowerEdge 4300	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41] ES v2.4.9-e.24[10, 41]	QLogic QLA2200F-EMC[23, 24, 31, 42]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
181	PowerEdge 2400	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41] ES v2.4.9-e.24[10, 41]	QLogic QLA2200F-EMC[6, 23, 24, 31, 42]	FC-AL, FC-SW[24]	N	See[1, 2, 3, 4, 5]
182	PowerEdge 2400	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	QLogic QLA2200F-EMC[6, 30]	FC-AL, FC-SW[24]	N	See[1, 2, 3, 4, 5]
183	PowerEdge 4300	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	QLogic QLA2200F-EMC[6, 30]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
184	PowerEdge: 2400, 4300	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic QLA2200F-EMC	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
185	PowerEdge: 2600[8], 2650, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[10, 29]	QLogic QLA2200F-EMC[7]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]

Dell – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
186	PowerEdge 2600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29], v2.4.9-E.12[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F-EMC[7, 12]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
187	PowerEdge: 2650, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29], v2.4.9-E.3[10, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F-EMC[7, 12]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
188	PowerEdge 2600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 29], v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2200F-EMC[6, 7, 12]	FC-AL, FC-SW[24]	N	See[1, 2, 3, 4, 5]
189	PowerEdge: 2650, 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2200F-EMC[23, 24, 31, 42]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
190	PowerEdge 2600[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	QLogic QLA2200F-EMC[6, 23, 24, 31, 42]	FC-AL, FC-SW[24]	N	See[1, 2, 3, 4, 5]
191	PowerEdge: 2600[8], 2650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	QLogic QLA2200F-EMC[6, 30]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
192	PowerEdge: 2600[8], 2650	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic QLA2200F-EMC	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
193	PowerEdge 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[9, 10]	QLogic QLA2200F-EMC	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
194	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	Emulex LP982-E[6, 28]	FC-AL, FC-SW[24], 32	N	See[1, 2, 3, 4, 5]
195	PowerEdge 1650[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	Emulex LP982-E[6, 28]	FC-AL, FC-SW[24], 32	N	See[1, 2, 3, 4, 5]
196	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]	Emulex LP982-E[6, 28]	FC-AL, FC-SW[24], 32	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
197	PowerEdge 1650[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	Emulex LP982-E[6, 23, 24, 28, 31]	FC-AL, FC-SW[24], 32	N	See[1, 2, 3, 4, 5]
198	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	Emulex LP982-E[6, 23, 24, 28, 31]	FC-AL, FC-SW[24], 32	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
199	PowerEdge: 2600[8], 2650[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	Emulex LP982-E[6, 28]	FC-AL, FC-SW[24], 32	N	See[1, 2, 3, 4, 5]
200	PowerEdge: 1750, 4600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	Emulex LP982-E[6, 28]	FC-AL, FC-SW[24], 32	N	See[1, 2, 3, 4, 5]
1	PowerEdge 2600[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]	Emulex LP982-E[6, 28]	FC-AL, FC-SW[24], 32	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
202	PowerEdge 2600[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	Emulex LP982-E[6, 23, 24, 28, 31]	FC-AL, FC-SW[24], 32	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
203	PowerEdge: 1750, 4600[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	Emulex LP982-E[6, 23, 24, 28, 31]	FC-AL, FC-SW[24], 32	N	See[1, 2, 3, 4, 5]
204	PowerEdge 6600[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[7, 10, 29, 33], 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	Emulex LP982-E[6, 28]	FC-AL, FC-SW[24], 32	N	See[1, 2, 3, 4, 5]
205	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	Emulex LP9802-E[6, 28]	FC-AL, FC-SW[6], 24, 28, 32	N	See[1, 2, 3, 4, 5]
206	PowerEdge 1650[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 10, 29, 33], v2.4.9-E.12[10, 29], v2.4.9-E.16[10, 29]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 29], v2.4.9-e.16[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 10]	Emulex LP9802-E[6, 28]	FC-AL, FC-SW[6], 24, 28, 32	N	See[1, 2, 3, 4, 5]
207	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 29], ES v2.4.9-e.12[10, 29], ES v2.4.9-e.16[10, 29]	Emulex LP9802-E[6, 28]	FC-AL, FC-SW[6], 24, 28, 32	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
208	PowerEdge 1650[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 41], ES v2.4.9-e.24[10, 41]	Emulex LP9802-E[6, 23, 24, 28, 31]	FC-AL, FC-SW[6], 24, 28, 32	N	See[1, 2, 3, 4, 5]

Dell – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
209	PowerEdge: 1550[8], 2300[8], 2450[8], 2500[8], 2550[8, 25], 4400[8], 6100[8], 6300[8], 6350[8], 6400[8], 6450[8], 8450[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[10, 41], ES v2.4.9–e.24[10, 41]	Emulex LP9802–E[6, 23, 24, 28, 31]	FC–AL, FC–SW[6, 24, 28, 32]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
210	PowerEdge: 2600[8], 2650[8]	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.10[7, 10, 29, 33], v2.4.9–E.12[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[9, 10]	Emulex LP9802–E[6, 28]	FC–AL, FC–SW[6, 24, 28, 32]	N	See[1, 2, 3, 4, 5]
211	PowerEdge: 1750, 4600[8]	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.10[7, 10, 29, 33], v2.4.9–E.12[10, 29], v2.4.9–E.16[10, 29]; Red Hat Linux 2.1 ES, v2.4.9–e.12[10, 29], v2.4.9–e.16[10, 29]; Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[9, 10]	Emulex LP9802–E[6, 28]	FC–AL, FC–SW[6, 24, 28, 32]	N	See[1, 2, 3, 4, 5]
212	PowerEdge 2600[8]	PCI–X	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 29], ES v2.4.9–e.12[10, 29], ES v2.4.9–e.16[10, 29]	Emulex LP9802–E[6, 28]	FC–AL, FC–SW[6, 24, 28, 32]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
213	PowerEdge 2600[8]	PCI–X	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[10, 41], ES v2.4.9–e.24[10, 41]	Emulex LP9802–E[6, 23, 24, 28, 31]	FC–AL, FC–SW[6, 24, 28, 32]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
214	PowerEdge: 1750, 4600[8]	PCI–X	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[10, 41], ES v2.4.9–e.24[10, 41]	Emulex LP9802–E[6, 23, 24, 28, 31]	FC–AL, FC–SW[6, 24, 28, 32]	N	See[1, 2, 3, 4, 5]
215	PowerEdge 6600[8]	PCI–X	Red Hat Linux: 2.1 Advanced Server v2.4.9–E.10[7, 10, 29, 33] 7.3 updated w/ v2.4.18–27.7.x rpm[9, 10]	Emulex LP9802–E[6, 28]	FC–AL, FC–SW[6, 24, 28, 32]	N	See[1, 2, 3, 4, 5]

1. Not available for FC5700
2. **Optical cables apply to CX600, CX400, FC4500 and FC4700.**
3. **CLARiiON FC4500 array is also supported for these configurations.**
4. **PowerPath supported. ATF/CDE not supported.**
5. **CX200 available through selected channels.**
6. Host must be offline for CLARiiON–licensed (Flare) upgrade and Storage Processor replacement.
7. **Requires v6.0.5 or higher Navisphere host Agent/CLI.**
8. **An RPM from Dell may be used to install the QLogic v6.04.02 or v6.05.00 drivers and may be obtained from the QLogic website at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
9. Requires v6.2.1 or higher Navisphere host agent/CLI.
10. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
11. This kernel is limited to 110 devices, not 128.
12. Supported with QLogic driver v6.04.02 or v6.05.00.
13. Requires QLogic driver 4.47.18 driver disk, dd.img–i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
14. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
15. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
16. Access Logic required, direct connect or fabric, (no booting through switch inter–switch links)
17. No MirrorView or SnapView used on boot LUNs.
18. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
19. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
20. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
21. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
22. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
23. FC–AL and FC–SW topologies can co–exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
24. FC–SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC–SW available from selected channels.
25. **PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.**
26. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
27. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
28. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
29. **This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.**
30. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340–E–SP, and QLA2342–E–SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
31. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
32. FC–AL and FC–SW can run concurrently on separate HBAs on the same Host.
33. **This system is supported with Red Hat 2.1 Advanced Server v2.4.9–E.3 and updated with v2.4.9–E.9, E.10, and E.12 RPMs.**
34. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340–E–SP, and QLA2342–E–SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
35. **Requires v6.05 or higher Navisphere host agent/CLI.**
36. Requires QLogic driver 4.47.18 and BIOS 1.83.
37. Install with driver provided by RedHat Installer and upgrade to the EMC–approved driver after installation.
38. **Host must be offline for interfamily Symmetrix microcode upgrade.**
39. **Single HBA zoning is required regardless of the switch being utilized.**
40. **Requires QLogic driver v6.04.01 (included in 2.4.9–e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
41. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
42. **Requires QLogic driver v6.04.01 (included in 2.4.9–e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
43. **Install with driver provided by Red Hat 7.2 installer and upgrade to the EMC–approved driver after installation.**

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.10[7, 11, 31, 35]	QLogic QLA2200F–EMC[6, 9]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
2	Proliant: ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.12[11, 31]	QLogic QLA2340–E–SP[6, 22, 36]	FC–AL, FC–SW	N	See[4]
3	Proliant ML750[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.12[11, 31]	QLogic QLA2340–E–SP[6, 36]	FC–AL, FC–SW	N	See[4]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
4	Netserver LH (LH Pro)	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[9, 11]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC–AL, FC–SW	Y[10, 12, 14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
5	Netserver LC: 2000 U3, 2000r Netserver LH: 3000, 6000: Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 6500[8, 26], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[9, 10, 11, 12]	Emulex LP9002–E (LP9002L–E)[6, 29]	FC–AL, FC–SW	Y[12, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
6	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000: Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 6500[8, 26], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8] DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8] ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[9, 10, 11, 12]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[12, 14, 15, 16, 17, 18, 19, 20, 21, 28, 30]	See[1, 2, 3, 4, 5]
7	Netserver LC: 2000 U3, 2000r Netserver LH: 3000, 6000: Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500: Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 6500[8, 26], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8] DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8] ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[9, 10, 11, 12]	Emulex: LP9802–E[6, 30], LP982–E[6, 30]	FC–AL, FC–SW	Y[12, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
8	Netserver LC: 2000 U3, 2000r Netserver LH: 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[9, 10, 11, 12]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC–AL, FC–SW	Y[12, 14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
9	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[9, 10, 11, 12]	QLogic QLA2310F–E–SP[6, 22]	FC–AL, FC–SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
10	Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.9[11, 31]	Emulex: LP9802–E[6, 30], LP982–E[6, 30]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
11	Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.9[10, 11, 31]	QLogic QLA2340–E–SP[6, 22, 36]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
12	Proliant DL380(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 31], v2.4.9–E.12[11, 31], v2.4.9–E.16[11, 31], v2.4.9–E.3[9, 10, 11, 12], v2.4.9–E.9[11, 31]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 31], v2.4.9–e.16[11, 31]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2342–E–SP[36]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
13	Proliant ML750[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 31], v2.4.9–E.12[11, 31], v2.4.9–E.16[11, 31], v2.4.9–E.9[10, 11, 31]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 31], v2.4.9–e.16[11, 31]	QLogic QLA2342–E–SP[6, 36]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
14	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000: Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 6500[8, 26], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 31], v2.4.9–E.12[11, 31], v2.4.9–E.9[11, 31]	Emulex LP9002–E (LP9002L–E)[6, 29], QLogic QLA2200F[6, 32, 33]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
15	Proliant DL380(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 31], v2.4.9–E.12[11, 31], v2.4.9–E.9[11, 31]	Emulex: LP9002–E (LP9002L–E)[6, 29], LP9802–E[6, 30], LP982–E[6, 30]; QLogic QLA2200F[6, 32, 33]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
16	Netserver LH: (LH Pro), 3, 4, II, PRO, III; Netserver: LP 2000r, LX PRO, LXR PRO, LXR PRO8; Proliant: 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 7000[8, 26], 8000[8, 26]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 31], v2.4.9–E.12[11, 31], v2.4.9–E.9[11, 31]	QLogic QLA2200F[6, 32, 33]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
17	Proliant ML750[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 31], v2.4.9–E.9[10, 11, 31]	QLogic QLA2340–E–SP[6, 36]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
18	Netserver LC: 2000 U3, 2000r: Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8, Proliant: DL580(G2)[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[7, 11, 31, 35], v2.4.9–E.12[11, 31], v2.4.9–E.16[11, 31], v2.4.9–E.3[9, 10, 11, 12], v2.4.9–E.9[11, 31]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 31], v2.4.9–e.16[11, 31]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2342–E–SP[36]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
19	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 7.3: (v2.4.18-3)[11] updated w/ v2.4.18-27.7.x rpm[10, 11]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2202F-EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
20	Proliant: 1600[8, 25], 1850[8], 2500[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 800, 8000[8, 26], 850[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 11, 31]; Red Hat Linux 2.1 ES v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2342-E-SP[36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
21	Proliant: 3000[8], 6500[8, 26], 7000[8, 26], 8500, DL320[8], DL360[8] DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.9[10, 11, 31]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]	QLogic QLA2342-E-SP[6, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
22	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 6500[8, 26], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP9802DC-E	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
23	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2310F-E-SP[6, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
24	Proliant DL380(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[6, 7, 9]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
25	Netserver LH (LH Pro)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.3[9, 11], v2.4.9-E.9[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2202F-EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
26	Proliant DL380(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 7.3: (v2.4.18-3)[11] updated w/ v2.4.18-27.7.x rpm[10, 11]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2202F-EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
27	Netserver LP 2000r	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2202F-EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
28	Proliant 800	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]	QLogic QLA2200F-EMC[6, 7, 9]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
29	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO LXR PRO8: Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 8000[8, 26], 850[8], 8500, DL320[8] DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[11, 31], v2.4.9–E.16[11, 31]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 31], v2.4.9–e.16[11, 31]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2200F–EMC[6, 7, 9]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
30	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Proliant: 6500[8, 26], DL580(G2)[8], ML370(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[11, 31], v2.4.9–E.9[11, 31]	Emulex: LP9802–E[6, 30], LP982–E[6, 30]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
31	Netserver LP 2000r	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 31] v2.4.9–E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 31], v2.4.9–e.16[11, 31]	QLogic QLA2342–E–SP[36]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
32	Netserver LH PRO	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 31] v2.4.9–E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 31], v2.4.9–e.16[11, 31]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
33	Proliant ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 31], v2.4.9–E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 31], v2.4.9–e.16[11, 31]; Red Hat Linux: 7.3 updated w/ v2.4.18–27.7.x rpm[10, 11], 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
34	Netserver LP 2000r	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 31], v2.4.9–E.3[9, 10, 11, 12], v2.4.9–e.24[11, 55]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 31], v2.4.9–e.16[11, 31], v2.4.9–e.24[11, 55]; Red Hat Linux 7.3 (v2.4.18–3)[11]	QLogic QLA2202F–EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
35	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8: Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.3[9, 10, 11, 12], v2.4.9–E.9[11, 31]	QLogic QLA2200F–EMC[6, 7]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
36	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 6500[8, 26], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 31] ES v2.4.9–e.12[11, 31] ES v2.4.9–e.16[11, 31]	Emulex LP9002–E (LP9002L–E)[6, 29]	FC–AL, FC–SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
37	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 6500[8, 26], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 31] ES v2.4.9–e.12[11, 31] ES v2.4.9–e.16[11, 31]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28, 30]	See[1, 2, 3, 4, 5]
38	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver LP 2000r; Proliant: 6500[8, 26], DL380(G3), DL580(G2)[8], ML370(G3)	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 31] ES v2.4.9–e.12[11, 31] ES v2.4.9–e.16[11, 31]	Emulex: LP9802–E[6, 30], LP982–E[6, 30]	FC–AL, FC–SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
39	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 31] ES v2.4.9–e.12[11, 31] ES v2.4.9–e.16[11, 31]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC–AL, FC–SW	Y[14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
40	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8: Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 31] ES v2.4.9–e.12[11, 31] ES v2.4.9–e.16[11, 31]	QLogic QLA2310F–E–SP[6, 22]	FC–AL, FC–SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
41	Proliant: ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 31] ES v2.4.9–e.12[11, 31] ES v2.4.9–e.16[11, 31]	QLogic QLA2340–E–SP[6, 22, 36]	FC–AL, FC–SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[4]
42	Proliant ML750[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 31] ES v2.4.9–e.12[11, 31] ES v2.4.9–e.16[11, 31]	QLogic QLA2340–E–SP[6, 36]	FC–AL, FC–SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21, 27]	See[4]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
43	Proliant: 800, DL380(G3), DL580(G2)[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31], ES v2.4.9-e.12[11, 31], ES v2.4.9-e.16[11, 31]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
44	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 6500[8, 26], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	Emulex LP9002-E (LP9002L-E)[6, 23, 24, 29, 33]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
45	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 6500[8, 26], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	Emulex LP9802DC-E[6, 23, 24, 30, 33]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28, 30]	See[1, 2, 3, 4, 5]
46	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver LP 2000r; Proliant: 6500[8, 26], DL380(G3), DL580(G2)[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	Emulex: LP9802-E[6, 23, 24, 30, 33], LP982-E[6, 23, 24, 30, 33]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
47	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic QLA2200F[6, 23, 24, 33, 39, 57]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic QLA2310F-E-SP[6, 23, 24, 33, 56]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
49	Proliant ML750[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic QLA2340-E-SP[6, 33, 56]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21, 27]	See[4]
50	Proliant: ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic QLA2340-E-SP[6, 33, 56]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[4]
51	Netserver LP 2000r	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic QLA2342-E-SP[23, 24, 33, 39, 56]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
52	Proliant ML750[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic QLA2342-E-SP[6, 23, 24, 33, 39, 56]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
53	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 800, 8000[8, 26], 850[8], DL380(G3), DL580(G2)[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic: QLA2200F-EMC[6, 23, 24, 33, 57]; QLA2342-E-SP[23, 24, 33, 39, 56]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
54	Proliant: 3000[8], 6500[8, 26], 7000[8, 26], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic: QLA2200F-EMC[6, 23, 24, 33, 57]; QLA2342-E-SP[6, 23, 24, 33, 39, 56]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
	Netserver LH PRO; Proliant ML750[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic: QLA2200F[6, 23, 24, 33, 39, 57]; QLA2200F-EMC[6, 23, 24, 33, 57]; QLA2342-E-SP[23, 24, 33, 39, 56]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
56	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 6500[8, 26], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[10, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[3, 4, 5]
57	Proliant ML750[8]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[10, 14, 15, 16, 17, 18, 19, 20, 21, 27, 28]	See[3, 4, 5]
58	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 6500[8, 26], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[10, 14, 15, 16, 17, 18, 19, 20, 21, 28, 30]	See[3, 4, 5]
59	Proliant ML750[8]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[10, 14, 15, 16, 17, 18, 19, 20, 21, 27, 28, 30]	See[3, 4, 5]
60	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 6500[8, 26], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[10, 14, 15, 16, 17, 18, 19, 20, 21, 30]	See[3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
61	**Proliant ML750[8]**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**Emulex: LP9802-E, LP982-E**	FC-AL, FC-SW	Y[10, 14, 15, 16, 17, 18, 19, 20, 21, 27, 30]	**See[3, 4, 5]**
62	**Proliant ML370(G3)**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2200F-EMC[6, 32]**	FC-AL, FC-SW	N	**See[1, 2, 3, 4, 5]**
63	**Netserver LH (LH Pro)**	**PCI**	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2202F-EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]**	**FC-AL, FC-SW**	**N**	**See[1, 2, 3, 4, 5]**
64	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3) ML530[8], ML530(G2)[8], ML570[8], ML750[8]**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2342-E-SP[36]**	FC-AL, FC-SW	N	**See[3, 4, 5]**
65	**Proliant ML750[8]**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2200F-EMC[6], QLA2202F-EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]**	FC-AL, FC-SW	N	**See[1, 2, 3, 4, 5]**
66	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic: QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33]**	FC-AL, FC-SW	Y[10, 13, 14, 15, 16, 17, 18, 19, 20, 21]	**See[3, 4, 5]**
67	**Proliant ML750[8]**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic: QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33]**	FC-AL, FC-SW	Y[10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 27]	**See[3, 4, 5]**
68	**Netserver LH (LH Pro)**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic: QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[36]**	FC-AL, FC-SW	N	**See[3, 4, 5]**
69	**Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]**	**QLogic QLA2200F**	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 37, 38]	**See[1, 2, 3, 4, 5]**
70	**Proliant ML750[8]**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]**	**QLogic QLA2200F**	FC-AL, FC-SW	N	**See[1, 2, 3, 4, 5]**
71	**Proliant ML370(G3)**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]**	**QLogic: QLA2200F-EMC[6], QLA2310F-E-SP[6] QLA2342-E-SP[6, 33, 36, 39, 40]**	FC-AL, FC-SW	N	**See[1, 2, 3, 4, 5]**
72	**Netserver LH PRO**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]**	**QLogic: QLA2200F, QLA2310F-E-SP[6] QLA2342-E-SP[6, 33, 36, 39, 40]**	FC-AL, FC-SW	N	**See[1, 2, 3, 4, 5]**
73	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML530[8], ML530(G2)[8], ML570[8], ML750[27]**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]**	**QLogic: QLA2310F-E-SP[6] QLA2342-E-SP[6, 33, 36, 39, 40]**	FC-AL, FC-SW	N	**See[1, 2, 3, 4, 5]**
[illegible]	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML530[8], ML530(G2)[8], ML570[8], ML750[27]**	PCI	**Red Hat Linux 7.3: (v2.4.18-3)[11] updated w/ v2.4.18-27.7.x rpm[10, 11]**	**QLogic QLA2200F-EMC[6]**	FC-AL, FC-SW	N	**See[1, 2, 3, 4, 5]**
75	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2) ML370(G3), ML530[8], ML530(G2)[8], ML570[8]**	PCI	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2200F[6, 7, 9, 32, 33]**	FC-AL, FC-SW	N	**See[1, 2, 3, 4, 5]**
76	**Netserver: LH (LH Pro), LP 2000r**	PCI	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2200F[6, 7, 9, 32, 33]**	FC-AL, FC-SW	N	**See[2, 3, 4, 5]**
77	**Proliant 800**	PCI	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic: QLA2200F[6, 7, 9, 32, 33], QLA2200F-EMC[6, 7, 9, 41]**	FC-AL, FC-SW	N	**See[1, 2, 3, 4, 5]**
78	**Proliant: 3000[8], 6500[8, 26], 7000[8, 26], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]**	PCI	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12], 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2342-E-SP[36]**	FC-AL, FC-SW	N	**See[1, 2, 3, 4, 5]**
79	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[11, 31]**	**QLogic QLA2340-E-SP[6, 36]**	FC-AL, FC-SW	N	**See[1, 2, 3, 4, 5]**
80	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[7, 11, 31, 35]**	**QLogic QLA2200F-EMC[6, 9]**	FC-AL, FC-SW	N	**See[1, 2, 3, 4, 5]**
81	**Proliant ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[11, 31]**	**QLogic QLA2340-E-SP[6, 22, 36]**	FC-AL, FC-SW	N	**See[4]**

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
82	Proliant: DL740, DL760[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[11, 31]	QLogic QLA2340-E-SP[6, 36]	FC-AL, FC-SW	N	See[4]
83	Proliant DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[11, 31]	QLogic: QLA2340-E-SP[6, 36] QLA2342-E-SP[6, 36]	FC-AL, FC-SW	N	See[4]
84	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 11, 12, 42, 45]	QLogic QLA2200F[6, 7, 9, 32, 33, 36, 46]	FC-AL, FC-SW	Y[10, 12, 14, 15, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
85	Proliant: DL360(G3), DL560, DL560 (G2), DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9002-E (LP9002L-E)[6, 29]	FC-AL, FC-SW	Y[12, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
86	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9002-E (LP9002L-E)[6, 29] IBM: 00N6881 (QLA2200)[32, 33, 49] 19K1246(QLA2310)[32, 33, 47] QLogic QLA2200F[6, 7, 9, 32, 33]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
87	Proliant: DL360(G3), DL560, DL560 (G2), DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[12, 14, 15, 16, 17, 18, 19, 20, 21, 28, 30]	See[1, 2, 3, 4, 5]
88	Proliant: DL360(G3), DL560, DL560 (G2), DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex: LP9802-E[6, 30], LP982-E[6, 30]	FC-AL, FC-SW	Y[12, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
89	Proliant: DL360(G3), DL560, DL560 (G2), DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC-AL, FC-SW	Y[12, 14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
90	Proliant: DL360(G3), DL560, DL560 (G2), DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2310F-E-SP[6, 22]	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
91	Proliant: DL760[8], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2342-E-SP[36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
92	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12, 42]	Emulex: LP9802-E[6, 30, 33], LP982-E[6, 30, 33]; QLogic: QLA2310F-E-SP[6, 22, 32, 33]; QLA2342-E-SP[36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
93	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12, 45]	QLogic QLA2310F-E-SP[6, 22, 33, 36]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21, 43, 44]	See[4]
94	Proliant: DL360(G3), DL560, DL560 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[11, 31]	Emulex: LP9802-E[6, 30], LP982-E[6, 30]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
95	Proliant: DL760[8], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[11, 31]	QLogic QLA2200F-EMC[7]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
96	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[10, 11, 31]	QLogic QLA2340-E-SP[6, 22, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
97	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 31], v2.4.9-E.12[11, 31]	QLogic QLA2200F[6, 32, 33]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
98	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]	Emulex LP9002-E (LP9002L-E)[6, 29]; QLogic QLA2200F[6, 32, 33]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
99	Proliant: DL760[8], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]	QLogic QLA2200F[6, 32, 33]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
100	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 31], v2.4.9-E.16[11, 31]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]	QLogic QLA2342-E-SP[6, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
101	Proliant DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.9[10, 11, 31]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]	QLogic QLA2342-E-SP[6, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
102	Proliant DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 31], v2.4.9-E.9[10, 11, 31]	QLogic QLA2340-E-SP[6, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
103	Proliant DL760[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 31], v2.4.9-E.9[10, 11, 31]	QLogic: QLA2340-E-SP[6, 36] QLA2342-E-SP[6, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
104	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35] v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 7.3: (v2.4.18-3)[11] updated w/ v2.4.18-27.7.x rpm[10, 11]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2202F-EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
105	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35] v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.9[10, 11, 31]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]	QLogic QLA2342-E-SP[6, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
106	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35] v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP9802DC-E	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
107	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35] v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2310F-E-SP[6, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
108	Proliant: DL760[8], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31], v2.4.9-E.12[11, 31]	QLogic QLA2200F-EMC[7, 9]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
109	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]	QLogic QLA2200F-EMC[7, 9]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
110	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2202F-EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
111	Proliant: DL760[8], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2202F-EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
112	Proliant: DL740, DL760[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]	QLogic QLA2342-E-SP[6, 36]	FC-AL, FC-SW	N	See[4]
113	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[6, 7, 9]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
114	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-e.24[11]	QLogic: QLA2200F[6, 32, 33, 36, 46]; QLA2340-E-SP[6, 22, 32, 33, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
115	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-e.24[11]; Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[11], v2.4.20-18.8[11]	Emulex LP9002-E (LP9002L-E)[6, 29, 33], IBM: 00N6881 (QLA2200)[32, 33, 49, 50], 19K1246(QLA2310)[6, 32, 33, 47]; QLogic: QLA2310F-E-SP[6, 22, 32, 33, 36]; QLA2342-E-SP[6, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
116	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-E.3[9, 10, 11, 12, 42], v2.4.9-e.24[11]; Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[11], v2.4.20-18.8[11]	Emulex LP9802DC-E; QLogic QLA2202F-EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
117	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-e.24[11]; Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[11], v2.4.20-18.8[11]	IBM 24P0960(QLA2340)[32, 33, 48]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
118	Proliant ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]	Emulex: LP9802-E[6, 30], LP982-E[5, 30]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
119	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2202F-EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
120	Proliant: DL760[8], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 31], v2.4.9-E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]	QLogic QLA2200F-EMC[6, 7, 9]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
121	Proliant: DL760[8], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 31], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-e.24[11, 55]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2202F-EMC[6, 7, 9, 23, 24, 32, 33, 41, 57]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
122	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[11, 31]	QLogic QLA2200F-EMC[6, 7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
123	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	Emulex LP9002-E (LP9002L-E)[6, 29]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
124	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28, 30]	See[1, 2, 3, 4, 5]
125	Proliant: DL360(G3), DL740, DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	Emulex: LP9802-E[6, 30], LP982-E[6, 30]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
126	Proliant DL740	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	QLogic QLA2200F-EMC[6, 7, 9]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
127	Proliant DL740	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	QLogic QLA2200F[6, 32, 33]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
128	Proliant: DL560, DL560 (G2), DL760[8], ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
129	Proliant: DL360(G3), DL560, DL560 (G2), DL760[8], ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	QLogic QLA2310F-E-SP[6, 22]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
130	Proliant: DL740, DL760[8], ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	QLogic QLA2340-E-SP[6, 22, 36]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[4]
131	Proliant DL760 (G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	QLogic: QLA2310F-E-SP[6, 22] QLA2340-E-SP[6, 22, 36]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
132	Proliant DL740	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	QLogic: QLA2310F-E-SP[6, 22] QLA2340-E-SP[6, 36]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
133	Proliant: DL360(G3), DL760 (G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
134	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]	Emulex LP9002-E (LP9002L-E)[6, 23, 24, 29, 33]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
135	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]	Emulex LP9802DC-E[6, 23, 24, 30, 33]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28, 30]	See[1, 2, 3, 4, 5]
136	Proliant: DL360(G3), DL740, DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]	Emulex: LP9802-E[6, 23, 24, 30, 33] LP982-E[6, 23, 24, 30, 33]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
137	Proliant DL740	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]	QLogic QLA2200F-EMC[23, 24, 33, 57]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
138	Proliant DL760[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]	QLogic QLA2200F-EMC[6, 23, 24, 33, 57]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
139	Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]	QLogic QLA2200F[6, 23, 24, 33, 39, 57]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
140	Proliant: DL360(G3), DL560, DL560 (G2), DL760[8], ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]	QLogic QLA2310F-E-SP[6, 23, 24, 33, 56]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
141	Proliant: DL740, DL760[8], ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]	QLogic QLA2340-E-SP[6, 33, 56]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[4]
142	Proliant: DL740 DL760[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]	QLogic QLA2342-E-SP[6, 23, 24, 33, 39, 56]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
143	Proliant: DL360(G3). DL560. DL560 (G2), DL740. DL760 (G2). ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic: QLA2200F-EMC[6, 23, 24, 33, 57] QLA2342-E-SP[6, 23, 24, 33, 39, 56]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
144	Proliant: DL740. DL760 (G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic: QLA2310F-E-SP[6, 23, 24, 33, 56] QLA2340-E-SP[6, 33, 56]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
145	Proliant: DL360(G3). DL560. DL560 (G2), DL740 DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[10, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[3, 4, 5]
146	Proliant: DL360(G3). DL560, DL560 (G2), DL740, DL760[8], DL760 (G2). ML570(G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[10, 14, 15, 16, 17, 18, 19, 20, 21, 28, 30]	See[3, 4, 5]
147	Proliant: DL360(G3). DL560. DL560 (G2). DL740. DL760[8], DL760 (G2). ML570(G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[10, 14, 15, 16, 17, 18, 19, 20, 21, 30]	See[3, 4, 5]
148	Proliant: DL740. DL760[8] DL760 (G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2200F-EMC[6, 32]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
149	Proliant: DL360(G3). DL560. DL560 (G2), DL740, DL760[8], DL760 (G2). ML570(G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2342-E-SP[36]	FC-AL, FC-SW	N	See[3, 4, 5]
150	Proliant: DL360(G3), DL560. DL560 (G2), DL740. DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic: QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33]	FC-AL, FC-SW	Y[10, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[3, 4, 5]
151	Proliant: DL560. DL560 (G2), DL740, DL760[8], ML570(G2)	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
2	Proliant: DL740, DL760[8], DL760 (G2)	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F-EMC[32, 33]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
153	Proliant: DL360(G3). DL560, DL560 (G2). ML570(G2)	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic: QLA2310F-E-SP[6] QLA2342-E-SP[6, 33, 36, 39, 40]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
154	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 7.3: (v2.4.18-3)[11] updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F-EMC[6]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
155	Proliant: DL360(G3), DL560. DL560 (G2). ML570(G2)	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
156	Proliant: DL760[8], DL760 (G2)	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic: QLA2200F[6, 7, 9, 32, 33] QLA2200F-EMC[7, 9, 32, 33]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
157	Proliant BL40p	PCI-X	Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[11], v2.4.20-18.8[11]	QLogic QLA2200F[6, 7, 32, 33, 36, 46]	FC-AL, FC-SW	Y[9, 10, 12, 14, 15, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
158	Proliant BL40p	PCI-X	Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[11], v2.4.20-18.8[11]	QLogic QLA2310F-E-SP[6, 22, 33, 36]	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
159	Proliant BL40p	PCI-X	Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[11], v2.4.20-18.8[11]	QLogic: QLA2200F[6, 7, 9, 32, 33, 36, 46] QLA2200F-EMC[6, 7, 9, 32, 33]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
160	Proliant BL40p	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12], 8.0 updated to v2.4.18-19.8.0[11], 8.0 updated to v2.4.20-18.8[11]	Emulex LP9002-E (LP9002L-E)[6, 29]	FC-AL, FC-SW	Y[12, 14, 15, 16, 17, 18, 19, 20, 21, 28, 43, 44]	See[1, 2, 3, 4, 5]
1	Proliant BL40p	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12], 8.0 updated to v2.4.18-19.8.0[11], 8.0 updated to v2.4.20-18.8[11]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[12, 14, 15, 16, 17, 18, 19, 20, 21, 28, 30, 43, 44]	See[1, 2, 3, 4, 5]
162	Proliant BL40p	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12], 8.0 updated to v2.4.18-19.8.0[11], 8.0 updated to v2.4.20-18.8[11]	Emulex: LP9802-E[6, 30], LP982-E[6, 30]	FC-AL, FC-SW	Y[12, 14, 15, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
163	Proliant BL40p	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12], 8.0 updated to v2.4.18-19.8.0[11], 8.0 updated to v2.4.20-18.8[11]	IBM: 00N6881 (QLA2200)[32, 33, 49, 50], 19K1246(QLA2310)[32, 33, 47] 24P0960(QLA2340)[32, 33, 48]	FC-AL, FC-SW	Y[12, 15, 16, 17, 18, 19, 20, 21, 43]	See[1, 2, 3, 4, 5]
164	Proliant: DL360(G3), DL560. DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2342-E-SP[36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
165	Proliant BL20p (G2)[51, 53]	PCI-X[54]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31, 51], v2.4.9-E.3[11, 51]	HPQ Dual-port mezzanine controller card[52]	FC-AL, FC-SW	N	See[4]
166	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[7, 11, 31, 35]	QLogic QLA2200F-EMC[6, 9]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
167	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[11, 31]	QLogic QLA2340-E-SP[6, 36]	FC-AL, FC-SW	N	See[4]
168	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 11]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC-AL, FC-SW	Y[10, 12, 14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
169	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9002-E (LP9002L-E)[6, 29]	FC-AL, FC-SW	Y[1[illegible], 14, 15, 16, 1[illegible], 18, 19, 20, 21, 28]	See[1, 2, 3,] [illegible]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
170	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[12, 14, 15, 16, 17, 18, 19, 20, 21, 28, 30]	See[1, 2, 3, 4, 5]
171	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex: LP9802-E[6, 30], LP982-E[6, 30]	FC-AL, FC-SW	Y[12, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
172	Proliant DL580(G3)	PCI PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC-AL, FC-SW	Y[12, 14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
173	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2310F-E-SP[6, 22]	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
174	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[11, 31]	QLogic QLA2200F-EMC[6, 7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
175	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.9[10, 11, 31]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]	QLogic QLA2342-E-SP[6, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
176	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]	Emulex LP9002-E (LP9002L-E)[6, 29]; QLogic QLA2200F[6, 32, 33]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
177	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]	QLogic QLA2200F[6, 32, 33]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
178	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[11, 31], v2.4.9-E.9[10, 11, 31]	QLogic QLA2340-E-SP[6, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
179	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 7.3: (v2.4.18-3)[11] updated w/ v2.4.18-27.7.x rpm[10, 11]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2202F-EMC[5, 7, 9, 23, 24, 32, 33, 41, 57]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
180	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.9[10, 11, 31]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]	QLogic QLA2342-E-SP[6, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
181	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP9802DC-E	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
182	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2310F-E-SP[6, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
183	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.3[9, 11], v2.4.9-E.9[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31], v2.4.9-e.24[11, 55]; Red Hat Linux 7.3: (v2.4.18-3)[11] updated w/ v2.4.18-27.7.x rpm[10, 11]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2202F-EMC[5, 7, 9, 23, 24, 32, 33, 41, 57]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
184	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[6, 7, 9]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
185	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]	Emulex: LP9802-E[6, 30], LP982-E[6, 30]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
186	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-E.9[10, 11, 31]	QLogic QLA2340-E-SP[6, 22, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
187	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31], ES v2.4.9-e.12[11, 31], ES v2.4.9-e.16[11, 31]	Emulex LP9002-E (LP9002L-E)[6, 29]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
188	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31], ES v2.4.9-e.12[11, 31], ES v2.4.9-e.16[11, 31]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28, 30]	See[1, 2, 3, 4, 5]
189	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31], ES v2.4.9-e.12[11, 31], ES v2.4.9-e.16[11, 31]	Emulex: LP9802-E[6, 30], LP982-E[6, 30]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
190	Proliant: DL580(G2)[8], DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31], ES v2.4.9-e.12[11, 31], ES v2.4.9-e.16[11, 31]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
191	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31], ES v2.4.9-e.12[11, 31], ES v2.4.9-e.16[11, 31]	QLogic QLA2340-E-SP[6, 36]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[4]
192	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31], ES v2.4.9-e.12[11, 31], ES v2.4.9-e.16[11, 31]	QLogic: QLA2310F-E-SP[6, 22] QLA2340-E-SP[6, 22, 36]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
193	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	Emulex LP9002-E (LP9002L-E)[6, 23, 24, 29, 33]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
194	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	Emulex LP9802DC-E[6, 23, 24, 30, 33]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28, 30]	See[1, 2, 3, 4, 5]
195	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	Emulex: LP9802-E[6, 23, 24, 30, 33], LP982-E[6, 23, 24, 30, 33]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
196	Proliant: DL580(G2)[8], DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic QLA2200F[6, 23, 24, 33, 39, 57]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
197	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic QLA2340-E-SP[6, 33, 56]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[4]
198	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic QLA2342-E-SP[6, 23, 24, 33, 39, 56]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
199	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic: QLA2200F-EMC[6, 23, 24, 33, 57] QLA2342-E-SP[6, 23, 24, 33, 39, 56]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
200	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic: QLA2310F-E-SP[6, 23, 24, 33, 56] QLA2340-E-SP[6, 33, 56]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
201	Proliant: DL580(G2)[8], DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[10, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[3, 4, 5]
202	Proliant: DL580(G2)[8], DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[10, 14, 15, 16, 17, 18, 19, 20, 21, 28, 30]	See[3, 4, 5]
203	Proliant: DL580(G2)[8], DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[10, 14, 15, 16, 17, 18, 19, 20, 21, 30]	See[3, 4, 5]
204	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2200F-EMC[6]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
205	Proliant: DL580(G2)[8], DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2342-E-SP[36]	FC-AL, FC-SW	N	See[3, 4, 5]
206	Proliant: DL580(G2)[8], DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic: QLA2310F-E-SP[32, 33] QLA2340-E-SP[32, 33]	FC-AL, FC-SW	Y[10, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[3, 4, 5]
207	Proliant: DL580(G2)[8], DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 37, 38]	See[1, 2, 3, 4, 5]
208	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic: QLA2310F-E-SP[6] QLA2342-E-SP[6, 33, 36, 39, 40]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
209	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC-AL, FC-SW	N	See[2, 3, 4, 5]
210	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F[6, 7, 9, 32, 33]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
211	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12] 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2342-E-SP[36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
212	Proliant: ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[7, 11, 31, 35]	QLogic QLA2340-E-SP[6, 22, 36]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
213	Netserver LC, 2000 U3, 2000r; Netserver LH, 3, 3000, 4, 6000, II, PRO, III; Netserver LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
214	Proliant DL380(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 31] v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
215	Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], ML350[8]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31]	QLogic QLA2340-E-SP[6, 22, 36]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
216	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO LXR PRO8; Proliant: DL580(G2)[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35] v2.4.9-E.12[11, 31], v2.4.9-E.9[11, 31]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
217	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: DL580(G2)[8], ML750[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
218	Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], ML350[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	QLogic QLA2340-E-SP[6, 22, 36]	FC-AL, FC-SW[23, 24]	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
219	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML750[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]	QLogic QLA2340-E-SP[6, 33, 56]	FC-AL, FC-SW[23, 24]	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
220	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2340-E-SP[6]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
221	Proliant: 1600[8, 25], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 26], 6000[8, 26], 6400R[8], 6500[8, 26], 7000[8, 26], 800, 8000[8, 26], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8]	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
222	Proliant ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[7, 11, 31, 35]	QLogic QLA2340-E-SP[6, 22, 36]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
223	Proliant: DL360(G3), DL560, DL560 (G2), DL760[8], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
224	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12, 42]	QLogic QLA2340-E-SP[6, 22, 32, 33]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
225	Proliant: DL360(G3), DL560, DL560 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31]	QLogic QLA2340-E-SP[6, 22, 36]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
226	Proliant: DL360(G3), DL560, DL560 (G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]	QLogic QLA2340-E-SP[6, 22, 36]	FC-AL, FC-SW[23, 24]	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
227	Proliant: DL360(G3), DL560, DL560 (G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]	QLogic QLA2340-E-SP[6, 33, 56]	FC-AL, FC-SW[23, 24]	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
228	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2340-E-SP[6]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
229	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
230	Proliant BL40p	PCI-X	Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[11], v2.4.20-18.8[11]	QLogic QLA2340-E-SP[6, 22, 32, 33, 36]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
231	Proliant BL40p	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12] 8.0 updated to v2.4.18-19.8.0[11], 8.0 updated to v2.4.20-18.8[11]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
232	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[7, 11, 31, 35]	QLogic QLA2340-E-SP[6, 22, 36]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
233	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
234	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2340-E-SP[6]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
235	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
236	Netserver LH (LH Pro), LP 2000r	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[11, 31]	QLogic QLA2200F-EMC[7]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]

HPQ – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
237	Netserver LP 2000r	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31], v2.4.9-E.12[11, 31] Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[7, 9]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
238	Netserver LH (LH Pro)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.3[9, 11]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[7, 9]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
239	Netserver LP 2000r	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 31], v2.4.9-E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]	QLogic QLA2200F-EMC[6, 7, 9]	FC-AL, FC-SW[24]	N	See[1, 2, 3, 4, 5]
240	Netserver LH (LH Pro)	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic QLA2200F-EMC[23, 24, 33, 57]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
241	Netserver LP 2000r	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic QLA2200F-EMC[6, 23, 24, 33, 57]	FC-AL, FC-SW[24]	N	See[1, 2, 3, 4, 5]
242	Netserver: LH (LH Pro), LP 2000r	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2200F-EMC[6, 32]	FC-AL, FC-SW[24]	N	See[1, 2, 3, 4, 5]
243	Netserver: LH (LH Pro), LP 2000r	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F-EMC	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
244	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-E.3[9, 10, 11, 12, 42], v2.4.9-e.24[11]	QLogic QLA2200F-EMC[6, 7, 9, 32, 33]	FC-AL, FC-SW[24]	N	See[1, 2, 3, 4, 5]
245	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[11, 31]	QLogic QLA2200F-EMC[7]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
246	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31], v2.4.9-E.12[11, 31], v2.4.9-E.16[11, 31], v2.4.9-E.3[9, 11]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 31], v2.4.9-e.16[11, 31]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[7, 9]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
247	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	QLogic QLA2200F-EMC[23, 24, 33, 57]	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
248	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.3[9, 10, 11, 12], ES v2.4.9-e.12[11, 31], ES v2.4.9-e.16[11, 31]	QLogic QLA2200F-EMC[6, 7, 9]	FC-AL, FC-SW[24]	N	See[1, 2, 3, 4, 5]
249	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F-EMC	FC-AL, FC-SW[24]	N	See[1, 2, 3, 4, 5]
250	Proliant DL580(G2)[8]	PCI, PCI-X	Red Hat Linux 7.3: (v2.4.18-3)[11] updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F-EMC	FC-AL, FC-SW[24]	N	See[2, 3, 4, 5]
251	Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP982-E[6, 30]	FC-AL, FC-SW[24, 34]	N	See[1, 2, 3, 4, 5]
252	Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31], ES v2.4.9-e.12[11, 31], ES v2.4.9-e.16[11, 31]	Emulex LP982-E[6, 30]	FC-AL, FC-SW[24, 34]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
253	Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	Emulex LP982-E[6, 23, 24, 30, 33]	FC-AL, FC-SW[24, 34]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
254	Netserver LC, 2000 U3, 2000r; Netserver LH, 3000, 6000; Proliant: 6500[8, 26], DL380(G3), DL580(G2)[8], ML370(G3)	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[7, 11, 31, 35], 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP982-E[6, 30]	FC-AL, FC-SW[24, 34]	N	See[1, 2, 3, 4, 5]
255	Proliant: DL360(G3), DL560, DL560 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP982-E[6, 30]	FC-AL, FC-SW[24, 34]	N	See[1, 2, 3, 4, 5]
256	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-e.24[11]; Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[11], v2.4.20-18.8[11]	Emulex LP982-E[6, 30, 33]	FC-AL, FC-SW[24, 34]	N	See[1, 2, 3, 4, 5]
257	Proliant: DL560, DL560 (G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31], ES v2.4.9-e.12[11, 31], ES v2.4.9-e.16[11, 31]	Emulex LP982-E[6, 30]	FC-AL, FC-SW[24, 34]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
258	Proliant: DL560, DL560 (G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55], ES v2.4.9-e.24[11, 55]	Emulex LP982-E[6, 23, 24, 30, 33]	FC-AL, FC-SW[24, 34]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]

HPQ – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
259	**Proliant ML570(G2)**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[7, 11, 31, 35], 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]**	**Emulex LP982-E[6, 30]**	FC-AL, FC-SW[24, 34]	N	See[1, 2, 3, 4, 5]
260	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[7, 11, 31, 35], 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]**	**Emulex LP982-E[6, 30]**	FC-AL, FC-SW[24, 34]	N	See[1, 2, 3, 4, 5]
261	**Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML530[8], ML530(G2)[8], ML570[8], ML750[27]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]**	**Emulex LP9802-E[6, 30]**	FC-AL, FC-SW[6, 24, 30, 34]	N	See[1, 2, 3, 4, 5]
262	**Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 800, 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML530[8], ML530(G2)[8], ML570[8], ML750[27]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]**	**Emulex LP9802-E[6, 30]**	FC-AL, FC-SW[6, 24, 30, 34]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
263	**Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[8, 25], 1850[8], 2500[8], 6400R[8], 800, 850[8], 8500, DL320[8], DL360[8] DL360(G2)[8], DL380[8], DL380(G2)[8], DL580[8], ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[27]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]**	**Emulex LP9802-E[6, 23, 24, 30, 33]**	FC-AL, FC-SW[6, 24, 30, 34]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
264	**Netserver LC, 2000 U3, 2000r; Netserver LH; 3000, 6000; Proliant: 6500[8, 26], DL380(G3), DL580(G2)[8], ML370(G3)**	PCI	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[7, 11, 31, 35], 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]**	**Emulex LP9802-E[6, 30]**	FC-AL, FC-SW[6, 24, 30, 34]	N	See[1, 2, 3, 4, 5]
265	**Proliant: DL360(G3), DL560, DL560 (G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 11, 31, 35], v2.4.9-E.12[11, 31]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]**	**Emulex LP9802-E[6, 30]**	FC-AL, FC-SW[6, 24, 30, 34]	N	See[1, 2, 3, 4, 5]
266	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 31], v2.4.9-e.24[11]; Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[11], v2.4.20-18.8[11]**	**Emulex LP9802-E[6, 30, 33]**	FC-AL, FC-SW[6, 24, 30, 34]	N	See[1, 2, 3, 4, 5]
267	**Proliant: DL560, DL560 (G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 31] ES v2.4.9-e.12[11, 31] ES v2.4.9-e.16[11, 31]**	**Emulex LP9802-E[6, 30]**	FC-AL, FC-SW[6, 24, 30, 34]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
268	**Proliant: DL560, DL560 (G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 55] ES v2.4.9-e.24[11, 55]**	**Emulex LP9802-E[6, 23, 24, 30, 33]**	FC-AL, FC-SW[6, 24, 30, 34]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
269	**Proliant ML570(G2)**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[7, 11, 31, 35], 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]**	**Emulex LP9802-E[6, 30]**	FC-AL, FC-SW[6, 24, 30, 34]	N	See[1, 2, 3, 4, 5]
270	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[7, 11, 31, 35], 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]**	**Emulex LP9802-E[6, 30]**	FC-AL, FC-SW[6, 24, 30, 34]	N	See[1, 2, 3, 4, 5]

1. **Not available for FC5700**
2. **Optical cables apply to CX600, CX400, FC4500 and FC4700.**
3. **PowerPath supported. ATF/CDE not supported.**
4. **CLARiiON FC4500 array is also supported for these configurations.**
5. **CX200 available through selected channels.**
6. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
7. **Requires v6.0.5 or higher Navisphere host Agent/CLI.**
8. **Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.**
9. **Supported with QLogic driver v6.04.02 or v6.05.00.**
10. Requires v6.2.1 or higher Navisphere host agent/CLI.
11. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
    This kernel is limited to 110 devices, not 128
12. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
14. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
15. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
16. Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
17. No MirrorView or SnapView used on boot LUNs.
18. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group.
    Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
19. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
20. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
21. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
22. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
23. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
24. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
25. **This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.**
26. **Includes both Pentium PRO and XEON models**
27. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
28. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
29. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
30. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
31. **This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.**
32. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
33. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
34. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.
35. **This system is supported with Red Hat 2.1 Advanced Server v2.4.9-E.3 and updated with v2.4.9-E.9, E.10, and E.12 RPMs.**
36. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
37. Requires QLogic driver 4.47.18 and BIOS 1.83.
38. Install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.
39. **Single HBA zoning is required regardless of the switch being utilized.**
40. **Host must be offline for interfamily Symmetrix microcode upgrade.**
41. **Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC-approved driver after installation.**

42. The kernel version listed is included in the corresponding standard distributed release.
43. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
44. PowerPath v3.02 not supported on this system.
45. Requires v6.05 or higher Navisphere host agent/CLI.
46. For fabric boot support, install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.
47. This HBA is equivalent to the qLogic QLA2310.
48. This HBA is equivalent to the qLogic QLA2340.
49. (QLA2200) For IBM xSeries and Netfinity servers only.
50. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
51. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
52. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
53. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
54. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.
55. This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.
56. Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
57. Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.

IBM

IBM – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 10, 12, 26, 32]	QLogic QLA2200F-EMC[7, 33, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
2	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250 x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 10, 26, 32]	QLogic QLA2200F-EMC[7, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
3	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 28, 29]	See[1, 2, 3, 4, 5]
4	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
5	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
6	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 28, 29, 31]	See[1, 2, 3, 4, 5]
7	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
8	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
9	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
10	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	IBM: 00N6881 (QLA2200)[33, 34, 35, 40], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	Y[9, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
11	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	IBM: 00N6881 (QLA2200)[33, 34, 35], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	Y[9, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
12	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	IBM: 00N6881 (QLA2200)[33, 34, 35], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	Y[9, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
13	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	IBM: 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]; QLogic QLA2200F	FC-AL, FC-SW	Y[9, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
14	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2200F-EMC[6, 7, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
15	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27, 28], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2200F[6, 7, 12, 33, 34]	FC-AL, FC-SW	Y[9, 14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
16	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	Y[9, 13, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
17	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	Y[9, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]

IBM – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
18	Netfinity 6000R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[10]	QLogic QLA2200F[7, 33, 34]	FC–AL, FC–SW	Y[9, 11, 12, 14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
19	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.9[10, 11, 32]	QLogic QLA2310F–E–SP[7, 33]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
20	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.9[10, 11, 32]	QLogic QLA2340–E–SP[7, 22, 46]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
21	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.9[10, 32]	Emulex. LP9802–E[7, 31], LP982–E[7, 31]. QLogic QLA2200F–EMC[6, 7]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
22	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 12, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.16[10, 32] v2.4.9–E.3[9, 10, 11, 12], v2.4.9–E.9[10, 32], v2.4.9–e.24[10, 48]. Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 32], v2.4.9–e.16[10, 32], v2.4.9–e.24[10, 48]. Red Hat Linux 7.3: (v2.4.18–3)[10], updated w/ v2.4.18–27.7.x rpm[10, 11]. Red Hat Linux 8.0 updated to v2.4.18–27.8.0[10]	QLogic QLA2202F–EMC[6, 7, 12, 23, 24, 33, 34, 47, 49]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
23	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.16[10, 32]. Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 32], v2.4.9–e.16[10, 32]	QLogic QLA2310F–E–SP[7, 22, 33]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
24	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.16[10, 32]. Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 32], v2.4.9–e.16[10, 32]. Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[10, 11]	Emulex LP9802DC–E	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
25	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.16[10, 32]. Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 32], v2.4.9–e.16[10, 32]. Red Hat Linux 8.0 updated to v2.4.18–27.8.0[10]	QLogic QLA2342–E–SP[46]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
26	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.16[10, 32], v2.4.9–E.3[9, 10, 11, 12], v2.4.9–E.9[10, 32]. Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 32], v2.4.9–e.16[10, 32]	QLogic QLA2342–E–SP[46]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
27	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.16[10, 32], v2.4.9–E.3[9, 10, 11, 12], v2.4.9–E.9[10, 32]. Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 32], v2.4.9–e.16[10, 32]. Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[10, 11]	Emulex LP9802DC–E	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
28	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.16[10, 32], v2.4.9–E.3[9, 10, 11, 12], v2.4.9–E.9[10, 32]. Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 32], v2.4.9–e.16[10, 32]. Red Hat Linux 8.0 updated to v2.4.18–27.8.0[10]	QLogic QLA2342–E–SP[46]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
29	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.16[10, 32], v2.4.9–E.3[9, 10, 11, 12], v2.4.9–E.9[10, 32]. Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 32], v2.4.9–e.16[10, 32]. Red Hat Linux 8.0 updated to v2.4.18–27.8.0[10]	QLogic: QLA2310F–E–SP[7, 22], QLA2342–E–SP[46]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
30	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.16[10, 32], v2.4.9–E.3[9, 10, 11, 12], v2.4.9–E.9[10, 32]. Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 32], v2.4.9–e.16[10, 32]. Red Hat Linux: 7.3 updated w/ v2.4.18–27.7.x rpm[10, 11], 8.0 updated to v2.4.18–27.8.0[10]	IBM: 00N6881 (QLA2200)[33, 34, 35], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]
31	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.16[10, 32], v2.4.9–E.3[9, 10, 11, 12], v2.4.9–E.9[10, 32], v2.4.9–e.24[10, 48]. Red Hat Linux 2.1 ES: v2.4.9–e.12[10, 32], v2.4.9–e.16[10, 32], v2.4.9–e.24[10, 48]. Red Hat Linux 7.3: (v2.4.18–3)[10], updated w/ v2.4.18–27.7.x rpm[10, 11]. Red Hat Linux 8.0 updated to v2.4.18–27.8.0[10]	QLogic QLA2202F–EMC[6, 7, 12, 23, 24, 33, 34, 47, 49]	FC–AL, FC–SW	N	See[1, 2, 3, 4, 5]

IBM – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
32	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.3[10, 12], v2.4.9-E.9[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11], 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F-EMC[7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
33	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.3[10, 12], v2.4.9-E.9[10, 32], v2.4.9-e.24[10, 48]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32], v2.4.9-e.24[10, 48]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11], 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 33, 34, 47, 49]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
34	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.9[10, 11, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]	QLogic QLA2342-E-SP[7, 46]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
35	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	IBM: 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]; QLogic: QLA2200F, QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
36	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600, 8500R: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP9802DC-E	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
37	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	IBM 00N6881 (QLA2200)[33, 34, 35, 40]; QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
38	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	IBM 00N6881 (QLA2200)[33, 34, 35]; QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
39	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600, 8500R: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11], 8.0 updated to v2.4.18-27.8.0[10]	IBM: 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
40	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
41	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.9[10, 11, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]	IBM 19K1246(QLA2310)[7, 33, 36]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
42	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
43	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
44	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30]; QLogic QLA2200F[7, 33, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
45	Netfinity: 6000R, 7000 M10[27, 28], 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	QLogic QLA2200F[7, 33, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
46	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600, 8500: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F-EMC[6, 7, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
47	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F-EMC[6, 7, 12, 33, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

IBM – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
48	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
49	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
50	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
51	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 32], v2.4.9-E.3[10, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11], 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F[6, 7, 12, 33, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
52	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 32]	QLogic QLA2200F-EMC[6, 7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
53	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28, 29]	See[1, 2, 3, 4, 5]
54	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
55	xSeries X335	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
56	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28, 29, 31]	See[1, 2, 3, 4, 5]
57	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
58	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
59	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
60	Netfinity 8500R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	IBM: 00N6881 (QLA2200)[33, 34, 35, 40], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	Y[15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
61	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	IBM: 00N6881 (QLA2200)[33, 34, 35], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	Y[15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
62	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	IBM: 00N6881 (QLA2200)[33, 34, 35], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	Y[15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
63	xSeries X335	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	IBM: 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]; QLogic QLA2200F	FC-AL, FC-SW	Y[15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
64	Netfinity: 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27, 28], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	QLogic QLA2200F[6, 7, 12, 33, 34]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
65	Netfinity 6000R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	QLogic QLA2200F[7, 33, 34]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
66	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
67	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
68	Netfinity 5000; xSeries x255[8]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F[6, 7, 12, 33, 34]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]

IBM – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
69	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9002-E (LP9002L-E)[7, 23, 24, 30, 34]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28, 29]	See[1, 2, 3, 4, 5]
70	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9002-E (LP9002L-E)[7, 23, 24, 30, 34]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
71	xSeries X335	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9802-E[7, 23, 24, 31, 34]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
72	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9802DC-E[7, 23, 24, 31, 34]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28, 29, 31]	See[1, 2, 3, 4, 5]
73	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9802DC-E[7, 23, 24, 31, 34]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
74	Netfinity 8500	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex: LP9002-E (LP9002L-E)[7, 23, 24, 30, 34], LP9802-E[7, 23, 24, 31, 34], LP9802DC-E[7, 23, 24, 31, 34], LP982-E[7, 23, 24, 31, 34]; IBM: 00N6881 (QLA2200)[7, 23, 24, 34, 35, 39, 49, 50], 19K1246(QLA2310)[23, 24, 34, 36, 39, 51], 24P0960(QLA2340)[7, 23, 24, 34, 37, 39, 51]; QLogic: QLA2200F-EMC[7, 23, 24, 34, 49], QLA2310F-E-SP[7, 23, 24, 34, 51], QLA2342-E-SP[23, 24, 34, 39, 51]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
75	xSeries x345	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex: LP9002-E (LP9002L-E)[7, 23, 24, 30, 34], LP9802DC-E[7, 23, 24, 31, 34]; IBM 19K1246(QLA2310)[7, 23, 24, 34, 36, 39, 51]; QLogic: QLA2200F[7, 23, 24, 34, 39, 49], QLA2200F-EMC[7, 23, 24, 34, 49], QLA2310F-E-SP[7, 23, 24, 34, 51], QLA2342-E-SP[23, 24, 34, 39, 51]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
76	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex: LP9802-E[7, 23, 24, 31, 34], LP982-E[7, 23, 24, 31, 34]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
77	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex: LP9802-E[7, 23, 24, 31, 34], LP982-E[7, 23, 24, 31, 34]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
78	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	IBM: 00N6881 (QLA2200)[7, 23, 24, 34, 35, 39, 49, 50], 19K1246(QLA2310)[23, 24, 34, 36, 39, 51], 24P0960(QLA2340)[7, 23, 24, 34, 37, 39, 51]	FC-AL, FC-SW	Y[15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
79	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	IBM: 00N6881 (QLA2200)[7, 23, 24, 34, 35, 39, 49, 50], 19K1246(QLA2310)[23, 24, 34, 36, 39, 51], 24P0960(QLA2340)[7, 23, 24, 34, 37, 39, 51]	FC-AL, FC-SW	Y[15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
80	xSeries X335	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	IBM: 19K1246(QLA2310)[23, 24, 34, 36, 39, 51], 24P0960(QLA2340)[7, 23, 24, 34, 37, 39, 51]; QLogic QLA2200F[23, 24, 34, 39, 49]	FC-AL, FC-SW	Y[15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
81	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 6000R, 7000, 7000 M10[27, 28], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic QLA2200F[7, 23, 24, 34, 39, 49]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
82	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic QLA2310F-E-SP[7, 23, 24, 34, 51]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
83	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic QLA2310F-E-SP[7, 23, 24, 34, 51]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
84	xSeries X335	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic QLA2342-E-SP[23, 24, 34, 39, 51]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
85	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic: QLA2200F-EMC[7, 23, 24, 34, 49], QLA2342-E-SP[23, 24, 34, 39, 51]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
86	Netfinity 8500R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic: QLA2200F-EMC[7, 23, 24, 34, 49], QLA2342-E-SP[7, 23, 24, 34, 39, 51]	FC-AL, FC-SW	[illegible]	See[1, 2, 3, 4, 5]
87	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[28], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[11, 14, 15, 16, 17, 18, 19, 20, 21, 29]	See[2, 3, 5]

IBM – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
88	Netfinity 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[28], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[11, 14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[2, 3, 5]
89	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[28], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[11, 14, 15, 16, 17, 18, 19, 20, 21, 31]	See[2, 3, 5]
90	Netfinity 8500R	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	IBM 00N6881 (QLA2200)[33, 34, 35, 40, 41]	FC-AL, FC-SW	Y[11, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
91	Netfinity 8500	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	IBM: 00N6881 (QLA2200)[33, 34, 35, 41], 19K1246(QLA2310)[33, 34, 36, 41], 24P0960(QLA2340)[33, 34, 37, 41]	FC-AL, FC-SW	N	See[2]
92	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[28], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x240, x250, x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	IBM: 00N6881 (QLA2200)[33, 34, 35, 41], 19K1246(QLA2310)[33, 34, 36, 41], 24P0960(QLA2340)[33, 34, 37, 41]	FC-AL, FC-SW	Y[11, 15, 16, 17, 18, 19, 20, 21]	See[2]
93	xSeries x255[8]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	IBM: 00N6881 (QLA2200)[7, 33, 34, 35], 19K1246(QLA2310)[7, 33, 34, 36], 24P0960(QLA2340)[7, 33, 34, 37]	FC-AL, FC-SW	Y[11, 15, 16, 17, 18, 19, 20, 21]	See[2, 3, 5]
94	xSeries x232	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	IBM: 00N6881 (QLA2200)[7, 35], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	Y[11, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
95	Netfinity 8500R	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	IBM: 19K1246(QLA2310)[33, 34, 36, 41], 24P0960(QLA2340)[33, 34, 37, 41]	FC-AL, FC-SW	Y[11, 15, 16, 17, 18, 19, 20, 21]	See[2]
96	Netfinity 8500R	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	QLogic QLA2200F-EMC[7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
97	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[28], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	QLogic QLA2342-E-SP[46]	FC-AL, FC-SW	N	See[2, 3, 5]
98	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[28], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18-3)[10]	QLogic: QLA2310F-E-SP[33, 34], QLA2340-E-SP[33, 34]	FC-AL, FC-SW	Y[11, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[2, 3, 5]
99	Netfinity 7000 M10[27]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	IBM 00N6881 (QLA2200)[33, 34, 35]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 28, 43, 47]	See[1, 2, 3, 4, 5]
100	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	IBM 00N6881 (QLA2200)[33, 34, 35]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 43, 47]	See[1, 2, 3, 4, 5]
101	Netfinity 8500R	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	IBM 00N6881 (QLA2200)[33, 34, 35, 40]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 43, 47]	See[1, 2, 3, 4, 5]
102	Netfinity: 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27, 28], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x350 (6000R), x370	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
103	Netfinity 6000R	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F[6, 7, 12, 33, 34]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
104	Netfinity 8500R	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic: QLA2200F-EMC[7, 33], QLA2310F-E-SP[7], QLA2342-E-SP[7, 34, 39, 41, 46]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
105	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600, 8500 xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x345, x350 (6000R), x370	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic: QLA2310F-E-SP[7], QLA2342-E-SP[7, 34, 39, 41, 46]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
106	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F-EMC[7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
107	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600, 8500, 8500R, xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F[6, 7, 12, 33, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
108	xSeries x345	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
109	Netfinity 8500R	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12], 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2342-E-SP[46]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
110	xSeries: x360[8], x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 10, 26, 32]	QLogic QLA2200F-EMC[7, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
111	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
112	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	Y[8, 9, 14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
113	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
114	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[8, 9, 14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
115	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
116	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	Y[8, 9, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
117	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
118	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	IBM: 00N6881 (QLA2200)[33, 34, 35], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	Y[9, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
119	xSeries: x255[8], x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2200F[6, 7, 12, 33, 34]	FC-AL, FC-SW	Y[9, 14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
120	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	Y[8, 9, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
121	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	Y[9, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
122	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12, 38]	QLogic QLA2200F[6, 7, 12, 33, 34]	FC-AL, FC-SW	Y[9, 14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
123	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10]	QLogic QLA2200F[7, 34, 45, 46]	FC-AL, FC-SW	Y[9, 11, 12, 14, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
124	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 11, 12]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
125	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 11, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
126	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 11, 12]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
127	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 11, 12]	IBM: 00N6881 (QLA2200)[33, 34, 35], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	Y[9, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
128	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 11, 12]	QLogic QLA2200F[6, 7, 12, 34, 45, 46]	FC-AL, FC-SW	Y[9, 14, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
129	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 11, 12]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	Y[9, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
130	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[10, 32]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
131	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2342-E-SP[46]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
132	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 32], v2.4.9-e.24[10, 48]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32], v2.4.9-e.24[10, 48]; Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[10, 11]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 33, 34, 47, 49]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
133	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.3[10, 11, 12], v2.4.9-E.9[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]	QLogic QLA2342-E-SP[46]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
134	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.3[10, 11, 12], v2.4.9-E.9[10, 32], v2.4.9-e.24[10, 48]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32], v2.4.9-e.24[10, 48]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 33, 34, 47, 49]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
135	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	Emulex LP9802DC-E; IBM: 00N6881 (QLA2200)[33, 34, 35]; 19K1246(QLA2310)[33, 34, 36] 24P0960(QLA2340)[33, 34, 37]; QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
136	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP9802DC-E	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
137	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex: LP9802-E[31, 34], LP9802DC-E, LP982-E[31, 34]	FC-AL, FC-SW	N	See[2, 3, 5]
138	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[10, 11]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2310F-E-SP[33, 34]	FC-AL, FC-SW	N	See[2, 3, 5]
139	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	IBM 00N6881 (QLA2200)[33, 34, 35]; QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
140	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2342-E-SP[46]	FC-AL, FC-SW	N	See[2, 3, 5]
141	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11], 8.0 updated to v2.4.18-27.8.0[10]	IBM: 19K1246(QLA2310)[33, 34, 36] 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
142	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11], 8.0 updated to v2.4.18-27.8.0[10]	QLogic: QLA2200F-EMC[33, 34] QLA2202F-EMC[6, 7, 12, 23, 24, 33, 34, 47, 49] QLA2340-E-SP[33, 34]	FC-AL, FC-SW	N	See[2, 3, 5]
143	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.9[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]	IBM 19K1246(QLA2310)[36]	FC-AL, FC-SW	N	See[2, 3, 5]
144	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30]; QLogic QLA2200F[7, 33, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
145	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30]; QLogic QLA2200F[7, 34, 45, 46]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
146	xSeries: x235, x255[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	QLogic QLA2200F[7, 33, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
147	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]	QLogic QLA2200F-EMC[6, 7, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
148	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F-EMC[6, 7, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
149	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
150	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 32], v2.4.9-E.3[9, 10, 11, 12, 38]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]	Emulex: LP9802-E[7, 31, 34], LP9802DC-E, LP982-E[7, 31, 34]; QLogic: QLA2200F-EMC[6, 7, 33, 34] QLA2310F-E-SP[7, 22, 33, 34] QLA2340-E-SP[7, 22, 33, 34] QLA2342-E-SP[46]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
151	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 32], v2.4.9-E.3[9, 10, 11, 12, 38], v2.4.9-e.24[10, 48]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32], v2.4.9-e.24[10, 48]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 33, 34, 47, 49]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
152	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 32] v2.4.9-E.3[9, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]	QLogic: QLA2200F-EMC[6, 7], QLA2342-E-SP[46]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
153	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[10, 32] v2.4.9-E.3[9, 10, 11, 12], v2.4.9-e.24[10, 48]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32], v2.4.9-e.24[10, 48]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 33, 34, 47, 49]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
154	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 32]	QLogic QLA2200F-EMC[6, 7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
155	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[10, 11, 12], v2.4.9-E.9[10, 32]	QLogic QLA2200F-EMC[6, 7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
156	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	Y[8, 14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
157	xSeries: x360[8], x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
158	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[8, 14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
159	xSeries: x360[8], x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
160	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	Y[8, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
161	xSeries x360[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
162	xSeries: x360[8], x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	IBM: 00N6881 (QLA2200)[33, 34, 35], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	Y[15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
163	xSeries: x235, x255[8], x360[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	QLogic QLA2200F[6, 7, 12, 33, 34]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
164	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	QLogic QLA2200F[7, 34, 45, 46]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
165	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	Y[8, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
166	xSeries: x360[8], x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
167	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9002-E (LP9002L-E)[7, 23, 24, 30, 34]	FC-AL, FC-SW	Y[8, 14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
168	xSeries: x360[8], x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9002-E (LP9002L-E)[7, 23, 24, 30, 34]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
169	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9802DC-E[7, 23, 24, 31, 34]	FC-AL, FC-SW	Y[8, 14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
170	xSeries: x360[8], x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9802DC-E[7, 23, 24, 31, 34]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
171	xSeries x235	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex: LP9802-E[7, 23, 24, 31, 34], LP9802DC-E[7, 23, 24, 31, 34], LP982-E[7, 23, 24, 31, 34]; QLogic: QLA2200F-EMC[7, 23, 24, 34, 49], QLA2310F-E-SP[7, 23, 24, 34, 51], QLA2340-E-SP[7, 34, 51], QLA2342-E-SP[23, 24, 34, 39, 51]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
172	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex: LP9802-E[7, 23, 24, 31, 34], LP982-E[7, 23, 24, 31, 34]	FC-AL, FC-SW	Y[8, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
173	xSeries x360[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex: LP9802-E[7, 23, 24, 31, 34], LP982-E[7, 23, 24, 31, 34]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
174	xSeries x235	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	IBM 19K1246(QLA2310)[23, 24, 34, 36, 39, 51]	FC-AL, FC-SW	N	See[2, 3, 5]
175	xSeries: x360[8], x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	IBM: 00N6881 (QLA2200)[7, 23, 24, 34, 35, 39, 49, 50], 19K1246(QLA2310)[23, 24, 34, 36, 39, 51], 24P0960(QLA2340)[7, 23, 24, 34, 37, 39, 51]	FC-AL, FC-SW	Y[15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
176	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic QLA2200F[7, 23, 24, 34, 39, 49]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
177	xSeries: x235, x255[8], x360[8]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic QLA2200F[7, 23, 24, 34, 39, 49]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
178	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic QLA2310F-E-SP[7, 23, 24, 34, 51]	FC-AL, FC-SW	Y[8, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
179	xSeries: x360[8], x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic QLA2310F-E-SP[7, 23, 24, 34, 51]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
180	xSeries: x255, x360[8], x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic: QLA2200F-EMC[7, 23, 24, 34, 49], QLA2342-E-SP[23, 24, 34, 39, 51]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
181	xSeries x360[8]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[11, 14, 15, 16, 17, 18, 19, 20, 21, 29]	See[2, 3, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
182	xSeries x360[8]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[11, 14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[2, 3, 5]
183	xSeries x360[8]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[11, 14, 15, 16, 17, 18, 19, 20, 21, 31]	See[2, 3, 5]
184	xSeries x255	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	IBM: 00N6881 (QLA2200)[33, 34, 35, 41], 19K1246(QLA2310)[33, 34, 36, 41], 24P0960(QLA2340)[33, 34, 37, 41]	FC-AL, FC-SW	Y[8, 11, 15, 16, 17, 18, 19, 20, 21]	See[2]
185	xSeries x360	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	IBM: 00N6881 (QLA2200)[7, 33, 34, 35, 41], 19K1246(QLA2310)[7, 33, 34, 36, 41], 24P0960(QLA2340)[7, 33, 34, 37, 41]	FC-AL, FC-SW	Y[8, 11, 15, 16, 17, 18, 19, 20, 21]	See[2, 3, 5]
186	xSeries x360[8]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	QLogic QLA2342-E-SP[46]	FC-AL, FC-SW	N	See[2, 3, 5]
187	xSeries x360[8]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[10]	QLogic: QLA2310F-E-SP[33, 34], QLA2340-E-SP[33, 34]	FC-AL, FC-SW	Y[11, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[2, 3, 5]
188	xSeries x360[8]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	IBM 00N6881 (QLA2200)[33, 34, 35]	FC-AL, FC-SW	Y[16, 17, 18, 19, 20, 21, 43, 47]	See[1, 2, 3, 4, 5]
189	xSeries x235	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
190	xSeries: x255, x360	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F	FC-AL, FC-SW	Y[8, 14, 16, 17, 18, 19, 20, 21, 43, 44]	See[1, 2, 3, 4, 5]
191	xSeries x235	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2342-E-SP[7, 34, 39, 41, 46]	FC-AL, FC-SW	N	See[2, 3, 5]
192	xSeries x360[8]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic: QLA2310F-E-SP[7], QLA2342-E-SP[7, 34, 39, 41, 46]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
193	xSeries x360[8]	PCI-X	Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F-EMC[7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
194	xSeries x235	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F[6, 7, 12, 33, 34]	FC-AL, FC-SW	N	See[2, 3, 5]
195	xSeries x360[8]	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F[6, 7, 12, 33, 34]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
196	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 10, 26, 32]	QLogic QLA2200F-EMC[7, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
197	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10]	QLogic QLA2200F[6, 7, 34, 45, 46]	FC-AL, FC-SW	Y[9, 11, 12, 14, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
198	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 11, 12]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
199	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 11, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
200	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 11, 12]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	Y[9, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
201	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 11, 12]	IBM: 00N6881 (QLA2200)[33, 34, 35], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	Y[9, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
202	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[10, 11, 12]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	Y[9, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
203	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[10, 32]	Emulex: LP9802-E[7, 31], LP982-E[7, 31]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
204	xSeries x345	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex: LP9002-E (LP9002L-E)[7, 30], LP9802DC-E	FC-AL, FC-SW	N	See[2, 3, 5]
205	xSeries x345	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	N	See[2, 3, 5]
206	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.3[10, 11, 12], v2.4.9-E.9[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]	QLogic QLA2342-E-SP[46]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
207	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.3[10, 11, 12], v2.4.9-E.9[10, 32], v2.4.9-e.24[10, 48]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32], v2.4.9-e.24[10, 48]	QLogic QLA2202F-EMC[6, 7, 12, 23, 24, 33, 34, 47, 49]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
208	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	Emulex LP9802DC-E, IBM: 00N6881 (QLA2200)[33, 34, 35], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]; QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
209	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[10, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30], QLogic QLA2200F[7, 34, 45, 46]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
210	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]	QLogic QLA2200F-EMC[6, 7, 12]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
211	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[10, 11, 12], v2.4.9-E.9[10, 32]	QLogic QLA2200F-EMC[6, 7]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
212	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32] ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
213	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32] ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
214	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32] ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	IBM: 00N6881 (QLA2200)[33, 34, 35], 19K1246(QLA2310)[33, 34, 36], 24P0960(QLA2340)[33, 34, 37]	FC-AL, FC-SW	Y[15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
215	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32] ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	QLogic QLA2200F[6, 7, 12, 34, 45, 46]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
216	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32] ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	QLogic QLA2310F-E-SP[7, 22]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
217	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9002-E (LP9002L-E)[7, 23, 24, 30, 34]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 29]	See[1, 2, 3, 4, 5]
218	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9802DC-E[7, 23, 24, 31, 34]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 29, 31]	See[1, 2, 3, 4, 5]
219	xSeries x345	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex: LP9002-E (LP9002L-E)[7, 23, 24, 30, 34], LP9802DC-E[7, 23, 24, 31, 34]; QLogic QLA2310F-E-SP[7, 23, 24, 34, 51]	FC-AL, FC-SW	N	See[2, 3, 5]
220	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	IBM: 00N6881 (QLA2200)[7, 23, 24, 34, 35, 39, 49, 50], 19K1246(QLA2310)[23, 24, 34, 36, 39, 51], 24P0960(QLA2340)[7, 23, 24, 34, 37, 39, 51]	FC-AL, FC-SW	Y[15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
221	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic QLA2200F[7, 23, 24, 34, 39, 49]	FC-AL, FC-SW	Y[14, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
222	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic QLA2310F-E-SP[7, 23, 24, 34, 51]	FC-AL, FC-SW	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
223	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	QLogic: QLA2200F-EMC[7, 23, 24, 34, 49], QLA2342-E-SP[23, 24, 34, 39, 51]	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
224	xSeries x345	PCI, PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2200F	FC-AL, FC-SW	N	See[1, 2, 3, 4, 5]
225	xSeries x345	PCI, PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	QLogic QLA2310F-E-SP[7]	FC-AL, FC-SW	N	See[2, 3, 5]
226	xSeries x345	PCI, PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2200F[6, 7, 12, 33, 34]	FC-AL, FC-SW	N	See[2, 3, 5]
227	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2340-E-SP[7, 22]	FC-AL, FC-SW[23, 24]	Y[9, 13, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
228	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[9, 10, 11, 12]	QLogic QLA2340-E-SP[7, 22]	FC-AL, FC-SW[23, 24]	Y[9, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
229	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32]	QLogic QLA2340-E-SP[7, 22, 46]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
230	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2340-E-SP[7, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
231	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32], v2.4.9-E.3[9, 10, 11, 12], v2.4.9-E.9[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[10]	QLogic QLA2340-E-SP[7, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]
232	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.9[10, 32]	QLogic QLA2340-E-SP[7, 22]	FC-AL, FC-SW[23, 24]	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
233	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250 x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.9[10, 32]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[10]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	N	See[1, 2, 3, 4, 5]
234	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 32], ES v2.4.9–e.12[10, 32], ES v2.4.9–e.16[10, 32]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	Y[13, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
235	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 32], ES v2.4.9–e.12[10, 32], ES v2.4.9–e.16[10, 32]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
236	Netfinity 8500R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 32], ES v2.4.9–e.12[10, 32], ES v2.4.9–e.16[10, 32]	QLogic QLA2340–E–SP[7, 22, 46]	FC–AL, FC–SW[23] 24	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
237	Netfinity 7000 M10[27]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[10, 48], ES v2.4.9–e.24[10, 48]	QLogic QLA2340–E–SP[7, 34, 51]	FC–AL, FC–SW[23] 24	Y[13, 14, 15, 16, 17, 18, 19, 20, 21, 28]	See[1, 2, 3, 4, 5]
238	Netfinity 8500; xSeries x345	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[10, 48], ES v2.4.9–e.24[10, 48]	QLogic QLA2340–E–SP[7, 34, 51]	FC–AL, FC–SW[23] 24	N	See[1, 2, 3, 4, 5]
239	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[10, 48], ES v2.4.9–e.24[10, 48]	QLogic QLA2340–E–SP[7, 34, 51]	FC–AL, FC–SW[23] 24	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
240	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x345, x350 (6000R), x370	PCI	Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[10, 11]	QLogic QLA2340–E–SP[7]	FC–AL, FC–SW[23] 24	N	See[1, 2, 3, 4, 5]
241	Netfinity 8500R	PCI	Red Hat Linux 8.0 updated to v2.4.18–27.8.0[10]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	N	See[1, 2, 3, 4, 5]
242	xSeries x255	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[9, 10, 11, 12]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	Y[8, 9, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
243	xSeries x360[8]	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[9, 10, 11, 12]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	Y[9, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
244	xSeries x440[25, 26]	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[10, 11, 12]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	Y[9, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
245	xSeries x440[25, 26]	PCI–X	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.9[10, 32]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	N	See[1, 2, 3, 4, 5]
246	xSeries x360[8]	PCI–X	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.9[10, 32]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[10]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	N	See[1, 2, 3, 4, 5]
247	xSeries x255	PCI–X	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 32], ES v2.4.9–e.12[10, 32], ES v2.4.9–e.16[10, 32]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	Y[8, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
248	xSeries: x360[8], x440[25, 26]	PCI–X	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 32], ES v2.4.9–e.12[10, 32], ES v2.4.9–e.16[10, 32]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
249	xSeries x255	PCI–X	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[10, 48], ES v2.4.9–e.24[10, 48]	QLogic QLA2340–E–SP[7, 34, 51]	FC–AL, FC–SW[23] 24	Y[8, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
250	xSeries: x360[8], x440[25, 26]	PCI–X	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[10, 48], ES v2.4.9–e.24[10, 48]	QLogic QLA2340–E–SP[7, 34, 51]	FC–AL, FC–SW[23] 24	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
251	xSeries x360[8]	PCI–X	Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[10, 11]	QLogic QLA2340–E–SP[7]	FC–AL, FC–SW[23] 24	N	See[1, 2, 3, 4, 5]
252	xSeries x445	PCI, PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[10, 11, 12]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	Y[9, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
253	xSeries x445	PCI, PCI–X	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32], v2.4.9–E.9[10, 32]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	N	See[1, 2, 3, 4, 5]
254	xSeries x445	PCI, PCI–X	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[10, 32], ES v2.4.9–e.12[10, 32], ES v2.4.9–e.16[10, 32]	QLogic QLA2340–E–SP[7, 22]	FC–AL, FC–SW[23] 24	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
255	xSeries x445	PCI, PCI–X	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[10, 48], ES v2.4.9–e.24[10, 48]	QLogic QLA2340–E–SP[7, 34, 51]	FC–AL, FC–SW[23] 24	Y[13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
256	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[6, 10, 26, 32], v2.4.9–E.12[10, 32]; Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[10, 11]	Emulex LP982–E[7, 31]	FC–AL, FC–SW[24] 42	N	See[1, 2, 3, 4, 5]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
257	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32] Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32] Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP982-E[7, 31]	FC-AL, FC-SW[24] 42	N	See[1, 2, 3, 4, 5]
258	Netfinity 8500R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP982-E[7, 31]	FC-AL, FC-SW[24] 42	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
259	Netfinity 8500R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP982-E[7, 23, 24, 31, 34]	FC-AL, FC-SW[24] 42	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
260	xSeries x345	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP982-E[7, 23, 24, 31, 34]	FC-AL, FC-SW[24] 42	N	See[1, 2, 3, 4, 5]
261	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[6, 10, 26, 32], 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP982-E[7, 31]	FC-AL, FC-SW[24] 42	N	See[1, 2, 3, 4, 5]
262	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32]	Emulex LP982-E[7, 31]	FC-AL, FC-SW[24] 42	N	See[1, 2, 3, 4, 5]
263	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP982-E[7, 31]	FC-AL, FC-SW[24] 42	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
264	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP982-E[7, 23, 24, 31, 34]	FC-AL, FC-SW[24] 42	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
265	xSeries x360[8]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[6, 10, 26, 32], 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP982-E[7, 31]	FC-AL, FC-SW[24] 42	N	See[1, 2, 3, 4, 5]
266	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32]	Emulex LP982-E[7, 31]	FC-AL, FC-SW[24] 42	N	See[1, 2, 3, 4, 5]
267	xSeries x345	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32] Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32] Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP982-E[7, 31]	FC-AL, FC-SW[24] 42	N	See[2, 3, 5]
268	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP982-E[7, 31]	FC-AL, FC-SW[24] 42	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
269	xSeries x345	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP982-E[7, 23, 24, 31, 34]	FC-AL, FC-SW[24] 42	N	See[2, 3, 5]
270	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP982-E[7, 23, 24, 31, 34]	FC-AL, FC-SW[24] 42	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
271	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32]; Red Hat Linux 7.3: (v2.4.18-3)[10], updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP9002-E (LP9002L-E)[30, 34]	FC-AL, FC-SW[39]	N	See[2, 3, 5]
272	xSeries x235	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9002-E (LP9002L-E)[7, 30, 34]	FC-AL, FC-SW[39]	N	See[1, 2, 3, 4, 5]
273	xSeries x235	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9002-E (LP9002L-E)[7, 23, 24, 30, 34]	FC-AL, FC-SW[39]	N	See[1, 2, 3, 4, 5]
274	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 10, 26, 32]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW[7], 24, 31, 42	N	See[1, 2, 3, 4, 5]
275	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW[7], 24, 31, 42	N	See[1, 2, 3, 4, 5]
276	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW[7], 24, 31, 42	N	See[1, 2, 3, 4, 5]
277	Netfinity 8500R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW[7], 24, 31, 42	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
278	Netfinity 8500R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9802-E[7, 23, 24, 31, 34]	FC-AL, FC-SW[7], 24, 31, 42	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
279	xSeries x345	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9802-E[7, 23, 24, 31, 34]	FC-AL, FC-SW[7], 24, 31, 42	N	See[1, 2, 3, 4, 5]
280	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[27], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[6, 10, 26, 32], 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW[7], 24, 31, 42	N	See[1, 2, 3, 4, 5]

IBM – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
281	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW[7, 24, 31, 42]	N	See[1, 2, 3, 4, 5]
282	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW[7, 24, 31, 42]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
283	xSeries x440[25, 26]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9802-E[7, 23, 24, 31, 34]	FC-AL, FC-SW[7, 24, 31, 42]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
284	xSeries x360[8]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[6, 10, 26, 32], 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW[7, 24, 31, 42]	N	See[1, 2, 3, 4, 5]
285	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW[7, 24, 31, 42]	N	See[1, 2, 3, 4, 5]
286	xSeries x345	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 10, 26, 32], v2.4.9-E.12[10, 32], v2.4.9-E.16[10, 32]; Red Hat Linux 2.1 ES: v2.4.9-e.12[10, 32], v2.4.9-e.16[10, 32]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[10, 11]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW[7, 24, 31, 42]	N	See[2, 3, 5]
287	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[10, 32], ES v2.4.9-e.12[10, 32], ES v2.4.9-e.16[10, 32]	Emulex LP9802-E[7, 31]	FC-AL, FC-SW[7, 24, 31, 42]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]
288	xSeries x345	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9802-E[7, 23, 24, 31, 34]	FC-AL, FC-SW[7, 24, 31, 42]	N	See[2, 3, 5]
289	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[10, 48], ES v2.4.9-e.24[10, 48]	Emulex LP9802-E[7, 23, 24, 31, 34]	FC-AL, FC-SW[7, 24, 31, 42]	Y[14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2, 3, 4, 5]

1. **Optical cables apply to CX600, CX400, FC4500 and FC4700.**
2. **CLARiiON FC4500 array is also supported for these configurations.**
3. **CX200 available through selected channels.**
4. **Not available for FC5700**
5. **PowerPath supported. ATF/CDE not supported.**
6. **Requires v6.0.5 or higher Navisphere host Agent/CLI.**
7. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
8. PowerPath v3.02 not supported on this system.
9. This kernel is limited to 110 devices, not 128.
10. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
11. Requires v6.2.1 or higher Navisphere host agent/CLI.
12. Supported with QLogic driver v6.04.02 or v6.05.00.
13. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
14. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
15. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
16. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
17. No MirrorView or SnapView used on boot LUNs.
18. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
19. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
20. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
21. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
22. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
23. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
24. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
25. **PowerPath v3.0.2 b069 is not supported on this system.**
26. **This system is supported with Red Hat 2.1 Advanced Server v2.4.9-E.3 and updated with v2.4.9-E.9, E.10, and E.12 RPMs.**
27. **This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850**
28. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
29. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
30. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
31. Requires Emulex driver v4.20Q and firmware v1 00a4. Available from http://www.emulex.com.
32. **This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.**
33. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
34. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
35. **(QLA2200) For IBM xSeries and Netfinity servers only.**
36. **This HBA is equivalent to the qLogic QLA2310.**
37. **This HBA is equivalent to the qLogic QLA2340.**
38. **The kernel version listed is included in the corresponding standard distributed release.**
39. Single HBA zoning is required regardless of the switch being utilized.
40. **Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.**
41. **Host must be offline for interfamily Symmetrix microcode upgrade.**
42. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.
43. Requires QLogic driver 4.47.18 and BIOS 1.83.
44. Install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.
45. **For fabric boot support, install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.**
46. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
47. Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC-approved driver after installation.
48. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
49. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
50. **This HBA is equivalent to the QLogic QLA2200.**
51. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

NEC

NEC – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 14, 21, 22]	Emulex LP9002-E (LP9002L-E)[15, 30]	FC-AL, FC-SW	Y[1, 4, 5, 6, 7, 8, 9, 10, 26, 29]	See[16, 17, 18, 19, 20]

NEC – Red Hat Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
2	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 14, 21, 22]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[1, 4, 5, 6, 7, 8, 9, 10, 26, 29, 31]	See[16, 17, 18, 19, 20]
3	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 14, 21, 22]	Emulex: LP9802–E[15, 31], LP982–E[15, 31]	FC–AL, FC–SW	Y[1, 4, 5, 6, 7, 8, 9, 10, 26]	See[16, 17, 18, 19, 20]
4	Express 5800: 120Rd–1, 120Rf–2, 140Hd, 140Rc–4, 180Rc–4	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 14, 21, 22]	NEC N8190–105[33]	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 25, 26, 29, 31]	See[16, 17, 18, 19, 20]
5	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 14, 21, 22]	QLogic QLA2200F[11, 12, 13, 14, 15]	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]	See[16, 17, 18, 19, 20]
6	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 14, 21, 22]	QLogic QLA2310F–E–SP[15, 24]	FC–AL, FC–SW	Y[1, 4, 5, 6, 7, 8, 9, 10, 25, 26]	See[16, 17, 18, 19, 20]
7	Express 5800: 120Rd–1, 120Rf–2 140Hd, 140Rc–4, 180Rc–4	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[21, 23], v2.4.9–E.12[21, 23], v2.4.9–E.16[21, 23], v2.4.9–E.3[1, 14, 21, 22], v2.4.9–E.9[21, 23], v2.4.9–e.24[21, 34]; Red Hat Linux 2.1 ES: v2.4.9–e.12[21, 23], v2.4.9–e.16[21, 23], v2.4.9–e.24[21, 34]; Red Hat Linux 7.3 (v2.4.18–3)[21]	NEC N8190–105[33]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
8	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[21, 23], v2.4.9–E.12[21, 23], v2.4.9–E.9[21, 23]	QLogic QLA2200F[12, 13, 15]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
9	Express 5800: 120Rd–1, 120Rf–2, 140Hd, 140Rc–4, 180Rc–4	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[21, 23], v2.4.9–e.24[21, 34]; Red Hat Linux 2.1 ES: v2.4.9–e.12[21, 23], v2.4.9–e.16[21, 23], v2.4.9–e.24[21, 34]	NEC N8190–105[33]	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 25, 26, 29, 31]	See[16, 17, 18, 19, 20]
10	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[21, 23], v2.4.9–E.3[1, 14, 21, 22]; Red Hat Linux 2.1 ES: v2.4.9–e.12[21, 23], v2.4.9–e.16[21, 23]	QLogic: QLA2200F–EMC[11, 15], QLA2342–E–SP[32]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
11	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[21, 23], v2.4.9–E.3[1, 14, 21, 22], v2.4.9–e.24[21, 34]; Red Hat Linux 2.1 ES: v2.4.9–e.12[21, 23], v2.4.9–e.16[21, 23], v2.4.9–e.24[21, 34]; Red Hat Linux 7.3 (v2.4.18–3)[21]	QLogic QLA2202F–EMC[11, 12, 13, 14, 15, 27, 28, 37, 38]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
12	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[21, 23], ES v2.4.9–e.12[21, 23], ES v2.4.9–e.16[21, 23]	Emulex LP9002–E (LP9002L–E)[15, 30]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 29]	See[16, 17, 18, 19, 20]
13	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[21, 23], ES v2.4.9–e.12[21, 23], ES v2.4.9–e.16[21, 23]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 29, 31]	See[16, 17, 18, 19, 20]
14	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[21, 23], ES v2.4.9–e.12[21, 23], ES v2.4.9–e.16[21, 23]	Emulex: LP9802–E[15, 31], LP982–E[15, 31]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 26]	See[16, 17, 18, 19, 20]
15	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[21, 23], ES v2.4.9–e.12[21, 23], ES v2.4.9–e.16[21, 23]	QLogic QLA2310F–E–SP[15, 24]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 25, 26]	See[16, 17, 18, 19, 20]
16	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[21, 23], ES v2.4.9–e.12[21, 23], ES v2.4.9–e.16[21, 23]; Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[21, 22]	QLogic QLA2200F[11, 12, 13, 14, 15]	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]	See[16, 17, 18, 19, 20]
17	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[21, 34], ES v2.4.9–e.24[21, 34]	Emulex LP9002–E (LP9002L–E)[13, 15, 27, 28, 30]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 29]	See[16, 17, 18, 19, 20]
18	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[21, 34], ES v2.4.9–e.24[21, 34]	Emulex LP9802DC–E[13, 15, 27, 28, 31]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 29, 31]	See[16, 17, 18, 19, 20]
19	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[21, 34], ES v2.4.9–e.24[21, 34]	Emulex: LP9802–E[13, 15, 27, 28, 31], LP982–E[13, 15, 27, 28, 31]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 26]	See[16, 17, 18, 19, 20]
20	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[21, 34], ES v2.4.9–e.24[21, 34]	QLogic QLA2200F[13, 15, 27, 28, 35, 37]	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]	See[16, 17, 18, 19, 20]
21	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[21, 34], ES v2.4.9–e.24[21, 34]	QLogic QLA2310F–E–SP[13, 15, 27, 28, 36]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 25, 26]	See[16, 17, 18, 19, 20]
22	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[21, 34], ES v2.4.9–e.24[21, 34]	QLogic: QLA2200F–EMC[13, 15, 27, 28, 37] QLA2342–E–SP[13, 27, 28, 35, 36]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
23	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2.4.18–3)[21]	Emulex LP9002–E (LP9002L–E)	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 22, 26, 29]	See[16, 17, 20]
24	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2.4.18–3)[21]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 22, 26, 29, 31]	See[16, 17, 20]
25	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2.4.18–3)[21]	Emulex: LP9802–E, LP982–E	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 22, 26, 31]	See[16, 17, 20]
26	Express 5800: 120Rd–1, 120Rf–2, 140Hd, 140Rc–4, 180Rc–4	PCI	Red Hat Linux 7.3 (v2.4.18–3)[21]	NEC N8190–105[33]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 22, 25, 26, 29, 31]	See[16, 17, 20]
27	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2.4.18–3)[21]	QLogic QLA2200F–EMC[15]	FC–AL, FC–SW	N	See[16, 17, 18, 19, 20]
28	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2.4.18–3)[21]	QLogic QLA2342–E–SP[32]	FC–AL, FC–SW	N	See[16, 17, 20]
29	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2.4.18–3)[21]	QLogic: QLA2310F–E–SP[12, 13], QLA2340–E–SP[12, 13]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 22, 25, 26]	See[16, 17, 20]
30	Express 5800: 120Rd–1, 120Rf–2, 140Hd, 140Rc–4, 180Rc–4	PCI	Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[21, 22]	NEC N8190–105[33]	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]	See[16, 17, 18, 19, 20]
31	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 14, 21, 22]	QLogic QLA2340–E–SP[15, 24]	FC–AL, FC–SW[27, 28]	Y[1, 4, 5, 6, 7, 8, 9, 10, 25, 26]	See[16, 17, 18, 19, 20]
32	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[21, 23], ES v2.4.9–e.12[21, 23], ES v2.4.9–e.16[21, 23]	QLogic QLA2340–E–SP[15, 24]	FC–AL, FC–SW[27, 28]	Y[4, 5, 6, 7, 8, 9, 10, 25, 26]	See[16, 17, 18, 19, 20]
33	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[21, 34], ES v2.4.9–e.24[21, 34]	QLogic QLA2340–E–SP[13, 15, 36]	FC–AL, FC–SW[27, 28]	Y[4, 5, 6, 7, 8, 9, 10, 25, 26]	See[16, 17, 18, 19, 20]

1. This kernel is limited to 110 devices, not 128.
2. Requires QLogic driver 4.47.18 and BIOS 1.83.
3. Install with driver provided by RedHat Installer and upgrade to the EMC–approved driver after installation.
4. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.

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5 Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
6. No MirrorView or SnapView used on boot LUNs.
7. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability
8. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
9 Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
10. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
11. **Requires v6.0.5 or higher Navisphere host Agent/CLI.**
12. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
13. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
14. **Supported with QLogic driver v6.04.02 or v6.05.00.**
15 **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
16. **PowerPath supported. ATF/CDE not supported.**
17. **CLARiiON FC4500 array is also supported for these configurations.**
18 **Not available for FC5700**
19. **Optical cables apply to CX600, CX400, FC4500 and FC4700.**
20 **CX200 available through selected channels.**
21. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
22 Requires v6.2.1 or higher Navisphere host agent/CLI.
23. **This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.**
24. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
25 Requires QLogic driver 4.47.18 driver disk, dd img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
26 Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
27. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
28. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
29. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
30. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
31. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
32. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
33. **Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.**
34. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
Single HBA zoning is required regardless of the switch being utilized.
Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
38. **Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC-approved driver after installation.**

SGI IRIX
SGI

SGI - SGI IRIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Origin 2000	PCI, XIO	SGI IRIX: 6.5.11, 6.5.12, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.18, 6.5.8[5, 6]	SGI: XT-FC-1P-COP-A[1, 6], XT-FC-1P-OPT-A[1, 10, 11]	FC-AL	N	See[7, 8, 9]
2	Origin 2000	PCI, XIO	SGI IRIX 6.5.17	SGI PCI-FC-1P-OPT-A	FC-AL, FC-SW	N	
3	Origin: 200[2], 3000	PCI	SGI IRIX: 6.5.11, 6.5.12, 6.5.13, 6.5.14, 6.5 15, 6.5.16, 6.5.17, 6.5.18	SGI PCI-FC-1P-OPT-A[1]	FC-AL[3] FC-SW[3]	N	
4	Origin 3000	PCI	SGI IRIX: 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI PCI-FC-1P-OPT-B[1, 4]	FC-AL[3] FC-SW[3]	N	
5	Origin 2000	PCI, XIO	SGI IRIX: 6.5.11, 6.5.12, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.18, 6.5.8[5, 6]	SGI PCI-FC-1P-OPT-A[1]	FC-AL[3] FC-SW[3]	N	See[7, 8, 9]

1. Uses native HBA driver and firmware.
2. RPQ only.
3. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.
4. PCI-FC-1P-OPT-B supports a data rate of 2 Gb/sec.
5. FC5500 and Origin 2000 only.
6. No support for CX600, CX400, and FC4700.
7. No cable with kit; order separately.
8. Field support for FC5500, requires minimum Flare revision 2.04.42; no new shipments.
9. CX600, CX400, FC4700, and FC5500 only.
10. CX600, CX400, and FC4700 do not require a MIA and are both FC-AL and FC-SW
11. A MIA is required for FC5500.

SuSE Linux
Dell

Dell - SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerEdge: 1550[9], 1650[9], 2300[9], 2450[9], 2500[9], 2550[9, 10], 4400[9], 6100[9], 6300[9], 6350[9], 6400[9], 6450[9], 8450[9]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2310F-E-SP[4, 13]	FC-AL, FC-SW	N	See[1, 2, 3]
2	PowerEdge: 1550[9], 1650[9], 2300[9], 2450[9], 2500[9], 2550[9, 10], 4400[9], 6100[9], 6300[9], 6350[9], 6400[9], 6450[9], 8450[9]	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8] updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2200F-EMC[4]	FC-AL, FC-SW	N	See[1, 2, 3]
3	PowerEdge: 1550[9], 1650[9], 2300[9], 2450[9], 2500[9], 2550[9, 10], 4400[9], 6100[9], 6300[9], 6350[9], 6400[9], 6450[9], 8450[9]	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[21, 22]	QLogic: QLA2200F-EMC[4, 23, 24]; QLA2310F-E-SP[4, 24, 25]	FC-AL, FC-SW	N	See[1, 2, 3]
4	PowerEdge: 1550[9], 1650[9], 2300[9], 2450[9], 2500[9], 2550[9, 10], 4400[9], 6100[9], 6300[9], 6350[9], 6400[9], 6450[9], 8450[9]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]	QLogic: QLA2200F-EMC[4, 20], QLA2310F-E-SP[4, 16]	FC-AL, FC-SW	N	See[1, 2, 3]
5	PowerEdge: 1750, 2600[9], 4600[9], 6600[9]	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2310F-E-SP[4, 13]	FC-AL, FC-SW	N	See[1, 2, 3]
6	PowerEdge 6650	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8] updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2200F-EMC	FC-AL, FC-SW	N	See[1, 2, 3]
7	PowerEdge: 1750, 2600[9], 4600[9], 6600[9]	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8] updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2200F-EMC[4]	FC-AL, FC-SW	N	See[1, 2, 3]
8	PowerEdge 6650	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[21, 22]	QLogic QLA2200F-EMC[23, 24]	FC-AL, FC-SW	N	See[1, 2, 3]
9	PowerEdge: 1750, 2600[9], 4600[9], 6600[9]	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[21, 22]	QLogic: QLA2200F-EMC[4, 23, 24]; QLA2310F-E-SP[4, 24, 25]	FC-AL, FC-SW	N	See[1, 2, 3]

Dell – SuSE Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
10	PowerEdge 6650	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]	QLogic QLA2200F-EMC[20]	FC-AL, FC-SW	N	See[1, 2, 3]
11	PowerEdge: 1750, 2600[9], 4600[9], 6600[9]	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]	QLogic: QLA2200F-EMC[4, 20], QLA2310F-E-SP[4, 16]	FC-AL, FC-SW	N	See[1, 2, 3]
12	PowerEdge: 1550[9], 1650[9], 2300[9], 2450[9], 2500[9], 2550[9, 10], 4400[9], 6100[9], 6300[9], 6350[9], 6400[9], 6450[9], 8450[9]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2340-E-SP[4, 13]	FC-AL, FC-SW[14, 15]	N	See[1, 2, 3]
13	PowerEdge: 1550[9] 1650[9], 2300[9], 2450[9], 2500[9] 2550[9, 10], 4400[9], 6100[9], 6300[9], 6350[9], 6400[9], 6450[9], 8450[9]	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[21, 22]	QLogic QLA2340-E-SP[4, 24, 25]	FC-AL, FC-SW[14, 15]	N	See[1, 2, 3]
14	PowerEdge: 1550[9], 1650[9] 2300[9], 2450[9] 2500[9], 2550[9, 10], 4400[9] 6100[9], 6300[9], 6350[9], 6400[9], 6450[9], 8450[9]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]	QLogic QLA2340-E-SP[4, 16]	FC-AL, FC-SW[14, 15]	N	See[1, 2, 3]
15	PowerEdge: 1750, 2600[9], 4600[9], 6600[9]	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2340-E-SP[4, 13]	FC-AL, FC-SW[14, 15]	N	See[1, 2, 3]
16	PowerEdge: 1750, 2600[9], 4600[9], 6600[9]	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[21, 22]	QLogic QLA2340-E-SP[4, 24, 25]	FC-AL, FC-SW[14, 15]	N	See[1, 2, 3]
17	PowerEdge: 1750, 2600[9], 4600[9], 6600[9]	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]	QLogic QLA2340-E-SP[4, 16]	FC-AL, FC-SW[14, 15]	N	See[1, 2, 3]

1. CLARiiON FC4500 array is also supported for these configurations.
2. Not available for FC5700
3. Optical cables apply to CX600, CX400, FC4500 and FC4700.
4. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
5. Requires v6.2.1 or higher Navisphere host agent/CLI.
6. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
7. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
8. Supported with QLogic driver v6.04.02.
9. An RPM from Dell may be used to install the QLogic v6.04.02 or v6.05.00 drivers and may be obtained from the QLogic website at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
10. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
11. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
12. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
13. Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
14. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
15. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
16. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
17. Requires QLogic v6.04.02 driver.
18. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
19. Requires QLogic driver v6.04.00 or above.
20. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
21. Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.
22. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
23. Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
24. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
25. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65

HPQ

HPQ – SuSE Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Proliant 6500[9, 11]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[13, 14]	Emulex: LP9802DC-E[19, 20, 21], LP982-E	FC-AL, FC-SW	N	See[1, 18]
2	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[9, 10], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 11], 6000[9, 11], 6400R[9], 6500[9, 11], 7000[9, 11], 800, 8000[9, 11], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL380[9], DL380(G2)[9], DL380(G3), DL580[9], DL580(G2)[9], ML350[9], ML350(G2)[9], ML370[9], ML370(G2), ML370(G3), ML530[9], ML530(G2)[9], ML570[9], ML750[12]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[13, 14]	QLogic QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	N	See[1, 2, 3]
3	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[9, 10], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 11], 6000[9, 11], 6400R[9], 6500[9, 11], 7000[9, 11], 800, 8000[9, 11], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL380[9], DL380(G2)[9], DL380(G3), DL580[9], DL580(G2)[9], ML350[9], ML350(G2)[9], ML370[9], ML370(G2), ML370(G3), ML530[9], ML530(G2)[9], ML570[9], ML750[12]	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8] updated with SuSE v2.4.18 rpm[13, 14]	QLogic QLA2200F-EMC[4]	FC-AL, FC-SW	N	See[1, 2, 3]
4	Proliant 6500[9, 11]	PCI	SuSE Linux SLES 7: (v2.4.7)[6, 7, 8] updated with SuSE v2.4.18 rpm[13, 14]	Emulex LP9802-E	FC-AL, FC-SW	N	See[1, 18]
5	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[9, 10], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 11], 6000[9, 11], 6400R[9], 6500[9, 11], 7000[9, 11], 800, 8000[9, 11], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL380[9], DL380(G2)[9], DL380(G3), DL580[9], DL580(G2)[9], ML350[9], ML350(G2)[9], ML370[9], ML370(G2), ML370(G3), ML530[9], ML530(G2)[9], ML570[9], ML750[12]	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic: QLA2200F-EMC[4, 20, 30] QLA2310F-E-SP[4, 20, 27]	FC-AL, FC-SW	N	See[1, 2, 3]
6	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[9, 10], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 11], 6000[9, 11], 6400R[9], 6500[9, 11], 7000[9, 11], 800, 8000[9, 11], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL380[9], DL380(G2)[9], DL380(G3), DL580[9], DL580(G2)[9], ML350[9], ML350(G2)[9], ML370[9], ML370(G2), ML370(G3), ML530[9], ML530(G2)[9], ML570[9], ML750[12]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[23, 24, 25]	QLogic: QLA2200F-EMC[4, 26] QLA2310F-E-SP[4, 22]	FC-AL, FC-SW	N	See[1, 2, 3]
7	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[13, 14]	QLogic QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	N	See[1, 2, 3]
8	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8] updated with SuSE v2.4.18 rpm[13, 14]	QLogic QLA2200F-EMC[4]	FC-AL, FC-SW	N	See[1, 2, 3]

HPQ - SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
9	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic QLA2200F-EMC[4, 20, 30] QLA2310F-E-SP[4, 20, 27]	FC-AL, FC-SW	N	See[1, 2, 3]
10	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[23, 24, 25]	QLogic QLA2200F-EMC[4, 26] QLA2310F-E-SP[4, 22]	FC-AL, FC-SW	N	See[1, 2, 3]
11	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[13, 14]	QLogic QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	N	See[1, 2, 3]
12	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[13, 14]	QLogic QLA2200F-EMC[4]	FC-AL, FC-SW	N	See[1, 2, 3]
13	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic QLA2200F-EMC[4, 20, 30] QLA2310F-E-SP[4, 20, 27]	FC-AL, FC-SW	N	See[1, 2, 3]
14	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[23, 24, 25]	QLogic QLA2200F-EMC[4, 26] QLA2310F-E-SP[4, 22]	FC-AL, FC-SW	N	See[1, 2, 3]
15	Netserver LC, 2000 U3, 2000r; Netserver LH; 3, 3000, 4, 6000, II, PRO, III. Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[9, 10], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 11], 6000[9, 11], 6400R[9], 6500[9, 11], 7000[9, 11], 800, 8000[9, 11], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL380[9], DL380(G2)[9], DL380(G3), DL580[9], DL580(G2)[9], ML350[9], ML350(G2)[9], ML370[9], ML370(G2), ML370(G3), ML530[9], ML530(G2)[9], ML570[9], ML750[12]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[13, 14]	QLogic QLA2340-E-SP[4, 15]	FC-AL, FC-SW[16, 17]	N	See[1, 2, 3]
16	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[9, 10], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 11], 6000[9, 11], 6400R[9], 6500[9, 11], 7000[9, 11], 800, 8000[9, 11], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL380[9], DL380(G2)[9], DL380(G3), DL580[9], DL580(G2)[9], ML350[9], ML350(G2)[9], ML370[9], ML370(G2), ML370(G3), ML530[9], ML530(G2)[9], ML570[9], ML750[12]	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic QLA2340-E-SP[4, 20, 27]	FC-AL, FC-SW[16, 17]	N	See[1, 2, 3]
17	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[9, 10], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 11], 6000[9, 11], 6400R[9], 6500[9, 11], 7000[9, 11], 800, 8000[9, 11], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL380[9], DL380(G2)[9], DL380(G3), DL580[9], DL580(G2)[9], ML350[9], ML350(G2)[9], ML370[9], ML370(G2), ML370(G3), ML530[9], ML530(G2)[9], ML570[9], ML750[12]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[23, 24, 25]	QLogic QLA2340-E-SP[4, 22]	FC-AL, FC-SW[16, 17]	N	See[1, 2, 3]
18	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[13, 14]	QLogic QLA2340-E-SP[4, 15]	FC-AL, FC-SW[16, 17]	N	See[1, 2, 3]
19	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic QLA2340-E-SP[4, 20, 27]	FC-AL, FC-SW[16, 17]	N	See[1, 2, 3]
20	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[23, 24, 25]	QLogic QLA2340-E-SP[4, 22]	FC-AL, FC-SW[16, 17]	N	See[1, 2, 3]
21	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[13, 14]	QLogic QLA2340-E-SP[4, 15]	FC-AL, FC-SW[16, 17]	N	See[1, 2, 3]
22	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic QLA2340-E-SP[4, 20, 27]	FC-AL, FC-SW[16, 17]	N	See[1, 2, 3]
23	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[23, 24, 25]	QLogic QLA2340-E-SP[4, 22]	FC-AL, FC-SW[16, 17]	N	See[1, 2, 3]

1. CLARiiON FC4500 array is also supported for these configurations.
2. Not available for FC5700
3. Optical cables apply to CX600, CX400, FC4500 and FC4700.
4. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
5. Requires v6.2.1 or higher Navisphere host agent/CLI.
6. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
7. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
8. Supported with QLogic driver v6.04.02.
9. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
10. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
11. Includes both Pentium PRO and XEON models
12. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
13. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
14. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
15. Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
16. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
17. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
18. Linux v2.4.x Kernels support a maximum of 128 devices per system.
19. Host must be offline for interfamily Symmetrix microcode upgrade.
20. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
21. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
22. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
23. Requires QLogic v6.04.02 driver.
24. Requires QLogic driver v6.04.00 or above.
25. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
26. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
27. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
28. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
29. Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.
30. Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65

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IBM – SuSE Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[18, 19]	QLogic QLA2310F-E-SP[4, 20]	FC-AL, FC-SW	N	See[1, 2, 3]
2	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[18, 19]	QLogic QLA2200F-EMC[4]	FC-AL, FC-SW	N	See[1, 2, 3]
3	Netfinity 8500R	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[18, 19]; SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27]	IBM 00N6881 (QLA2200)[12, 17]	FC-AL, FC-SW	N	See[1, 2, 3]
4	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[18, 19]; SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27]	IBM: 00N6881 (QLA2200)[10, 11, 12], 19K1246(QLA2310)[10, 11, 13], 24P0960(QLA2340)[10, 11, 14]	FC-AL, FC-SW	N	See[1, 2, 3]
5	Netfinity 8500R	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[31, 32]	QLogic QLA2200F-EMC[4, 11, 33]	FC-AL, FC-SW	N	See[1, 2, 3]
6	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[31, 32]	QLogic: QLA2200F-EMC[4, 11, 33], QLA2310F-E-SP[4, 11, 30]	FC-AL, FC-SW	N	See[1, 2, 3]
7	Netfinity 8500R	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27, 28]	QLogic: QLA2200F-EMC[4, 11, 24, 29], QLA2310F-E-SP[11, 24, 25], QLA2340-E-SP[11, 24, 25], QLA2342-E-SP[4, 11, 24, 25]	FC-AL, FC-SW	N	See[1, 2, 3]
8	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27, 28]	QLogic: QLA2200F-EMC[4, 11, 24, 29], QLA2310F-E-SP[4, 11, 24, 25], QLA2342-E-SP[4, 11, 24, 25]	FC-AL, FC-SW	N	See[1, 2, 3]
9	xSeries x345	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27, 28]	QLogic: QLA2200F-EMC[4, 29], QLA2310F-E-SP[4, 25], QLA2342-E-SP	FC-AL, FC-SW	N	See[1, 2, 3]
10	xSeries x235	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[18, 19]	Emulex LP9002-E (LP9002L-E)[11]	FC-AL, FC-SW	N	See[2, 15]
11	xSeries x235	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[18, 19]	Emulex: LP9802DC-E[11, 23, 24], LP982-E[11, 23]	FC-AL, FC-SW	N	See[2]
12	xSeries x440	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[18, 19]	QLogic QLA2310F-E-SP[4, 20]	FC-AL, FC-SW	N	See[1, 2, 3]
13	xSeries x440	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[18, 19]	QLogic QLA2200F-EMC[4]	FC-AL, FC-SW	N	See[1, 2, 3]
14	xSeries x440	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[18, 19]; SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27]	IBM: 00N6881 (QLA2200)[10, 11, 12], 19K1246(QLA2310)[10, 11, 13], 24P0960(QLA2340)[10, 11, 14]	FC-AL, FC-SW	N	See[1, 2, 3]
15	xSeries x235	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 8, 16], updated with SuSE v2.4.18 rpm[18, 19]	QLogic QLA2200F-EMC[10, 11]	FC-AL, FC-SW	N	See[2]
16	xSeries x235	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 8, 16], updated with SuSE v2.4.18 rpm[18, 19]	QLogic: QLA2310F-E-SP[10, 11], QLA2340-E-SP[10, 11], QLA2342-E-SP[10, 11]	FC-AL, FC-SW	N	See[2, 15]
17	xSeries x235	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 8], updated with SuSE v2.4.18 rpm[18, 19]	Emulex LP9802-E[11, 23]	FC-AL, FC-SW	N	See[2]
18	xSeries x235	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[31, 32]	QLogic QLA2200F-EMC[11, 33]	FC-AL, FC-SW	N	See[2]
19	xSeries x440	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[31, 32]	QLogic: QLA2200F-EMC[4, 11, 33], QLA2310F-E-SP[4, 11, 30]	FC-AL, FC-SW	N	See[1, 2, 3]
20	xSeries x235	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[31, 32]	QLogic: QLA2310F-E-SP[11, 30], QLA2340-E-SP[11, 30], QLA2342-E-SP[4, 11, 30, 34]	FC-AL, FC-SW	N	See[2, 15]
21	xSeries x235	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27, 28]	QLogic QLA2200F-EMC[11, 29]	FC-AL, FC-SW	N	See[2]
22	xSeries x440	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27, 28]	QLogic: QLA2200F-EMC[4, 11, 24, 29], QLA2310F-E-SP[4, 11, 24, 25], QLA2342-E-SP[4, 11, 24, 25]	FC-AL, FC-SW	N	See[1, 2, 3]
23	xSeries x235	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27, 28]	QLogic: QLA2310F-E-SP[11, 25], QLA2340-E-SP[11, 25], QLA2342-E-SP[4, 11, 25]	FC-AL, FC-SW	N	See[2, 15]
24	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[18, 19]	QLogic QLA2310F-E-SP[4, 20]	FC-AL, FC-SW	N	See[1, 2, 3]
25	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[18, 19]	QLogic QLA2200F-EMC[4]	FC-AL, FC-SW	N	See[1, 2, 3]
26	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[18, 19]; SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27]	IBM: 00N6881 (QLA2200)[10, 11, 12], 19K1246(QLA2310)[10, 11, 13], 24P0960(QLA2340)[10, 11, 14]	FC-AL, FC-SW	N	See[1, 2, 3]
27	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[31, 32]	QLogic: QLA2200F-EMC[4, 11, 33], QLA2310F-E-SP[4, 11, 30]	FC-AL, FC-SW	N	See[1, 2, 3]

IBM – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
28	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27, 28]	QLogic: QLA2200F-EMC[4, 11, 24, 29] QLA2310F-E-SP[4, 11, 24, 25], QLA2342-E-SP[4, 11, 24, 25]	FC-AL, FC-SW	N	See[1, 2, 3]
29	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[18, 19]	QLogic QLA2340-E-SP[4, 20]	FC-AL, FC-SW[21, 22]	N	See[1, 2, 3]
30	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[31, 32]	QLogic QLA2340-E-SP[4, 11, 30]	FC-AL, FC-SW[21, 22]	N	See[1, 2, 3]
31	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27, 28]	QLogic QLA2340-E-SP[4, 11, 24, 25]	FC-AL, FC-SW[21, 22]	N	See[1, 2, 3]
32	xSeries x345	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27, 28]	QLogic QLA2340-E-SP[4, 25]	FC-AL, FC-SW[21, 22]	N	See[1, 2, 3]
33	xSeries x440	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[18, 19]	QLogic QLA2340-E-SP[4, 20]	FC-AL, FC-SW[21, 22]	N	See[1, 2, 3]
34	xSeries x440	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[31, 32]	QLogic QLA2340-E-SP[4, 11, 30]	FC-AL, FC-SW[21, 22]	N	See[1, 2, 3]
35	xSeries x440	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27, 28]	QLogic QLA2340-E-SP[4, 11, 24, 25]	FC-AL, FC-SW[21, 22]	N	See[1, 2, 3]
36	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[18, 19]	QLogic QLA2340-E-SP[4, 20]	FC-AL, FC-SW[21, 22]	N	See[1, 2, 3]
37	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[31, 32]	QLogic QLA2340-E-SP[4, 11, 30]	FC-AL, FC-SW[21, 22]	N	See[1, 2, 3]
38	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[26, 27, 28]	QLogic QLA2340-E-SP[4, 11, 24, 25]	FC-AL, FC-SW[21, 22]	N	See[1, 2, 3]

1. Optical cables apply to CX600, CX400, FC4500 and FC4700.
2. CLARiiON FC4500 array is also supported for these configurations.
3. Not available for FC5700
4. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
5. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
6. Supported with QLogic driver v6.04.02.
7. Requires v6.2.1 or higher Navisphere host agent/CLI.
8. Requires rev1_sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
9. This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
10. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
11. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
12. (QLA2200) For IBM xSeries and Netfinity servers only.
13. This HBA is equivalent to the qLogic QLA2310.
14. This HBA is equivalent to the qLogic QLA2340.
15. Linux v2.4.x Kernels support a maximum of 128 devices per system.
16. The kernel version listed is included in the corresponding standard distributed release.
17. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
18. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
19. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
20. Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
21. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
22. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
23. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
24. Host must be offline for interfamily Symmetrix microcode upgrade.
25. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
26. Requires QLogic v6.04.02 driver.
27. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
28. Requires QLogic driver v6.04.00 or above.
29. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
30. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
31. Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.
32. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
33. Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
34. Single HBA zoning is required regardless of the switch being utilized.

Sun Solaris

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Sun – Sun Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Ultra Enterprise: 10000[12], 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	SBUS	Sun Solaris: 2.6[18, 19], 7[19, 34], 8[19, 28]	JNI FC64-1063-DG[7, 32, 33, 36]	FC-AL[16]	Y[5, 35]	See[1, 2, 3]
2	Sun Fire: 3800[6, 37], 6800	cPCI	Sun Solaris: 8[19, 28], 9[11]	Emulex LP9002C-E[8]	FC-AL[16] FC-SW[13, 14, 15]	Y[4, 9]	See[1, 2, 3]
3	Sun Fire: 3800[6, 37], 6800	cPCI	Sun Solaris: 8[19, 28], 9[11]	QLogic QCP2202F-E-SP[9]	FC-AL[16] FC-SW[13, 14, 15]	Y[27]	See[1, 2, 3]
4	Sun Fire 4800	cPCI	Sun Solaris: 8[19, 28], 9[11, 19]	Emulex LP9002C-E[8, 9]	FC-AL[16] FC-SW[13, 14, 15]	Y[4]	See[1, 2, 3]

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Sun – Sun Solaris

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
5	**Sun Fire 4800**	cPCI	**Sun Solaris: 8[19, 28], 9[11, 19]**	**QLogic QCP2202F-E-SP[9, 27]**	FC-AL[16] FC-SW[13, 14, 15]	Y	**See[1, 2, 3]**
6	Netra. 1120, 1125, 1400, 1405; Ultra. 220R[29], 250, 30, 420R[29], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris 2.6[18, 19]	Emulex: LP8000-EMC[8, 9, 17] LP9002-E (LP9002L-E)[6, 8, 9, 20] LP9802-E[6, 9, 21]; QLogic: QLA2340-E-SP[22], QLA2342-E-SP[22]	FC-AL[16] FC-SW[13, 14, 15]	N	See[1, 2, 3]
7	Netra T1	PCI	Sun Solaris: 2.6[18, 19], 7[19, 26], 8[19, 28], 9[11]	Emulex: LP9002-E (LP9002L-E)[6, 8, 9, 20], LP9802-E[6, 9, 21]; QLogic: QLA2340-E-SP[22], QLA2342-E-SP[22]	FC-AL[16] FC-SW[13, 14, 15]	N	See[1, 2, 3]
8	Netra T1	PCI	Sun Solaris: 2.6[18, 19], 7[19, 26], 8[19, 28], 9[11, 19]	Emulex LP8000-EMC[8, 9, 17]	FC-AL[16] FC-SW[13, 14, 15]	N	See[1, 2, 3]
9	Netra: 1120, 1125, 1400, 1405; Ultra: 220R[29], 250, 30, 420R[29], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[19, 26], 8[19, 28], 9[11]	Emulex: LP9002-E (LP9002L-E)[6, 8, 9, 20], LP9802-E[6, 9, 21]	FC-AL[16] FC-SW[13, 14, 15]	Y[4, 23, 24, 25]	See[1, 2, 3]
10	Netra: 1120, 1125, 1400, 1405; Ultra: 220R[29], 250, 30, 420R[29], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[19, 26], 8[19, 28], 9[11]	QLogic: QLA2340-E-SP[22], QLA2342-E-SP[22]	FC-AL[16] FC-SW[13, 14, 15]	Y[23, 24, 25, 27]	See[1, 2, 3]
11	Netra: 1120, 1125, 1400, 1405; Ultra: 220R[29], 250, 30, 420R[29], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[19, 26], 8[19, 28], 9[11, 19]	Emulex LP8000-EMC[8, 9, 17]	FC-AL[16] FC-SW[13, 14, 15]	Y[23, 24, 25]	See[1, 2, 3]
12	**Netra: 120, 1280; Sun Blade: 1000, 150, 2000; Sun Fire: V100, V1280, V210, V240**	PCI	**Sun Solaris: 8[19, 28], 9[11]**	**Emulex LP8000-EMC[8, 9, 17]**	FC-AL[16] FC-SW[13, 14, 15]	Y[23, 24, 25]	**See[1, 2, 3]**
13	**Sun Fire 12K**	PCI	**Sun Solaris: 8[19, 28], 9[11]**	**Emulex LP8000-EMC[8, 9, 17]**	FC-AL[16] FC-SW[13, 14, 15]	Y	**See[1, 2, 3]**
14	**Sun Fire 15K**	PCI	**Sun Solaris: 8[19, 28], 9[11]**	**Emulex LP8000-EMC[8, 9, 17]**	FC-AL[16] FC-SW[13, 14, 15]	N	**See[1, 2, 3]**
15	**Sun Fire: 280R, 4800, 4810, 6800, V120, V480, V880**	PCI	**Sun Solaris: 8[19, 28], 9[11]**	**Emulex LP8000-EMC[8, 9, 17]**	FC-AL[16] FC-SW[13, 14, 15]	Y[6, 23, 24, 25]	**See[1, 2, 3]**
16	**Netra 20**	PCI	**Sun Solaris: 8[19, 28], 9[11]**	**Emulex: LP8000-EMC[8, 9, 17] LP9002-E (LP9002L-E)[6, 8, 9] LP9002DC-E[6, 8, 9], LP9802-E[6, 9, 21]; QLogic: QLA2340-E-SP[22], QLA2342-E-SP[22]**	FC-AL[16] FC-SW[13, 14, 15]	N	**See[1, 2, 3]**
17	**Netra: 120, 1280; Sun Blade: 1000, 150, 2000; Sun Fire: 280R, 4800, 4810, 6800, V100, V120, V1280, V210, V240, V480, V880**	PCI	**Sun Solaris: 8[19, 28], 9[11]**	**Emulex: LP9002-E (LP9002L-E)[6, 8, 9], LP9002DC-E[6, 8, 9], LP9802-E[6, 9, 21]**	FC-AL[16] FC-SW[13, 14, 15]	Y[4, 23, 24, 25]	**See[1, 2, 3]**
18	**Netra: 120, 1280; Sun Blade: 1000, 150, 2000; Sun Fire: V100, V1280, V210, V240**	PCI	**Sun Solaris: 8[19, 28], 9[11]**	**QLogic: QLA2340-E-SP[22], QLA2342-E-SP[22]**	FC-AL[16] FC-SW[13, 14, 15]	Y[23, 24, 25, 27]	**See[1, 2, 3]**
19	**Sun Fire: 280R, 4800, 4810, 6800, V120, V480, V880**	PCI	**Sun Solaris: 8[19, 28], 9[11]**	**QLogic: QLA2340-E-SP[22], QLA2342-E-SP[22]**	FC-AL[16] FC-SW[13, 14, 15]	Y[6, 23, 24, 25, 27]	**See[1, 2, 3]**
20	**Ultra Enterprise: 10000[12], 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500**	SBUS	**Sun Solaris 9[11]**	**Emulex LP9002S-E[6, 7, 8, 9]**	FC-AL[16] FC-SW[13, 14, 15]	Y[4, 5]	**See[1, 2, 3, 10]**
21	Ultra Enterprise: 10000[12], 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	SBUS	Sun Solaris: 2.6[18, 19], 7[19, 34], 8[19, 28]	Emulex LP9002S-E[6, 7, 8, 9]	FC-AL[16] FC-SW[13, 14, 15]	Y[4, 5]	See[1, 2, 3]
22	Ultra Enterprise: 10000[12], 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	SBUS	Sun Solaris: 2.6[18, 19], 7[19, 34], 8[19, 28]	JNI FC64-1063-N-DG[7, 32, 33]	FC-AL[16] FC-SW[13, 14, 15]	Y	See[1, 2, 3, 10]
23	Ultra: 60, 80	PCI	Sun Solaris 7[19, 26]	Emulex LP9002DC-E	FC-AL[16] FC-SW[14, 15]	Y[4, 23, 24, 25]	See[1, 2, 3]
24	**Sun Fire 12K**	PCI	**Sun Solaris 8[19, 28]**	**QLogic: QLA2340-E-SP[22, 31], QLA2342-E-SP[22, 31]**	FC-AL[16] FC-SW[14, 15]	Y	**See[1, 2, 3]**
25	**Sun Fire 15K**	PCI	**Sun Solaris 8[19, 28]**	**QLogic: QLA2340-E-SP[22, 31], QLA2342-E-SP[22, 31]**	FC-AL[16] FC-SW[14, 15]	N	**See[1, 2, 3]**
26	**Sun Fire 12K**	PCI	**Sun Solaris 9[11]**	**QLogic: QLA2340-E-SP[22], QLA2342-E-SP[22]**	FC-AL[16] FC-SW[14, 15]	Y	**See[1, 2, 3]**
27	**Sun Fire 15K**	PCI	**Sun Solaris 9[11]**	**QLogic: QLA2340-E-SP[22], QLA2342-E-SP[22]**	FC-AL[16] FC-SW[14, 15]	N	**See[1, 2, 3]**
28	Netra T1	PCI	Sun Solaris: 7[19, 26], 8[19, 28], 9[11]	Emulex LP9002DC-E	FC-AL[16] FC-SW[14, 15]	N	See[1, 2, 3]
29	Netra: 1120, 1125, 1400, 1405; Ultra: 220R[29], 250, 420R[29], 450, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[19, 26], 8[19, 28], 9[11]	Emulex LP9002DC-E	FC-AL[16] FC-SW[14, 15]	Y[4, 23, 24, 25]	See[1, 2, 3]
30	Ultra: 30, Enterprise 10000	PCI	Sun Solaris: 7[19, 26], 8[19, 28], 9[11, 19]	Emulex LP9002DC-E	FC-AL[16] FC-SW[14, 15]	Y[4, 23, 24, 25]	See[1, 2, 3]
31	**Sun Fire 12K**	PCI	**Sun Solaris: 8[19, 28], 9[11]**	**Emulex: LP9002-E (LP9002L-E)[6, 8, 9, 30], LP9802-E[6, 9, 21]**	FC-AL[16] FC-SW[14, 15]	Y	**See[1, 2, 3]**
32	**Sun Fire 15K**	PCI	**Sun Solaris: 8[19, 28], 9[11]**	**Emulex: LP9002-E (LP9002L-E)[6, 8, 9, 30], LP9802-E[6, 9, 21]**	FC-AL[16] FC-SW[14, 15]	N	**See[1, 2, 3]**

Sun – Sun Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
33	**Ultra: 60, 80**	PCI	**Sun Solaris: 8[19, 28], 9[11, 19]**	**Emulex LP9002DC-E[6, 8, 9]**	FC-AL[16] FC-SW[14, 15]	Y[4, 23, 24, 25]	**See[1, 2, 3]**

1. Optical cables apply to CX600, CX400, FC4500 and FC4700.
2. Sun "clone" hosts are not supported
3. Veritas DMP coexistence with EMC CLARiiON failover packages:
   VERITAS DMP can be enabled and coexist on the same host with ATF or PowerPath. VERITAS Volume Manager 3.5 is the curently recommended version.
   VERITAS DMP, as part of Volume Manager 3.2, can be used to manage CLARiiON arrays without ATF or PowerPath by using CLR-ASL.
4. Emulex LP8000-EMC/LP9002-E/LP9002L-E/LP9002DC-E/LP9802-E requires fcode 1.33a1. Emulex LP9002S-E requires fcode 2.33a0.
5. Support for FC-AL or FC-SW.
6. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
7. Mixing JNI and Emulex SBUS HBAs on the same host connected to the same storage system is not supported. If there is a business reason to do so, submit an RPQ.
8. Requires driver lpfc-SPARC V5.01e. Emulex LP8000-EMC/LP9002-E/LP9002L-E/LP9002C-E/LP9002DC-E/LP9002S-E requires firm-ware 3.90A7, LP9802-E requires firmware 1.00A4, all available at http://www.emulex.com. Supports SNIA HBA API.
9. See the EMC price book for HBA vendor ordering information. This HBA is not sold by EMC.
10. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
11. **EMC required Sun patches for Solaris 9:**
    112233-06 Sun OS 5.9: kernel patch
    112834-02 Sun OS 5.9: patch SCSI
    113277-11 Sun OS 5.9: sd and ssd patch
12. Dynamic Reconfiguration is supported (Enterprise 10000 SBus only); requires ATF v3.1.2 or higher
13. FC-AL and FC-SW topologies can co-exist on the same server but not on the same HBA, provided that the different topologies are attached to different HBAs
14. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.
15. FC-SW applies only to CX600, CX400, FC4500 and FC4700
16. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
17. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
18. EMC required Sun patches for Solaris 2.6:
    105181-34 SunOS 5.6: kernel update patch
    105356-21 SunOS 5.6: /kernel/drv/ssd and /kernel/drv/sd patch.
    105580-19 SunOS 5.6: /kernel/drv/glm patch (for X6541 HBA only).
19. For new installations, core software minimum requirement with
    CX600
    Array software – Access Logix 02.02.1.60.5.005
    Array software – Non-Access Logix 02.02.0.60.5.005
    CX400
    Array software – Access Logix 02.02.1.40.5.006
    Array software Non-Access Logix 02.02.0.40.5.006
20. The Emulex LP9002L-F2 HBA requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can be either 3.3 VDC or 5.0 VDC signaling interface.
21. Requires driver rev lpfc-SPARC v5.01e and firmware V1.00a4.
22. Requires Qlogic GUI 1.26 and driver 4.09.
23. Requires at least Rev 03 of LP8000-N1 HBA (part # 118031355-03)
24. PCI Boot support is from 1 or 2 servers for FC-AL and from 1 to 4 servers for FC-SW.
25. Note: Boot with DS-8B/DS-16B switches using 2.2.1a or 2.3 switch firmware requires HBA fcode v1.12a1 or higher.
26. EMC required Sun patches for PCI at Solaris 7: 106541-24 SunOS 5.7: kernel update patch
27. QCP2202F-E-SP/QLA234x-E-SP requires fcode v2.00.06. Fcode should be loaded on all HBA's at the time of installation.
28. **EMC required Sun patches for Solaris 8:**
    108528-21 SunOS 5.8: kernel update patch.
    108974-30 SunOS 5.8: data, uata, dad, sd, and scsi patch.
    109657-09 SunOS 5.8: isp driver patch (for X1062A and X1065A HBAs only).
    109885-12 SunOS 5.8: glm driver patch (for X6541A HBA only).
29. 64-bit HBAs will not fit into the 32-bit slot due to a physical obstruction.
30. **The LP9002-E now ships with LP9002L-E low profile adapter. The older full form factor LP9002-E will not fit into the Sun Fire 12K or 15K.**
31. **Supports DR on Sun 12K and 15K.**
32. Support for FC4500, FC4700, and FC5300.
33. Requires driver rev 2.07.17 or higher and fcode 13.3.8.02C
34. EMC required Sun patches for SBUS at Solaris 7: 106541-24 SunOS 5.7: kernel update patch
35. Requires at least HBA firmware 13.3.8C.
    Boot through DS-08B or DS-16B switch requires minimum HBA firmware 13.3.8.01C.
    Boot through DS-16M, DS-32M, ED-64M, ED-140M or ED-1032 switches requires switch firmware v1.2.0 or higher
36. No longer available
37. **If ATF is used, requires at least v3.3.0 ATF.**

Clustered Host

DG DG/UX

DG

DG – DG DG/UX						
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	AViiON: AV25000[2], AV3750	DG DG/UX R4.20MU07	DG R1.27 gold 10.3ix86		Emulex LP8000-EMC[1, 2]	FC-AL, FC-SW[3, 4, 5]
2	AViiON AV35000[2]	DG DG/UX R4.20MU07	DG R1.27 gold 10.3ix86	HA: 2	Emulex LP8000-EMC[1, 2]	FC-AL, FC-SW[3, 4, 5]
3	AViiON: AV25000[2, 9], AV3750[9]	DG DG/UX R4.20MU07[6]	DG R1.27 gold 10.3ix86		Emulex LP8000-F1[2, 7, 8]	FC-AL, FC-SW[3, 4, 5]
4	AViiON AV35000[2, 3, 4, 5, 9]	DG DG/UX R4.20MU07[6]	DG R1.27 gold 10 3ix86	HA: 2	Emulex LP8000-F1[2, 7, 8]	FC-AL, FC-SW[3, 4, 5]

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. Maximum of 2 HBAs per NUMA block (1 per fabric) in clustered environments.
3. DS-8B or DS-16B switches only; qualified with firmware v2.1.4a, v2.2, and v2.3
4. FC4700 clusters must use FC-SW mode and switches.
5. Support for FC4500, FC4700, and FC5300.
6. FC4700 is only supported on DG/UX 4.20 MU07. Maximum of 2 fabrics, each with a maximum of 4 switches. Maximum of 4 FC4700s per fabric. Maximum of 16 HBAs per fabric. Maximum of 32 HBAs per FC4700 SP. Maximum of 6 DG/UX servers per FC4700. Maximum of 4 HBAs per AV3750 server (2 per fabric). Maximum of 4 HBAs per NUMA block (2 per fabric in non-clustered environments). 2. FA4500 may be mixed within the same fabric with FC4700 running Access Logix, but must be separately zoned.
   3. The release notice for DG/UX (included with the software release at path: "/usr/release/dgux".rn) lists supported platforms.
7. FC-AL support requires LP8000 BIOS version DB1.60A7 and firmware version DS3.20x4.
8. DG/UX automatically loads the firmware and BIOS onto the Emulex HBA during boot-up as needed. Current DG/UX R4.20MU06 OS supported firmware is V3.20x1 and BIOS
9. For more information see http://athena.europe.dg.com

HPQ HP-UX
HPQ

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	HP 9000 K-Class[16]	HPQ HP-UX 11.0[5, 6]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.12[1, 2]	HA: 8	HPQ A3404A[15]	FC-AL
2	HP 9000 rp2450: (A500/440MHz), (A500/550MHz); HP 9000 rp5470 (L3000)[8, 17]	HPQ HP-UX 11.0[5, 6]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.12[1, 2], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]; Legato Automated Availability Manager (LAAM) 5.0 (Base)[1]	HA: 8	HPQ A3740A[15]	FC-AL
3	HP 9000: R380, R390	HPQ HP-UX 11.0[5, 6]	HPQ MC/Service Guard: 11.09[2, 3], 11.12[2]	HA: 8 [1]	HPQ A3591B	FC-AL
4	HP 9000: D270, D280, D290, D370, D380, D390	HPQ HP-UX 11.0[5, 6]	HPQ MC/Service Guard: 11.09[2, 3], 11.12[2], 11.13[2, 3, 7], 11.14[2, 3, 7]	HA: 8 [1]	HPQ A3591B[15]	FC-AL
5	HP 9000: R380, R390	HPQ HP-UX 11.0[5, 6]	HPQ MC/Service Guard: 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]	HA: 8	HPQ A3591B	FC-AL
6	HP 9000: V2200, V2250, V2500, V2600, rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.12[1, 2], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]; Legato Automated Availability Manager (LAAM) 5.0 (Base)[1]	HA: 8	HPQ A3740A[15]	FC-AL
	HP 9000 N-Class (N4000)[8]	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5, 11]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.12[1, 2, 7], 11.13[1, 2, 3, 7]	HA: 8	HPQ A3740A	FC-AL
8	HP 9000: R380, R390	HPQ HP-UX 11.0[5, 6]	HPQ MC/Service Guard: 11.09[2, 3], 11.12[2]	HA: 8 [1]	HPQ A6684A	FC-AL, FC-SW
9	HP 9000: R380, R390	HPQ HP-UX 11.0[5, 6]	HPQ MC/Service Guard: 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]	HA: 8	HPQ A6684A	FC-AL, FC-SW
10	HP 9000 SUPERDOME	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[5, 11]	HPQ MC/Service Guard: 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]; Legato Automated Availability Manager (LAAM) 5.0 (Base)[1]	HA: 8	HPQ: A5158A[4, 9], A6795A[10]	FC-AL, FC-SW
11	HP 9000: rp7405[18], rp7410[19]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[5]	HPQ MC/Service Guard: 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]	HA: 8	HPQ: A5158A[4, 9], A6795A[10]	FC-AL, FC-SW
12	HP 9000 rp5430	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.12[1, 2], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]; Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A5158A[4, 9]	FC-AL, FC-SW
13	HP 9000: R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5]	HPQ MC/Service Guard: 11.09[2, 3], 11.12[2], 11.13[2, 3, 7], 11.14[2, 3, 7]	HA: 8 [1]	HPQ A6684A[20]	FC-AL, FC-SW
14	HP 9000: rp7405[18], rp7410[19]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5]	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ: A5158A, A6795A	FC-AL, FC-SW
15	HP 9000: K220, K250, K420, K450	HPQ HP-UX: 11.0 June 2001[5], 11i v1.0 (HP-UX 11.11) June 2001[5]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.12[1, 2], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]	HA: 8	HPQ A6685A[4]	FC-AL, FC-SW
16	HP 9000 rp2405[14]	HPQ HP-UX: 11.0 March 2002[5, 6], 11i v1.0 (HP-UX 11.11) March 2002[5]	HPQ MC/Service Guard: 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]; Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A6795A[10]	FC-AL, FC-SW
17	HP 9000 rp2470	HPQ HP-UX: 11.0 March 2002[5, 6], 11i v1.0 (HP-UX 11.11) March 2002[5]	HPQ MC/Service Guard: 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]; Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ: A5158A[4, 9], A6795A[10]	FC-AL, FC-SW
18	HP 9000 N-Class (N4000)	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	HPQ MC/Service Guard 11.14[1, 2, 3, 7]; Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ: A5158A[4, 9], A6795A[10]	FC-AL, FC-SW
19	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.12[1, 2], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]	HA: 8	HPQ A5158A[4, 9, 15]	FC-AL, FC-SW
20	HP 9000: D270, D280, D370, D380, D390	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.12[1, 2], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]	HA: 8	HPQ A6684A[4]	FC-AL, FC-SW
21	HP 9000 rp5430	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.12[1, 2], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]	HA: 8	HPQ A6795A[10]	FC-AL, FC-SW
22	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.12[1, 2], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]	HA: 8	HPQ: A5158A[4, 9, 15], A6795A[10]	FC-AL, FC-SW
23	HP 9000: K260, K360, K370, K380, K460, K570, K580	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.13[1, 2, 3], 11.14[1, 2, 3]	HA: 8	HPQ A6685A[4]	FC-AL, FC-SW
24	HP 9000 rp2450: (A500/440MHz), (A500/550MHz); HP 9000 rp5430	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A6795A[10]	FC-AL, FC-SW
25	HP 9000: V2200, V2250, V2500, V2600, rp2450 (A500/440MHz), rp2450 (A500/550MHz)	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[1]	HA: 8	HPQ A5158A[4, 9, 15]	FC-AL, FC-SW
26	HP 9000 N-Class (N4000)[8]	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5, 11]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.12[1, 2, 7], 11.13[1, 2, 3, 7]	HA: 8	HPQ: A5158A[4, 9], A6795A[10]	FC-AL, FC-SW
27	HP 9000 rp5430	HPQ HP-UX 11.0[5, 6]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.12[1, 2], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]; Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A5158A[4, 9]	FC-AL, FC-SW[13]

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
28	HP 9000 rp8400[12]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[5, 8]	HPQ MC/Service Guard: 11.09[1, 2, 3], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]; Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ: A5158A[4, 9], A6795A[10]	FC-AL, FC-SW[13]
29	HP 9000 rp5470 (L3000)[8, 17]	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	HPQ MC/Service Guard: 11.09[1, 2, 3] 11.12[1, 2], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]	HA: 8	HPQ A5158A[4, 9, 15]	FC-AL, FC-SW[13]
30	HP 9000 rp5470 (L3000)[17]	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	HPQ MC/Service Guard: 11.09[1, 2, 3] 11.12[1, 2], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]	HA: 8	HPQ A6795A[10]	FC-AL, FC-SW[13]
31	HP 9000: rp5400 (L1000), rp5405, rp5450 (L2000)	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	HPQ MC/Service Guard: 11.09[1, 2, 3] 11.12[1, 2], 11.13[1, 2, 3, 7], 11.14[1, 2, 3, 7]	HA: 8	HPQ: A5158A[4, 9, 15], A6795A[10]	FC-AL, FC-SW[13]
32	HP 9000: rp5400 (L1000), rp5405, rp5450 (L2000), rp5470 (L3000)[17]	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A6795A[10]	FC-AL, FC-SW[13]
33	HP 9000: rp5400 (L1000), rp5405, rp5450 (L2000), rp5470 (L3000)[8, 17]	HPQ HP-UX: 11.0[5, 6], 11i v1.0 (HP-UX 11.11)[5]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[1]	HA: 8	HPQ A5158A[4, 9, 15]	FC-AL, FC-SW[13]

1. 2-node clusters require special configurations. See Support Note S010106A on Customer Service web site.
2. Refer to MC/Service Guard Release Notes at www.docs.hp.com for patch requirements.
3. Can mix HP-UX 11.00 and HP-UX 11i in same cluster, all nodes must be MC/SG 11.09, 11.13 or later.
4. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
5. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
6. See Technical Bulletin T010820 for supported patch levels.
7. HP-UX 11.0: MC/SG 11.13 and 11.14 LVM only.
   HP-UX 11i: MC/SG 11.13 and 11.14 can be used with LVM, VxVM 3.1 and VxVM 3.2. No DMP node failover supported at this time.
8. rp5470, rp7400: (PA-8700 processors) : Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001 .
9. HP A5158A is enabled in March 2000 HWCR Bundle XSWHWR1100.48. Additional patches may be required for support.
10. Supported with CX600, CX400, FC4500 and FC4700.
11. Patch PHSS_21996 or patches replaced or superseded by are required with HP-UX 11i.
12. Virtual Partitions (VPAR) is supported on the rp8400 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.
13. Switched fabric (FC-SW) first supported on FC4500, requires Core Software 6.32.05 or higher, Navisphere Agent 4.3 or higher, and Access Logix enabled (data access control enabled).
14. Supported in 2-CPU systems only (2-way).
15. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
16. K2xx, K3xx, K4xx,K5xx
17. PA-8700 processors: Initial support with HP-UX 11.0 Sept 2001, HP-UX 11i Sept 2001.
18. Virtual Partitions (VPAR) is supported on the rp7405 server with 4.x and 5.x Symmetrix models. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.
19. **Virtual Partitions (VPAR) is supported on the rp7405/7410 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.**
20. Supported with cx600, cx400,fc4500, fc4700

HPQ Tru64 UNIX

HPQ

HPQ – HPQ Tru64 UNIX						
No.	Host System	Operating System	Cluster Software	Host Bus Adapter	Adapter Type	Comments
1	AlphaServer: 1200[12], 4000[12], 4100[12], 8200[12], 8400[12], DS10, DS10L, DS20, DS20E, ES40, GS140[12], GS60[12]	HPQ Tru64 UNIX V5.0A	HPQ TruCluster V5.0A	HPQ: KGPSA-BC (380574-001)[9, 10], KGPSA-CA (168794-B21)[2, 4]	FC-SW	See[1, 5]
2	AlphaServer: DS10, DS10L, DS20, DS20E, ES40	HPQ Tru64 UNIX V5.1	HPQ TruCluster V5.1	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-BC (380574-001)[9], KGPSA-CA (168794-B21)[2], KGPSA-DA (261329-B21)[2, 4]	FC-SW	See[1, 5]
3	AlphaServer: GS160, GS320, GS80	HPQ Tru64 UNIX V5.1	HPQ TruCluster V5.1	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-CA (168794-B21)[2], KGPSA-DA (261329-B21)[2, 4]	FC-SW	See[1, 5]
4	AlphaServer: 1200[12], 4000[12], 4100[12], 8200[12], 8400[12], GS140[12], GS60[12]	HPQ Tru64 UNIX V5.1	HPQ TruCluster V5.1	HPQ: KGPSA-BC (380574-001)[9, 10], KGPSA-CA (168794-B21)[2, 4]	FC-SW	See[1, 5]
5	AlphaServer DS20L	HPQ Tru64 UNIX V5.1A	HPQ TruCluster V5.1A	HPQ KGPSA-CA (168794-B21)[2]	FC-SW	See[1, 5]
6	AlphaServer: DS10, DS10L, DS20, DS20E, ES40	HPQ Tru64 UNIX V5.1A	HPQ TruCluster V5.1A	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-BC (380574-001)[9], KGPSA-CA (168794-B21)[2], KGPSA-DA (261329-B21)[2, 4]	FC-SW	See[1, 5]
7	AlphaServer: DS25[7, 11], ES45[7, 8], GS160, GS320, GS80	HPQ Tru64 UNIX V5.1A	HPQ TruCluster V5.1A	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-CA (168794-B21)[2], KGPSA-DA (261329-B21)[2, 4]	FC-SW	See[1, 5]
8	AlphaServer: 1200[12], 4000[12], 4100[12], 8200[12], 8400[12], GS140[12], GS60[12]	HPQ Tru64 UNIX V5.1A	HPQ TruCluster V5.1A	HPQ: KGPSA-BC (380574-001)[9, 10], KGPSA-CA (168794-B21)[2, 4]	FC-SW	See[1, 5]
9	**AlphaServer DS20L**	**HPQ Tru64 UNIX V5.1B[6]**	**HPQ TruCluster V5.1B**	**HPQ KGPSA-CA (168794-B21)[2]**	FC-SW	**See[1, 5]**
10	**AlphaServer: DS10, DS10L, DS20, DS20E, ES40**	**HPQ Tru64 UNIX V5.1B[6]**	**HPQ TruCluster V5.1B**	**HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-BC (380574-001)[9], KGPSA-CA (168794-B21)[2], KGPSA-DA (261329-B21)[2, 4]**	FC-SW	**See[1, 5]**
11	**AlphaServer: DS25[7, 11], ES45[7, 8], GS160, GS320, GS80**	**HPQ Tru64 UNIX V5.1B[6]**	**HPQ TruCluster V5.1B**	**HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-CA (168794-B21)[2], KGPSA-DA (261329-B21)[2, 4]**	FC-SW	**See[1, 5]**
12	**AlphaServer: ES47[13], ES80, GS1280[13]**	**HPQ Tru64 UNIX V5.1B[6]**	**HPQ TruCluster V5.1B**	**HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-DA (261329-B21)[2, 4]**	FC-SW	**See[1, 5]**
13	**AlphaServer: 1200[12], 4000[12], 4100[12], 8200[12], 8400[12], GS140[12], GS60[12]**	**HPQ Tru64 UNIX V5.1B[6]**	**HPQ TruCluster V5.1B**	**HPQ: KGPSA-BC (380574-001)[9, 10], KGPSA-CA (168794-B21)[2, 4]**	FC-SW	**See[1, 5]**

1. Supported on CX600, CX400 and FC4700-2 only
2. KGPSA-CA/KGPSA-DA(FCA2354). Minimum firmware revision 3.81A4.
3. Identical to KGPSA-DA.

4. KGPSA-CA/KGPSA-DA(FCA2354): Latest firmware revision 3.82A1.
5. FC4700: Minimum AccessLogix 8.45.5x and Navisphere Manager 6.0.5.4.x.
6. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
7. KGPSA-CA and KGPSA-DA(FCA2354) only supported on this server
8. Tru64 UNIX V5.1A minimum requirement for ES45.
9. KGPSA-BC: Minimum firmware revision 3.03A1.
10. KGPSA-BC. Latest firmware revision 3.20X7
11. Tru64 UNIX V5.1A minimum requirement for DS25
12. KGPSA-BC/KGPSA-CA supported ONLY
13. **AlphaServer GS1280,ES80,ES47: Minimum Tru64 V5.1B with Patch Kit 1 (T64V51BB1AS0001-20021229)**

IBM AIX
IBM

IBM - IBM AIX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	7013-S7A	IBM AIX 4.3.3[1, 5, 6]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM 6227	FC-AL
2	SP2 9076 +: 06 50X[11, 19], 07 55X[11, 19], 08 T70[11, 19]	IBM AIX 4.3.3[9]	IBM HACMP/ES: 4.3, 4.3.1, 4.4.0, 4.4.1; IBM PSSP: 3.2 RVSD 3.2 and GPFS 1.3[17, 20], 3.4 RVSD 3.4 and GPFS 1.5[14, 15, 16]	HA: 32, OPS: 8	Emulex: LP9002-E LP9002L-E, LP9002L-F2	FC-AL, FC-SW
3	p650 7038-6M2; p655 7039-651	IBM AIX 5.1[1, 6, 28]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8[11]	IBM 6239	FC-AL, FC-SW
4	p640 7026-B80	IBM AIX 5.1[2, 7, 10]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8	IBM 6239	FC-AL, FC-SW
5	p610 7028-6C1; p630: 7028-6C4, 7028-6E4	IBM AIX 5.1[6, 7, 10]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8	IBM 6239	FC-AL, FC-SW
	7044-170; 7044-270; p610 7028-6E1; p620: 7025-6F0, 7025-6F1; p660: 7026-6H0, 7026-6H1, 7026-6M1	IBM AIX 5.1[6, 7, 10]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8[11]	IBM 6239	FC-AL, FC-SW
7	p670 7040-671[25]; p690: 7040-61D[25], 7040-61R[25], 7040-681[25]	IBM AIX 5.1[6, 10]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8[11]	IBM 6239	FC-AL, FC-SW
8	7013-S7A as SP2 node, 7015-S7A as SP2 node, 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[19], 07 55X[19], 08 T70[19]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[1, 31, 32, 33]	IBM PSSP 3.5 RVSD 3.5 and GPFS 2.1[16, 34, 35, 36, 37]		IBM 6228[4, 30]	FC-AL[24] FC-SW
9	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[6, 7, 23]	IBM HACMP/ES: 4.4.1, 4.5; IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[14, 16, 21]	HA: 32, OPS: 8, RAC: 8[11]	IBM 6228	FC-AL[24] FC-SW
10	SP2 9076 +: 06 50X[11, 19], 07 55X[11, 19], 08 T70[11, 19]	IBM AIX 5.1[7, 8, 23]	IBM HACMP/ES: 4.4.1, 4.5; IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[14, 16, 21]	HA: 32, OPS: 8, RAC: 8[11]	IBM 6228	FC-AL[24] FC-SW
11	7025-F50	IBM AIX 4.3.3[1, 2, 3]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
12	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node, 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node, p680 7017-S85 as SP2 node	IBM AIX 4.3.3[1, 3, 8]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
13	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7026-H80 as SP2 node, 7026-M80 as SP2 node, p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 4.3.3[1, 3, 8]	IBM PSSP: 3.2 RVSD 3.2 and GPFS 1.3[17], 3.4 RVSD 3.4 and GPFS 1.5[14, 16, 21]	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
14	7013-S70 as SP2 node; 7017-S70 as SP2 node	IBM AIX 4.3.3[1, 3, 8]	IBM: HACMP/ES 4.4.1, PSSP 3.2 RVSD 3.2 and GPFS 1.3[17], PSSP 3.4 RVSD 3.4 and GPFS 1.5[14, 16, 21]	HA: 8, OPS: 8, RAC: 8[11]	IBM 6227	FC-AL[4] FC-SW[4]
15	7015-S70 as SP2 node	IBM AIX 4.3.3[1, 3, 8]	IBM: HACMP/ES 4.4.1, PSSP 3.2 RVSD 3.2 and GPFS 1.3[22], PSSP 3.4 RVSD 3.4 and GPFS 1.5[14, 16, 21]	HA: 8, OPS: 8	IBM 6227	FC-AL[4] FC-SW[4]
16	7013-S7A	IBM AIX 4.3.3[1, 5, 6]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM 6228	FC-AL[4] FC-SW[4]
17	7015-S7A, 7017-S7A, 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; p660: 7026-6H0, 7026-6M1	IBM AIX 4.3.3[1, 5, 6]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]

IBM – IBM AIX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
18	7017-S70	IBM AIX 4.3.3[2, 5, 7]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM 6227	FC-AL[4], FC-SW[4]
19	7017-S80, 7044-170, 7044-270, p620: 7025-6F0, 7025-6F1, p660 7026-6H1, p680 7017-S85	IBM AIX 4.3.3[5, 6, 7]	IBM HACMP 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4], FC-SW[4]
20	7017-S80, 7044-170, 7044-270, SP2 9076 +: 06 50X[11, 19], 07 55X[11, 19], 08 T70[11, 19], p620: 7025-6F0, 7025-6F1, p660 7026-6H1, p680 7017-S85	IBM AIX 4.3.3[5, 6, 7]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4], FC-SW[4]
21	SP2 9076 +: 06 50X[11, 19], 07 55X[11, 19], 08 T70[11, 19]	IBM AIX 4.3.3[5, 6, 7]	IBM PSSP: 3.2 RVSD 3.2 and GPFS 1.3[22], 3.4 RVSD 3.4 and GPFS 1.5[14, 16, 21]	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4], FC-SW[4]
22	p610 7028-6E1	IBM AIX 4.3.3[5, 6, 7]	IBM: HACMP 4.5, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM 6228	FC-AL[4], FC-SW[4]
23	7025-F80	IBM AIX 4.3.3[5, 7, 8]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4], FC-SW[4]
24	7013-S70	IBM AIX 4.3.3[9]	IBM HACMP 4.3	HA: 8, OPS: 8	Emulex: LP8000-EMC[12], LP9002-E, LP9002L-E, LP9002L-F2	FC-AL[4], FC-SW[4]
25	p610: 7028-6C1, 7028-6E1; p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H1, 7026-6M1	IBM AIX 4.3.3[9]	IBM HACMP 4.4.0	HA: 8, OPS: 8	Emulex: LP9002-E, LP9002L-E, LP9002L-F2	FC-AL[4], FC-SW[4]
26	p610: 7028-6C1, 7028-6E1; p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1	IBM AIX 4.3.3[9]	IBM HACMP 4.4.1	HA: 8, OPS: 8	Emulex: LP9002-E, LP9002L-E, LP9002L-F2	FC-AL[4], FC-SW[4]
27	7013-S7A as SP2 node; 7015-S70 as SP2 node, 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-M80 as SP2 node	IBM AIX 4.3.3[9]	IBM HACMP/ES 4.3.1	HA: 32, OPS: 8	Emulex: LP8000-EMC[12], LP9002-E, LP9002L-E[29], LP9002L-F2	FC-AL[4], FC-SW[4]
28	7013-S70 as SP2 node	IBM AIX 4.3.3[9]	IBM HACMP/ES 4.3.1	HA: 32, OPS: 8	Emulex: LP9002-E, LP9002L-E[29]	FC-AL[4], FC-SW[4]
29	7026-H80 as SP2 node	IBM AIX 4.3.3[9]	IBM HACMP/ES: 4.3.1, 4.4.0	HA: 32, OPS: 8, RAC: 8	Emulex: LP8000-EMC[12], LP9002-E, LP9002L-E, LP9002L-F2	FC-AL[4], FC-SW[4]
30	7013-S7A	IBM AIX 4.3.3[9]	IBM HACMP/ES: 4.3.1, 4.4.0, 4.4.1	HA: 8, OPS: 8	Emulex: LP8000-EMC[12], LP9002-E, LP9002L-E, LP9002L-F2	FC-AL[4], FC-SW[4]
31	p680 7017-S85	IBM AIX 4.3.3[9]	IBM HACMP/ES: 4.3.1, 4.4.0, 4.4.1	HA: 8, OPS: 8, RAC: 8[11]	Emulex: LP9002-E, LP9002L-E, LP9002L-F2	FC-AL[4], FC-SW[4]
32	SP2 9076 +: 06 50X[11, 19], 07 55X[11, 19], 08 T70[11, 19]	IBM AIX 4.3.3[9]	IBM HACMP/ES: 4.3, 4.3.1, 4.4.0, 4.4.1; IBM PSSP: 3.2 RVSD 3.2 and GPFS 1.3[17, 20], 3.4 RVSD 3.4 and GPFS 1.5[14, 15, 16]	HA: 32, OPS: 8	Emulex LP7000E-N1	FC-AL[4], FC-SW[4]
33	7013-S70 as SP2 node; 7013-S7A as SP2 node, 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node, 7017-S80 as SP2 node; 7026-M80 as SP2 node	IBM AIX 4.3.3[9]	IBM HACMP/ES: 4.4.0, 4.4.1; IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[14, 15, 16, 18]	HA: 32, OPS: 8	Emulex: LP8000-EMC[12], LP9002-E, LP9002L-E[29], LP9002L-F2	FC-AL[4], FC-SW[4]
34	p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 4.3.3[9]	IBM HACMP/ES: 4.4.0, 4.4.1; IBM PSSP: 3.2 RVSD 3.2 and GPFS 1.3[17, 20], 3.4 RVSD 3.4 and GPFS 1.5[14, 15, 16, 20]	HA: 32, OPS: 8	Emulex: LP9002-E, LP9002L-E, LP9002L-F2	FC-AL[4], FC-SW[4]
35	7013-S70; 7015-S70; 7015-S7A, 7017-S70; 7017-S7A; 7017-S80; 7025-F50; 7025-F80; 7025-H70, 7026-H50, 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270	IBM AIX 4.3.3[9]	IBM HACMP: 4.3.1, 4.4.0, 4.4.1	HA: 8, OPS: 8	Emulex: LP8000-EMC[12], LP9002-E, LP9002L-E, LP9002L-F2	FC-AL[4], FC-SW[4]
36	7013-S70 as SP2 node; 7013-S7A as SP2 node, 7015-S70 as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node, 7026-M80 as SP2 node	IBM AIX 4.3.3[9]	IBM PSSP 3.2 RVSD 3.2 and GPFS 1.3[17, 18]	HA: 32, OPS: 8	Emulex: LP8000-EMC[12], LP9002-E, LP9002L-E[29], LP9002L-F2	FC-AL[4], FC-SW[4]
37	7015-S7A as SP2 node; 7017-S80 as SP2 node	IBM AIX 4.3.3[9]	IBM PSSP 3.2 RVSD 3.2 and GPFS 1.3[17, 18]	HA: 32, OPS: 8	Emulex: LP8000-EMC[12], LP9002-E, LP9002L-F2	FC-AL[4], FC-SW[4]
38	7026-H80 as SP2 node	IBM AIX 4.3.3[9]	IBM: HACMP/ES 4.4.1, PSSP 3.2 RVSD 3.2 and GPFS 1.3[17, 18], PSSP 3.4 RVSD 3.4 and GPFS 1.5[13, 14, 15, 16]	HA: 32, OPS: 8, RAC: 8[11]	Emulex: LP8000-EMC[12], LP9002-E, LP9002L-E, LP9002L-F2	FC-AL[4], FC-SW[4]
39	p660 7026-6M1 as SP2 node	IBM AIX 4.3.3[9, 17]	IBM HACMP/ES: 4.4.0, 4.4.1; IBM PSSP: 3.2 RVSD 3.2 and GPFS 1.3[17, 20], 3.4 RVSD 3.4 and GPFS 1.5[14, 15, 16, 20]	HA: 32, OPS: 8	Emulex: LP9002-E, LP9002L-E, LP9002L-F2	FC-AL[4], FC-SW[4]
40	7013-S70	IBM AIX 5.1	Legato Automated Availability Manager (LAAM) 5.0 (Base)[26]	HA: 8	IBM 6227	FC-AL[4], FC-SW[4]

IBM – IBM AIX

No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
41	p650 7038-6M2; p655 7039-651	IBM AIX 5.1	Legato Automated Availability Manager (LAAM) 5.0 (Base)[26]; Veritas Cluster Server (VCS) 2.0[26, 27]	HA: 8	IBM 6228	FC-AL[4] FC-SW[4]
42	p650 7038-6M2; p655 7039-651	IBM AIX 5.1[1, 6, 28]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8[11]	IBM 6228	FC-AL[4] FC-SW[4]
43	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node, 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[19], 07 55X[19], 08 T70[19]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[1, 10, 38, 39]	IBM PSSP 3.5 RVSD 3.5 and GPFS 2.1[16, 34, 35, 36, 37]		IBM 6227[4, 30]	FC-AL[4] FC-SW[4]
44	p640 7026-B80	IBM AIX 5.1[2, 7, 10]	IBM HACMP: 4.4.1, 4.5 IBM HACMP/ES 4.5	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
45	7013-S70; 7015-S70; 7017-S70	IBM AIX 5.1[2, 7, 10]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8[11]	IBM 6227	FC-AL[4] FC-SW[4]
46	7025-F50, 7025-F80, 7025-H70; 7026-H50, 7026-H70, 7026-H80; 7026-M80	IBM AIX 5.1[2, 7, 10]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8[11]	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
47	7015-S70, 7017-S70	IBM AIX 5.1[2, 7, 10]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[26]	HA: 8	IBM 6227	FC-AL[4] FC-SW[4]
48	7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; p640 7026-B80	IBM AIX 5.1[2, 7, 10]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[26]; Veritas Cluster Server (VCS) 2.0[26, 27]	HA: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
49	7013-S70; 7015-S70; 7017-S70	IBM AIX 5.1[2, 7, 10]	Veritas Cluster Server (VCS) 2.0[26, 27]	HA: 8	IBM 6227	FC-AL[4] FC-SW[4]
50	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[6, 7, 23]	IBM HACMP/ES: 4.4.1, 4.5; IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[14, 16, 21]	HA: 32, OPS: 8, RAC: 8[11]	IBM 6227	FC-AL[4] FC-SW[4]
51	p610 7028-6E1	IBM AIX 5.1[6, 7, 10]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8[11]	IBM 6228	FC-AL[4] FC-SW[4]
52	7013-S7A, 7015-S7A, 7017-S7A, 7017-S80; 7044-170; 7044-270; p620: 7025-6F0, 7025-6F1; p660: 7026-6H0, 7026-6H1, 7026-6M1, p680 7017-S85	IBM AIX 5.1[6, 7, 10]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8[11]	IBM, 6227, 6228	FC-AL[4] FC-SW[4]
53	p610 7028-6C1; p630: 7028-6C4, 7028-6E4	IBM AIX 5.1[6, 7, 10]	IBM: HACMP 4.4.1, HACMP/ES 4.5	HA: 8, OPS: 8	IBM 6228	FC-AL[4] FC-SW[4]
54	p630: 7028-6C4, 7028-6E4	IBM AIX 5.1[6, 7, 10]	IBM: HACMP 4.5, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM 6228	FC-AL[4] FC-SW[4]
55	p610: 7028-6C1, 7028-6E1; p630: 7028-6C4, 7028-6E4	IBM AIX 5.1[6, 7, 10]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[26]; Veritas Cluster Server (VCS) 2.0[26, 27]	HA: 8	IBM 6228	FC-AL[4] FC-SW[4]
56	7013-S7A; 7015-S7A, 7017-S80; 7044-170; 7044-270, p620: 7025-6F0, 7025-6F1; p660: 7026-6H0, 7026-6H1, 7026-6M1; p680 7017-S85	IBM AIX 5.1[6, 7, 10]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[26]; Veritas Cluster Server (VCS) 2.0[26, 27]	HA: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
57	p670 7040-671[25], p690: 7040-61D[25], 7040-61R[25], 7040-681[25]	IBM AIX 5.1[6, 10]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8[11]	IBM 6228	FC-AL[4] FC-SW[4]
58	p670 7040-671[25], p690: 7040-61D[25], 7040-61R[25], 7040-681[25]	IBM AIX 5.1[6, 10]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[26]; Veritas Cluster Server (VCS) 2.0[26, 27]	HA: 8	IBM 6228	FC-AL[4] FC-SW[4]
59	7013-S70 as SP2 node; 7015-S70 as SP2 node; 7017-S70 as SP2 node; SP2 9076 +: 06 50X[11, 19], 07 55X[11, 19], 08 T70[11, 19]	IBM AIX 5.1[7, 8, 23]	IBM HACMP/ES: 4.4.1, 4.5; IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[14, 16, 21]	HA: 32, OPS: 8, RAC: 8[11]	IBM 6227	FC-AL[4] FC-SW[4]
60	p640 7026-B80	IBM AIX: 4.3.3[2, 5, 7], 5.1[2, 7, 10]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
61	p610 7028-6C1	IBM AIX: 4.3.3[35, 6, 7], 5.1[6, 7, 10]	IBM: HACMP 4.5, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM 6228	FC-AL[4] FC-SW[4]

1. Includes support for FC4700, FC4700-2, CX600, CX400.
2. Minimum Powerpath version 3.0.2 is supported.
3. Minimum CLArrayS3.4.3.0.x fileset is supported. Supports FC4700, FC4700-2 with minimum Flare code 8.46.xx.
4. FC-SW and FC-AL are supported on the same server.
5. Minimum CLArrayS3.4.3.0.x fileset is supported. Supports FC4700, FC4700-2, with minimum Flare code 8.46.xx.
6. Minimum PowerPath 3.0.2 is supported
7. Includes support for the FC4700, FC4700-2, CX600, CX400.
8. Minimum Powerpath version 3.0.2 is supported
9. Includes support for FC4500, FC4700, FC4700-2 Requires EMC 4.0.5.0 Fibre Channel driver. FC-AL for FC4700 requires base software or Access Logix 8.42.xx or higher.
10. AIX 5.1-32/64 bit kernel supported. Requires CLArrayS3.5.1 fileset support.
11. For IBM AIX 4.3.3: requires Oracle RAC9i (9.0.1), HACMP/ES 4.4.x. PowerPath 3.0.2 or greater is supported.
    A SAN implementation with ISLs will observe significant delay in failover times if link failures non-contiguous to host HBA occur
    For IBM AIX 5.1:requires Oracle RAC9i (9.2), HACMP/ES 4.4.x. PowerPath 3.0.2 or greater is supported.
    A SAN implementation with ISLs will observe significant delay in failover times if link failures non-contiguous to host HBA occur.
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
13. Minimum AIX 4.3.3 ML9, APAR IY22024
14. Requires minimum AIX 4.3.3 with APAR IY22024, Requires PSSP 3.4 with APAR IY32625
15. Requires minimum PSSP 3.4 APAR IY32625, IY31025
16. Refer to Primus case #1.0.128870403.2749464 for configuration instructions.
17. Requires minimum PSSP 3.2 APAR IY18172, IY31012
18. AIX 4.3.3 ML9, APAR IY22024
19. The following link provides detailed data for all 9076-SP2 models and feature codes:
    http://www1.ibmlink.ibm.com/cgi-bin/master?request=salesmanual&parms=SMS&xh=NTZH*daEMSRi4n1USenGnN9332&xhi=usa.main%7Csalesmanual%5E&type=D&search=9076&title=T&product
20. Requires minimum AIX 4.3.3 APAR IY22024.
21. Requires minimum PSSP 3.4 APAR IY33448
22. Requires minimum PSSP 3.2 APAR IY18172
23. AIX 5.1 supported with 32-bit kernel. Requires minimum EMC ODM fileset support 5.0.0.0.
24. IBM 6227 and IBM 6228 adapters are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server
    6227 Filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f7.rte ;
    6228 Filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f9.diag, devices.pci.df1000f9.rte
25. Supported in SMP and LPAR modes
26. PowerPath is supported with LVM and JFS
27. GAB disks (membership and service group heartbeat disks) are not supported.
28. AIX 5.1 supported with 32/64 bit kernel.
29. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
30. IBM Native Fibre Channel drivers with feature code 6227 and with feature code 6228 are supported on the same server. Feature 6228 and 6239 are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server. 6227 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f7.rte; 6228 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f9.diag, devices.pci.df1000f9.rte; 6239 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1080f9.diag, devices.pci.df1080f9.rte
31. For minimum Powerpath version 3.0.3, minimum CLArray S3.5.1.0.6 version is required.
32. Requires adapter firmware 3.82A1, CLArrayS3.5.1 fileset support. Supports FC4700 with minimum Flare code 8.46.xx.
33. Requires AIX 5.1 with minimum maintenance level 03 APAR IY32749.
34. Minimum Powerpath version 3.0.3 is supported.
35. PSSP 3.5 supports a 32 or 64 bit kernel.
36. Requires minimum AIX5.1 with maintenance level 03 APAR IY32749.
37. Requires minimum PSSP APAR IY38509
38. AIX 5.1 supported only with 32-bit kernel.
39. Requires adapter firmware 3.22A1, CLArrayS3.5.1 fileset support. Supports FC4700 with minimum flare code 8.46.xx.

Microsoft Windows 2000

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Bull

Bull – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	**Express 5800 180Rb7**	**Microsoft Windows 2000: Advanced Server SP3[8], Datacenter SP2[7, 8], Datacenter SP3[8], Datacenter SP4, Server SP4**	**Microsoft MSCS[5]**	HA: 4	**Emulex LP8000-EMC[1, 2, 3, 4]**	FC-AL, FC-SW	**See[6]**

1. **FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.**
2. **The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.**
3. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
4. **If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.**
5. **Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.**
6. **CLARiiON FC4500 array is also supported for these configurations.**
7. **PowerPath not supported. ATF is supported.**
8. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**

DG

DG – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	AViiON: AV1400, AV2800, AV3700, AV3704, AV3800	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000, Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 2	Emulex LP8000-EMC[1, 2, 3, 4]; QLogic: QLA2310F-E-SP[1, 2, 4, 7], QLA2340-E-SP[1, 2, 4, 8], QLA2342-E-SP[2, 4, 8]	FC-AL, FC-SW	See[6]
2	AViiON: AV2300, AV3704R, AV8950	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2], LP9802-E[1, 2, 4, 8], LP9802DC-E[1, 2, 4, 8], LP982-E[1, 2, 4, 8]; QLogic: QLA2310F-E-SP[1, 2, 4, 7], QLA2340-E-SP[1, 2, 4, 8], QLA2342-E-SP[2, 4, 8]	FC-AL, FC-SW	See[6]
3	AViiON: AV1400, AV2800, AV3700, AV3704, AV3800	Microsoft Windows 2000 Advanced Server: SP2[10], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[9]	HA: 4	Emulex LP8000-EMC[1, 2, 3, 4]; QLogic: QLA2310F-E-SP[1, 2, 4, 7], QLA2340-E-SP[1, 2, 4, 8], QLA2342-E-SP[2, 4, 8]	FC-AL, FC-SW	See[6]
4	AViiON: AV2300, AV3704R, AV8950	Microsoft Windows 2000 Advanced Server: SP2[10], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[9]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2], LP9802-E[1, 2, 4, 8], LP9802DC-E[1, 2, 4, 8], LP982-E[1, 2, 4, 8]; QLogic: QLA2310F-E-SP[1, 2, 4, 7], QLA2340-E-SP[1, 2, 4, 8], QLA2342-E-SP[2, 4, 8]	FC-AL, FC-SW	See[6]

1. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
2. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
3. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
4. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
5. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
6. CLARiiON FC4500 array is also supported for these configurations.
7. If using ATF/CDE, requires 2.1.6 or greater..
8. PowerPath supported. ATF/CDE not supported.
9. GAB disks (membership and service group heartbeat disks) are not supported.
10. EMC strongly recommends that HBAs of different vendors not be used in the same host server.

Dell

Dell – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650	Microsoft Windows 2000 Datacenter: SP2[9], SP3[9]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		See[4]
2	PowerEdge 8450	Microsoft Windows 2000 Datacenter: SP2[9], SP3[9]	Microsoft MSCS	HA: 4	QLogic QLA2342-E-SP		See[4]
3	PowerEdge: 1650, 1750, 2600, 2650, 4600, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server SP2[9]	Oracle 9i RAC 9.2.0.1.0[11, 14]	RAC: 8	QLogic QLA2310F-E-SP[1, 2, 5]	FC-AL, FC-SW	See[4]
4	PowerEdge: 1650, 1750, 2600, 2650, 4600, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server SP2[9]	Oracle 9i RAC 9.2.0.1.0[11, 14]	RAC: 8	QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[1, 2, 4]
5	PowerEdge 8450[18]	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	QLogic QLA2340-E-SP[13]	FC-AL, FC-SW	See[4]
6	PowerEdge 8450	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	QLogic: QLA2310F-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[4, 11, 17]
7	PowerEdge: 1650, 1750, 2600, 2650, 4600, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0[11, 14]	RAC: 8	QLogic QLA2310F-E-SP[1, 2, 5, 13]	FC-AL, FC-SW	See[4]
8	PowerEdge: 1650, 1750, 2600, 2650, 4600, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0[11, 14]	RAC: 8	QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[1, 2, 4, 17]
9	PowerEdge 8450	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000 Datacenter: SP2[9], SP3[9], SP4; Microsoft Windows 2000 Server: SP2[9], SP3[9], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	See[4]
10	PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[9], Server SP3[9], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[4]
11	PowerEdge 8450	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[9], Server SP3[9], Server SP4	Microsoft MSCS	HA: 4	QLogic QLA2342-E-SP	FC-AL, FC-SW	See[4]
12	PowerEdge 8450[11]	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]		Emulex: LP8000-EMC[1, 2, 5, 10], LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2], LP9802-E[1, 2, 5, 6], LP9802DC-E[1, 2, 5, 6], LP982-E[1, 2, 5, 6]; QLogic: QLA2310F-E-SP[1, 2, 5, 7], QLA2340-E-SP[1, 2, 5, 6], QLA2342-E-SP[1, 5, 6]	FC-AL, FC-SW	See[4]
13	PowerEdge: 2300, 6100	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	Emulex LP8000-EMC[1, 2, 5, 10]; QLogic: QLA2310F-E-SP[1, 2, 5, 7], QLA2340-E-SP[1, 2, 5, 6], QLA2342-E-SP[1, 5, 6]	FC-AL, FC-SW	See[4]

Dell – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
14	PowerEdge: 1550, 1650, 1750, 2400, 2450, 2500, 2550[12], 2600, 4400, 4600, 6300, 6350, 6400, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP8000-EMC[1, 2, 5, 10], LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2] LP9802-E[1, 2, 5, 6], LP9802DC-E[1, 2, 5, 6], LP982-E[1, 2, 5, 6]; QLogic: QLA2310F-E-SP[1, 2, 5, 7] QLA2340-E-SP[1, 2, 5, 6], QLA2342-E-SP[1, 5, 6]	FC-AL, FC-SW	See[4]
15	PowerEdge 2650; PowerVault: 750N, 755N, 770N, 775N	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2], LP9802-E[1, 2, 5, 6], LP9802DC-E[1, 2, 5, 6], LP982-E[1, 2, 5, 6]; QLogic: QLA2310F-E-SP[1, 2, 5, 7] QLA2340-E-SP[1, 2, 5, 6], QLA2342-E-SP[1, 5, 6]	FC-AL, FC-SW	See[4]
16	PowerEdge: 2300, 6100	Microsoft Windows 2000 Advanced Server: SP2[9], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[8]	HA: 4	Emulex LP8000-EMC[1, 2, 5, 10]; QLogic: QLA2310F-E-SP[1, 2, 5, 7] QLA2340-E-SP[1, 2, 5, 6], QLA2342-E-SP[1, 5, 6]	FC-AL, FC-SW	See[4]
17	PowerEdge: 1550, 1650, 1750, 2400, 2450, 2500, 2550[12], 2600, 4400, 4600, 6300, 6350, 6400, 6450, 6600, 6650, 8450	Microsoft Windows 2000 Advanced Server: SP2[9], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[8]	HA: 4	Emulex: LP8000-EMC[1, 2, 5, 10], LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2] LP9802-E[1, 2, 5, 6], LP9802DC-E[1, 2, 5, 6], LP982-E[1, 2, 5, 6]; QLogic: QLA2310F-E-SP[1, 2, 5, 7] QLA2340-E-SP[1, 2, 5, 6], QLA2342-E-SP[1, 5, 6]	FC-AL, FC-SW	See[4]
18	PowerEdge 2650; PowerVault: 750N, 755N, 770N 775N	Microsoft Windows 2000 Advanced Server: SP2[9], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[8]	HA: 4	Emulex: LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2], LP9802-E[1, 2, 5, 6], LP9802DC-E[1, 2, 5, 6], LP982-E[1, 2, 5, 6]; QLogic: QLA2310F-E-SP[1, 2, 5, 7] QLA2340-E-SP[1, 2, 5, 6], QLA2342-E-SP[1, 5, 6]	FC-AL, FC-SW	See[4]
19	PowerEdge 8450	Microsoft Windows 2000 Advanced Server: SP2[9], SP4	Oracle 9i RAC 9.2.0.1.0[11, 14]	RAC: 8	Emulex LP982-E	FC-AL, FC-SW	See[4]
20	PowerEdge: 1650, 1750, 2600, 2650, 4600, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server: SP2[9], SP4	Oracle 9i RAC 9.2.0.1.0[11, 14]	RAC: 8	Emulex: LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2], LP9802-E, LP9802DC-E[1, 2, 5, 6], LP982-E	FC-AL, FC-SW	See[4]
21	PowerEdge 8450[11]	Microsoft Windows 2000: Advanced Server SP3[9], Datacenter SP2[9, 16], Datacenter SP3[9], Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 4	Emulex: LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2]; QLogic: QLA2310F-E-SP[1, 2, 5], QLA2340-E-SP[1, 2, 5, 6, 7, 15]	FC-AL, FC-SW	See[4]

1. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
2. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
3. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
4. CLARiiON FC4500 array is also supported for these configurations.
5. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
6. PowerPath supported. ATF/CDE not supported.
7. If using ATF/CDE, requires 2.1.6 or greater..
8. GAB disks (membership and service group heartbeat disks) are not supported.
9. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. Supported on CX600, CX400, CX200 and FC4700-2 only.
12. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
13. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
14. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0.
    VxVM not supported.
    PowerPath 3.0 supported.
15. For CX200 direct-connect only, boot from array for clusters not supported.
16. PowerPath not supported. ATF is supported.
17. RPQ required for PowerPath support.
18. An RPM from Dell may be used to install the QLogic v6.04.02 or v6.05.00 drivers and may be obtained from the QLogic website at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Primergy: B210, C200, E200, N200	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	Emulex: LP9802-E, LP9802DC-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		See[6]
2	Primergy N800	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	QLogic QLA2310F-E-SP		See[6]

Fujitsu Siemens – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
3	Primergy: F200, H200, H250[11], H400, K400, L200, N400, P200 P250, R450	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		See[6]
4	Primergy N800	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	QLogic: QLA2340-E-SP, QLA2342-E-SP		See[6]
5	Primergy: F200, F250[11], H200 H250[11], H400, H450, K400, L200, N400, P200, P250, R450, T850	Microsoft Windows 2000 Datacenter: SP2[10], SP3[10]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E		See[6]
6	Primergy: B210, C200, E200 N200	Microsoft Windows 2000 Datacenter: SP2[10], SP3[10]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP982-E		See[6]
7	Primergy: F250[11], H450, T850	Microsoft Windows 2000 Datacenter: SP2[10], SP3[10]; Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		See[6]
8	Primergy: F250, H450, T850	Microsoft Windows 2000 Server SP4	Microsoft MSCS[5]	HA: 2	QLogic: QLA2310F-E-SP[1, 2, 3, 8], QLA2340-E-SP[1, 2, 3, 7], QLA2342-E-SP[2, 3, 7]		See[6]
9	Primergy: F250[11], H450, T850	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS	HA: 4	QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]
10	Primergy: F250, H450, T850	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[5]	HA: 2	QLogic: QLA2310F-E-SP[1, 2, 3, 8], QLA2340-E-SP[1, 2, 3, 7], QLA2342-E-SP[2, 3, 7]	FC-AL, FC-SW	See[6]
11	Primergy N800	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW	See[6]
12	Primergy: F200, F250[11], H200, H250[11], H400, H450, K400, L200, N400, P200, P250, R450, T850	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[10], Server SP3[10], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW	See[6]
13	Primergy: B210, C200, E200, N200	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[10], Server SP3[10], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP982-E	FC-AL, FC-SW	See[6]
14	Primergy: F250, H450, T850	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 3], LP9002DC-E[1, 3], LP9802-E[1, 2, 3, 7], LP9802DC-E[1, 2, 3, 7], LP982-E[1, 2, 3, 7]	FC-AL, FC-SW	See[6]
15	Primergy: F250, H450, T850	Microsoft Windows 2000 Advanced Server: SP2[10], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[9]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 3], LP9002DC-E[1, 3], LP9802-E[1, 2, 3, 7], LP9802DC-E[1, 2, 3, 7], LP982-E[1, 2, 3, 7]; QLogic: QLA2310F-E-SP[1, 2, 3, 8], QLA2340-E-SP[1, 2, 3, 7], QLA2342-E-SP[2, 3, 7]	FC-AL, FC-SW	See[6]
16	Primergy N800	Microsoft Windows 2000 Datacenter: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]

1. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
2. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
6. CLARiiON FC4500 array is also supported for these configurations.
7. PowerPath supported. ATF/CDE not supported.
8. If using ATF/CDE, requires 2.1.6 or greater..
9. GAB disks (membership and service group heartbeat disks) are not supported.
10. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
11. Must use standard PCI 32bit/33MHz slot for SCSI

HPQ

HPQ – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Proliant: BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), DL380[7], DL380(G2)[7], DL380(G3), DL560, DL580[7], DL580(G2)[7], DL580(G3), DL740, DL760[7], DL760 (G2), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), ML370(G3), ML530[7], ML530(G2)[7], ML570[7], ML570(G2), ML750[7]	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4. Microsoft Windows 2000 Datacenter: SP2[11], SP3[11], SP4; Microsoft Windows 2000 Server: SP2[11], SP3[11], SP4	Microsoft MSCS	HA: 4	HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)		See[6]
2	Proliant 8500	Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS	HA: 4	HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)		See[6]
3	Proliant: 8500, BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), DL380[7], DL380(G2)[7], DL380(G3), DL560, DL580[7], DL580(G2)[7], DL580(G3), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), ML370(G3), ML530[7], ML530(G2)[7], ML570[7], ML570(G2), ML750[7]	Microsoft Windows 2000 Datacenter: SP2[11], SP3[11]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		See[6]
4	Proliant: DL740, DL760[7], DL760 (G2)	Microsoft Windows 2000 Datacenter: SP2[11], SP3[11]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		See[6]
5	Proliant 8500	Microsoft Windows 2000 Advanced Server SP2[11]	Oracle 9i RAC 9.2.0.1.0[17, 18]	RAC: 8	QLogic QLA2310F-E-SP[1, 2, 3]	FC-AL, FC-SW	See[6]
6	Proliant: 8500, BL40p, DL360[7], DL380[7], DL560, DL580[7], DL740, DL760[7], DL760 (G2)	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E[2, 3], LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP[1, 16], QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]
7	Proliant BL20p (G2)[25, 26]	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	HPQ Dual-port mezzanine controller card[23, 24]	FC-AL, FC-SW	See[6]
8	Proliant 6500[7, 13]	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]
9	Proliant 8500	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0[17, 18]	RAC: 8	QLogic QLA2310F-E-SP[1, 2, 3, 15, 16]	FC-AL, FC-SW	See[6]
10	Proliant: DL740, DL760[7], DL760 (G2)	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000 Datacenter: SP2[11], SP3[11], SP4; Microsoft Windows 2000 Server: SP2[11], SP3[11], SP4	Microsoft MSCS	HA: 4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW	See[6]
11	Proliant BL20p (G2)[25, 26]	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000 Datacenter: SP2[11], SP3[11], SP4, Microsoft Windows 2000 Server: SP2[11], SP3[11], SP4	Microsoft MSCS	HA: 4	HPQ Dual-port mezzanine controller card[23, 24]	FC-AL, FC-SW	See[6]
12	Proliant: 8500, BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), DL380[7], DL380(G2)[7], DL380(G3), DL560, DL580[7], DL580(G2)[7], DL580(G3), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), ML370(G3), ML530[7], ML530(G2)[7], ML570[7], ML570(G2), ML750[7]	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[11], Server SP3[11], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E, QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]
13	Proliant: DL740, DL760[7], DL760 (G2)	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[11], Server SP3[11], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]

HPQ – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
14	Netserver LH 4: Proliant: 3000[7] 6500[7, 13] 7000[7, 13], 8000[7, 13]	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 2	Emulex LP8000-EMC[1, 2, 3, 4]; QLogic: QLA2310F-E-SP[1, 2, 3, 8]; QLA2340-E-SP[1, 2, 3, 9]; QLA2342-E-SP[1, 3, 9]	FC-AL, FC-SW	See[6]
15	Netserver LC: 2000 U3, 2000r[14]; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000 LXR 8500; Proliant: 8500, BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), DL380[7], DL380(G2)[7], DL380(G3), DL560, DL580[7], DL580(G2)[7], DL580(G3), DL740, DL760[7], DL760 (G2), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), ML370(G3), ML530[7], ML530(G2)[7], ML570[7], ML570(G2)[21], ML750[12]	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[2, 3], LP9002DC-E[2, 3], LP9802-E[1, 2, 3, 9], LP9802DC-E[1, 2, 3, 9], LP982-E[1, 2, 3, 9]; QLogic: QLA2310F-E-SP[1, 2, 3, 8]; QLA2340-E-SP[1, 2, 3, 9]; QLA2342-E-SP[1, 3, 9]	FC-AL, FC-SW	See[6]
16	Proliant BL20p (G2)[25, 26]	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 2	HPQ Dual-port mezzanine controller card[23, 24]	FC-AL, FC-SW	See[6]
17	Netserver LH 4: Proliant: 3000[7], 6500[7, 13], 7000[7, 13], 8000[7, 13]	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base): Veritas Cluster Server (VCS) 2.0[10]	HA: 4	Emulex LP8000-EMC[1, 2, 3, 4]; QLogic: QLA2310F-E-SP[1, 2, 3, 8]; QLA2340-E-SP[1, 2, 3, 9]; QLA2342-E-SP[1, 3, 9]	FC-AL, FC-SW	See[6]
18	Netserver LC: 2000 U3, 2000r[14]; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 8500, BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), DL380[7], DL380(G2)[7], DL380(G3), DL560, DL580[7], DL580(G2)[7], DL580(G3), DL740, DL760[7], DL760 (G2), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), ML370(G3), ML530[7], ML530(G2)[7], ML570[7], ML570(G2)[21], ML750[12]	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base): Veritas Cluster Server (VCS) 2.0[10]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[2, 3], LP9002DC-E[2, 3], LP9802-E[1, 2, 3, 9], LP9802DC-E[1, 2, 3, 9], LP982-E[1, 2, 3, 9]; QLogic: QLA2310F-E-SP[1, 2, 3, 8]; QLA2340-E-SP[1, 2, 3, 9]; QLA2342-E-SP[1, 3, 9]	FC-AL, FC-SW	See[6]
19	Proliant BL20p (G2)[25, 26]	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base): Veritas Cluster Server (VCS) 2.0[10]	HA: 4	HPQ Dual-port mezzanine controller card[23, 24]	FC-AL, FC-SW	See[6]
20	Proliant 8500	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Oracle 9i RAC 9.2.0.1.0[17, 18]	RAC: 8	Emulex LP9002-E (LP9002L-E)[2, 3] LP9002DC-E[2, 3], LP9802-E, LP9802DC-E[1, 2, 3, 9], LP982-E	FC-AL, FC-SW	See[6]
21	Proliant 8500	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Oracle 9i RAC 9.2.0.1.0[17, 18]	RAC: 8	QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[2, 3, 6]
22	Proliant: ML530[7] ML530(G2)[7]	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Oracle 9i RAC 9.2.0.1.0[22]	RAC: 8	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[2, 3], LP9002DC-E[2, 3], LP9802-E[1, 2, 3, 9], LP9802DC-E[1, 2, 3, 9], LP982-E[1, 2, 3, 9]; QLogic: QLA2310F-E-SP[1, 2, 3, 8]; QLA2340-E-SP[1, 2, 3, 9]; QLA2342-E-SP[1, 3, 9]	FC-AL, FC-SW	See[6]
23	Proliant: DL740, DL760[7, 19], DL760 (G2)	Microsoft Windows 2000 Advanced Server SP3[11], Datacenter SP2[11, 20], Datacenter SP3[11] Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 4	Emulex: LP9002-E (LP9002L-E)[2, 3] LP9002DC-E[2, 3]	FC-AL, FC-SW	See[6]
24	Proliant BL20p (G2)[25, 26]	Microsoft Windows 2000 Advanced Server SP3[11], Datacenter SP2[11, 20], Datacenter SP3[11] Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 4	HPQ Dual-port mezzanine controller card[23, 24]	FC-AL, FC-SW	See[6]

HPQ – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
25	Proliant 8500	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000 Datacenter: SP2[11], SP3[11]; Microsoft Windows 2000 Server: SP2[11], SP3[11], SP4	Microsoft MSCS	HA: 4	HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)	FC-SW	See[6]

1. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
2. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
6. CLARiiON FC4500 array is also supported for these configurations.
7. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
8. If using ATF/CDE, requires 2.1.6 or greater..
9. PowerPath supported. ATF/CDE not supported.
10. GAB disks (membership and service group heartbeat disks) are not supported.
11. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
12. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
13. Includes both Pentium PRO and XEON models
14. HP NetServer LC2000 is only supported with two processors.Uni-Processor configurations are not supported
15. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
16. Requires QLogic driver v6.04.02 and BIOS v1.34.
17. Supported on CX600, CX400, CX200 and FC4700-2 only.
18. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0.
    VxVM not supported.
    PowerPath 3.0 supported.
19. CX600 only.
20. PowerPath not supported. ATF is supported.
21. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
22. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0
    . VxVm not supported. PowerPath 3.0 supported.
23. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN]:817789
24. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
25. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
26. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.

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IBM

IBM – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	xSeries x440	Microsoft Windows 2000 Datacenter: SP2[12], SP3[12]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM 24P0960(QLA2340)[16]; QLogic: QLA2340-E-SP, QLA2342-E-SP		See[6]
2	xSeries: X330, X335, X340 (4500R), X342, x230, x232, x235, x240, x250, x255, x345, x350 (6000R), x360, x370	Microsoft Windows 2000 Datacenter: SP2[12], SP3[12]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		See[6]
3	xSeries x445	Microsoft Windows 2000 Datacenter: SP2[12], SP3[12]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2340-E-SP, QLA2342-E-SP		See[6]
4	Netfinity 6000R	Microsoft Windows 2000 Server SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM: 19K1246(QLA2310)[1, 3, 4, 8, 9], 24P0960(QLA2340)[1, 3, 4, 7, 16, 17]; QLogic: QLA2310F-E-SP[1, 3, 4, 10], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]		See[6]
5	Netfinity 6000R	Microsoft Windows 2000 Advanced Server: SP2[12], SP3[12], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM 19K1246(QLA2310)[1, 3, 4, 8, 9], QLogic: QLA2310F-E-SP[1, 3, 4, 10], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]	FC-AL, FC-SW	See[6]
6	xSeries x445	Microsoft Windows 2000 Advanced Server: SP2[12], SP3[12], SP4; Microsoft Windows 2000 Datacenter: SP2[12], SP3[12], SP4; Microsoft Windows 2000 Server: SP2[12], SP3[12], SP4	Microsoft MSCS	HA: 4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, IBM: 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]; QLogic QLA2310F-E-SP	FC-AL, FC-SW	See[6]
7	xSeries x440	Microsoft Windows 2000 Advanced Server: SP2[12], SP3[12], SP4; Microsoft Windows 2000 Datacenter: SP2[12], SP3[12], SP4, Microsoft Windows 2000 Server: SP2[12], SP3[12], SP4	Microsoft MSCS	HA: 4	IBM 19K1246(QLA2310)[8]; QLogic QLA2310F-E-SP	FC-AL, FC-SW	See[6]

IBM – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
8	xSeries x440	Microsoft Windows 2000 Advanced Server: SP2[12], SP3[12], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[12], Server SP3[12], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM 24P0960(QLA2340)[16]; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]
9	xSeries, X330, X335, X340 (4500R), X342, x230, x232, x235, x240, x250, x255, x345, x350 (6000R), x360, x370	Microsoft Windows 2000 Advanced Server: SP2[12], SP3[12], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[12], Server SP3[12], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E, IBM, 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]
10	xSeries x445	Microsoft Windows 2000 Advanced Server: SP2[12], SP3[12], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[12], Server SP3[12], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]
11	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[13], 7100	Microsoft Windows 2000 Advanced Server: SP2[12], SP3[12], SP4; Microsoft Windows 2000, Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 2	Emulex LP8000-EMC[1, 2, 3, 4]; IBM: 19K1246(QLA2310)[1, 3, 4, 8, 9], 24P0960(QLA2340)[1, 3, 4, 7, 16, 17]; QLogic: QLA2310F-E-SP[1, 3, 4, 10], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]	FC-AL, FC-SW	See[6]
12	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[12], SP3[12], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM 19K1246(QLA2310)[1, 3, 4, 8, 9]; QLogic: QLA2310F-E-SP[1, 3, 4, 10], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]	FC-AL, FC-SW	See[6]
13	Netfinity: 5600, 7600, 8500; xSeries: X340 (4500R), X342, x230, x235, x240, x250, x255, x345, x350 (6000R), x360, x370, x440, x445	Microsoft Windows 2000 Advanced Server: SP2[12], SP3[12], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM: 19K1246(QLA2310)[1, 3, 4, 8, 9], 24P0960(QLA2340)[1, 3, 4, 7, 16, 17]; QLogic: QLA2310F-E-SP[1, 3, 4, 10], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]	FC-AL, FC-SW	See[6]
14	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[13], 7100	Microsoft Windows 2000 Advanced Server: SP2[12], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 4	Emulex LP8000-EMC[1, 2, 3, 4]; IBM: 19K1246(QLA2310)[1, 3, 4, 8, 9], 24P0960(QLA2340)[1, 3, 4, 7, 16, 17]; QLogic: QLA2310F-E-SP[1, 3, 4, 10], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]	FC-AL, FC-SW	See[6]
15	Netfinity: 5600, 7600, xSeries: X330, X335, X340 (4500R), X342, x230, x235, x240, x250, x255, x345, x350 (6000R), x360, x370, x440, x445	Microsoft Windows 2000 Advanced Server: SP2[12], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM: 19K1246(QLA2310)[1, 3, 4, 8, 9], 24P0960(QLA2340)[1, 3, 4, 7, 16, 17]; QLogic QLA2310F-E-SP[1, 3, 4, 10], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]	FC-AL, FC-SW	See[6]
16	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[12], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[11]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM 19K1246(QLA2310)[1, 3, 4, 8, 9], QLogic: QLA2310F-E-SP[1, 3, 4, 10], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]	FC-AL, FC-SW	See[6]
17	xSeries x360	Microsoft Windows 2000 Advanced Server: SP2[12], SP4	Oracle 9i RAC 9.2.0.1.0[14, 15]	RAC: 8	Emulex: LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E, LP9802DC-E[1, 3, 4, 7], LP982-E; IBM: 19K1246(QLA2310)[1, 3, 4, 8], 24P0960(QLA2340)[16]; QLogic QLA2310F-E-SP[1, 3, 4]	FC-AL, FC-SW	See[6]
18	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[13], 7100	Microsoft Windows 2000 Advanced Server: SP2[12], SP4	Veritas Cluster Server (VCS) 2.0[11]	HA: 4	Emulex LP8000-EMC[1, 2, 3, 4]; IBM: 19K1246(QLA2310)[1, 3, 4, 8, 9], 24P0960(QLA2340)[16]; QLogic: QLA2310F-E-SP[1, 3, 4, 10], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]	FC-AL, FC-SW	See[6]
19	xSeries: x440, x445	Microsoft Windows 2000 Advanced Server: SP2[12], SP4	Veritas Cluster Server (VCS) 2.0[11]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM: 19K1246(QLA2310)[1, 3, 4, 8, 9], 24P0960(QLA2340)[1, 3, 4, 7, 16, 17, 18]; QLogic: QLA2310F-E-SP[1, 3, 4, 10], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]	FC-AL, FC-SW	See[6]

IBM – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
20	xSeries: X340 (4500R), X342, x230, x235, x240, x250, x255, x345, x350 (6000R), x360, x370	Microsoft Windows 2000 Advanced Server: SP2[12], SP4	Veritas Cluster Server (VCS) 2.0[11]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM: 19K1246(QLA2310)[1, 3, 4, 8, 9], 24P0960(QLA2340)[1, 3, 4, 7, 16, 17]; QLogic: QLA2310F-E-SP[1, 3, 4, 10], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]	FC-AL, FC-SW	See[6]
21	Netfinity 5600, 7600, xSeries, X330, X335	Microsoft Windows 2000 Advanced Server: SP2[12], SP4	Veritas Cluster Server (VCS) 2.0[11]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM: 19K1246(QLA2310)[1, 3, 4, 8, 9], 24P0960(QLA2340)[16]; QLogic: QLA2310F-E-SP[1, 3, 4, 10], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]	FC-AL, FC-SW	See[6]
22	Netfinity 6000R	Microsoft Windows 2000 Advanced Server: SP2[12], SP3[12], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[5]	HA: 2	IBM 24P0960(QLA2340)[1, 3, 4, 7, 16, 17]	FC-AL, FC-SW[1]	See[6]
23	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[12], SP3[12], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 2	IBM 24P0960(QLA2340)[1, 3, 4, 7, 16, 17]	FC-AL, FC-SW[1]	See[6]
[illegible]	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[12], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 4	IBM 24P0960(QLA2340)[1, 3, 4, 7, 16, 17]	FC-AL, FC-SW[1]	See[6]
25	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[12], SP4	Veritas Cluster Server (VCS) 2.0[11]	HA: 4	IBM 24P0960(QLA2340)[16]	FC-AL, FC-SW[1]	See[6]
26	eServer BladeCenter HS20 (Model 8678)[22, 23]	Microsoft Windows 2000 Advanced Server: SP2[12], SP3[12], SP4; Microsoft Windows 2000 Datacenter: SP2[12], SP3[12], SP4; Microsoft Windows 2000 Server: SP2[12], SP3[12], SP4	Microsoft MSCS[5, 19, 20]	HA: 4	IBM HS20 FC Expansion card 48P7061[21]	FC-SW	See[6]

1. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
4. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
5. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
6. CLARiiON FC4500 array is also supported for these configurations.
7. PowerPath supported. ATF/CDE not supported.
8. This HBA is equivalent to the qLogic QLA2310.
9. IBM xSeries Servers only:
10. If using ATF/CDE, requires 2.1.6 or greater..
11. GAB disks (membership and service group heartbeat disks) are not supported.
12. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
13. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
14. Supported on CX600, CX400, CX200 and FC4700-2 only.
15. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0.
    VxVM not supported.
    PowerPath 3.0 supported.
    This HBA is equivalent to the qLogic QLA2340.
    For CX200 direct-connect only. boot from array for clusters not supported.
16. If using ATF/CDE, requires 2.1.6 or greater.
19. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
20. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
21. When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"

    This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.
22. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
23. EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.

NCR

NCR – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Comments
1	Worldmark: 4500, 45xx, 4700, 47XX, 4850, 48XX, 4900, 4950, 5100 Series, 5150, 5250, 52XX, 5300, 5350, 8550, S50	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2], SP4; Microsoft Windows 2000 Datacenter: SP2[2], SP3[2], SP4; Microsoft Windows 2000 Server: SP2[2], SP3[2] SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[3], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	See[1]

1. CLARiiON FC4500 array is also supported for these configurations.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

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Unisys – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	ES7000/230; ES7000/500	Microsoft Windows 2000 Datacenter: SP2[10], SP3[10]; Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		See[6]
2	ES7000/100	Microsoft Windows 2000 Datacenter: SP2[10], SP3[10]; Microsoft Windows 2000 Server: SP2[10] SP3[10] SP4	Microsoft MSCS	HA: 4	QLogic: QLA2340-E-SP, QLA2342-E-SP		See[6]
3	ES7000/230, ES7000/500	Microsoft Windows 2000 Server SP4	Microsoft MSCS		Emulex LP8000-EMC[1, 2, 3, 4]		See[6]
4	ES7000/100; ES7000/200[12]	Microsoft Windows 2000 Server SP4	Microsoft MSCS		Emulex LP8000-EMC[1, 2, 3, 4]; Unisys FCH732213-P64 (LP9002L-F2)[10]		See[6]
5	ES7000/100; ES7000/200	Microsoft Windows 2000 Server SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[3, 4], LP9002DC-E[3, 4], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]; Unisys FCH732213-P64 (LP9002L-F2)[10]		See[6]
6	ES7000/230; ES7000/500	Microsoft Windows 2000 Server SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[3, 4], LP9002DC-E[3, 4]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]		See[6]
7	ES7000/230; ES7000/500	Microsoft Windows 2000 Server SP4	Microsoft MSCS[5]	HA: 4	Emulex: LP9002-E (LP9002L-E)[3, 4], LP9002DC-E[3, 4]		See[6]
8	ES7000/100; ES7000/200	Microsoft Windows 2000 Server SP4	Microsoft MSCS[5]	HA: 4	Emulex: LP9002-E (LP9002L-E)[3, 4], LP9002DC-E[3, 4]; Unisys FCH732213-P64 (LP9002L-F2)[10]		See[6]
9	ES7000/230; ES7000/500	Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E		See[6]
10	ES7000/100	Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic QLA2310F-E-SP		See[6]
11	ES7000/200	Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		See[6]
12	ES7000/230; ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS	HA: 4	QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]
13	ES7000/100	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS	HA: 4	QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]
14	ES7000/100; ES7000/200	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[3, 4], LP9002DC-E[3, 4], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]; Unisys FCH732213-P64 (LP9002L-F2)[10]	FC-AL, FC-SW	See[6]
15	ES7000/230; ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[3, 4], LP9002DC-E[3, 4]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]	FC-AL, FC-SW	See[6]
16	ES7000/230; ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW	See[6]
17	ES7000/100	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic QLA2310F-E-SP	FC-AL, FC-SW	See[6]
18	ES7000/200	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter: SP2[10] SP3[10], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]
19	ES7000/230; ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000 Datacenter: SP2[10], SP3[10] SP4; Microsoft Windows 2000 Server: SP2[10], SP3[10], SP4	Microsoft MSCS	HA: 4	Emulex: LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW	See[6]
20	ES7000/500, ES7000/520, ES7000/530; ES7000/540	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[10], Server SP3[10], Server SP4	Microsoft MSCS	HA: 2	Unisys FCH732213-P64 (LP9002L-F2)	FC-AL, FC-SW	See[6]
21	ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]	FC-AL, FC-SW	See[6]

Unisys – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
22	ES7000/230	Microsoft Windows 2000 Advanced Server: SP2[10], SP3[10], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 2	Emulex: LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; Unisys FCH732213-P64 (LP9002L-F2)[10]	FC-AL, FC-SW	See[6]
23	ES7000/100; ES7000/200; ES7000/230; ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[10], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[9]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[3, 4], LP9002DC-E[3, 4], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 3, 7]; Unisys FCH732213-P64 (LP9002L-F2)[10]	FC-AL, FC-SW	See[6]
24	ES7000/230, ES7000/500	Microsoft Windows 2000: Advanced Server SP3[10], Datacenter SP2[5, 10, 11], Datacenter SP3[10], Datacenter SP4	Microsoft MSCS		Emulex LP8000-EMC[1, 2, 3, 4]	FC-AL, FC-SW	See[6]
25	ES7000/100; ES7000/200[12]	Microsoft Windows 2000: Advanced Server SP3[10], Datacenter SP2[5, 10, 11], Datacenter SP3[10], Datacenter SP4	Microsoft MSCS		Emulex LP8000-EMC[1, 2, 3, 4]; Unisys FCH732213-P64 (LP9002L-F2)[10]	FC-AL, FC-SW	See[6]
26	ES7000/230; ES7000/500	Microsoft Windows 2000: Advanced Server SP3[10], Datacenter SP2[5, 10, 11], Datacenter SP3[10], Datacenter SP4, Server SP4	Microsoft MSCS		Unisys FCH732213-P64 (LP9002L-F2)[10]	FC-AL, FC-SW	See[6]
27	ES7000/230; ES7000/500	Microsoft Windows 2000: Advanced Server SP3[10], Datacenter SP2[10, 11], Datacenter SP3[10], Datacenter SP4	Microsoft MSCS[5]	HA: 4	Emulex: LP9002-E (LP9002L-E)[3, 4], LP9002DC-E[3, 4]	FC-AL, FC-SW	See[6]
28	ES7000/100; ES7000/200	Microsoft Windows 2000: Advanced Server SP3[10], Datacenter SP2[10, 11], Datacenter SP3[10], Datacenter SP4	Microsoft MSCS[5]	HA: 4	Emulex: LP9002-E (LP9002L-E)[3, 4], LP9002DC-E[3, 4]; Unisys FCH732213-P64 (LP9002L-F2)[10]	FC-AL, FC-SW	See[6]
29	ES7000/230; ES7000/500	Microsoft Windows 2000: Advanced Server SP3[10], Datacenter SP2[10, 11], Datacenter SP3[10], Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 4	Unisys FCH732213-P64 (LP9002L-F2)[10]	FC-AL, FC-SW	See[6]

1. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
5. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
6. CLARiiON FC4500 array is also supported for these configurations.
7. PowerPath supported. ATF/CDE not supported.
8. If using ATF/CDE, requires 2.1.6 or greater..
9. GAB disks (membership and service group heartbeat disks) are not supported.
10. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
11. PowerPath not supported. ATF is supported.
12. FC4500, FC4700 only.

Microsoft Windows 2003

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Dell

Dell – Microsoft Windows 2003							
..	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650, 8450	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[5], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[1]

1. CLARiiON FC4500 array is also supported for these configurations.
2. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. PowerPath is not supported.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2003							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Primergy: B210, C200, E200, F200, F250[6], H200, H250[6], H400, H450, K400, L200, N200, N400, N800, P200, P250, R450, T850	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[5], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[1]

1. CLARiiON FC4500 array is also supported for these configurations.
2. PowerPath is not supported.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
6. Must use standard PCI 32bit/33MHz slot for SCSI

HPQ

HPQ – Microsoft Windows 2003							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Proliant: 8500, BL40p, DL320[5], DL360[5], DL360(G2)[5], DL360(G3), DL380[5], DL380(G2)[5], DL380(G3), DL560, DL580[5], DL580(G2)[5], DL580(G3), DL740, DL760[5], DL760 (G2), ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML570(G2), ML750[5]	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E, QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[1]
2	Proliant BL20p (G2)[8, 9]	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Microsoft MSCS	HA: 4	HPQ Dual-port mezzanine controller card[6, 7]	FC-AL, FC-SW	See[1]
3	Proliant: 8500, BL40p, DL320[5], DL360[5], DL360(G2)[5], DL360(G3), DL380[5], DL380(G2)[5], DL380(G3), DL560, DL580[5], DL580(G2)[5], DL580(G3), DL740, DL760[5], DL760 (G2), ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML570(G2), ML750[5]	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Microsoft MSCS	HA: 4	HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)	FC-SW	See[1]

1. CLARiiON FC4500 array is also supported for these configurations.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
6. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
8. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
9. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

IBM

IBM – Microsoft Windows 2003							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	xSeries: X330, X335, X340 (4500R), X342, x230, x232, x235, x240, x250, x255, x345, x350 (6000R), x360, x370, x440, x445	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[7], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[6]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[1]
2	eServer BladeCenter HS20 (Model 8678)[11]	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Microsoft MSCS[8, 9, 10]	HA: 4	IBM HS20 FC Expansion card 48P7061[12]	FC-SW	See[1]

1. CLARiiON FC4500 array is also supported for these configurations.
2. This HBA is equivalent to the qLogic QLA2310.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. PowerPath is not supported.
6. This HBA is equivalent to the qLogic QLA2340.
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
8. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
9. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
10. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
11. EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.
12. When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"

    This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.

NCR

NCR – Microsoft Windows 2003							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Worldmark: 4500, 45xx, 4700, 47XX, 4850, 48XX, 4900, 4950, 5100 Series, 5150, 5250, 52XX, 5300, 5350, 8550, S50	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[5], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[1]

1. CLARiiON FC4500 array is also supported for these configurations.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. PowerPath is not supported.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Unisys

Unisys – Microsoft Windows 2003							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	ES7000/100; ES7000/200; ES7000/230; ES7000/500	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[5], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[1]

1. CLARiiON FC4500 array is also supported for these configurations.
2. PowerPath is not supported.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Microsoft Windows NT

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

DG

DG – Microsoft Windows NT							
o.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	AViiON: AV1400, AV2800, AV3700, AV3800	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex LP8000-EMC[1, 2, 3, 4, 5]; QLogic: QLA2310F-E-SP[3, 4, 5, 9], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW	See[3, 4, 8]
2	AViiON: AV2300, AV3704R, AV8950	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4, 5], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5]; QLogic: QLA2310F-E-SP[3, 4, 5, 9], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW	See[3, 4, 8]

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. LP8000 no longer has removable GBICs for copper cable support.
3. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
4. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
5. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
6. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
7. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
8. CLARiiON FC4500 array is also supported for these configurations.
9. If using ATF/CDE, requires 2.0.9 or greater.

Dell

Dell – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	PowerEdge: 2300, 6100	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex LP8000-EMC[1, 2, 3, 4, 5]; QLogic: QLA2310F-E-SP[1, 3, 4, 9], QLA2340-E-SP[1, 3, 4], QLA2342-E-SP[1, 3, 4]	FC-AL, FC-SW	See[3, 4, 8]
2	PowerEdge: 1550, 1650, 1750, 2400, 2450, 2500, 2550[10], 2600, 4600, 6300, 6350, 6400, 6450, 6650, 8450	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4, 5], LP9002-E (LP9002L-E)[1, 3, 4], LP9802-E[1, 3, 4], LP9802DC-E[1, 3, 4], LP982-E[1, 3, 4]; QLogic: QLA2310F-E-SP[1, 3, 4, 9], QLA2340-E-SP[1, 3, 4], QLA2342-E-SP[1, 3, 4]	FC-AL, FC-SW	See[3, 4, 8]
3	PowerEdge 6600	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4, 5], LP9002-E (LP9002L-E)[1, 3, 4], LP9802-E[1, 3, 4], LP9802DC-E[1, 3, 4]; QLogic: QLA2310F-E-SP[1, 3, 4, 9], QLA2340-E-SP[1, 3, 4], QLA2342-E-SP[1, 3, 4]	FC-AL, FC-SW	See[3, 4, 8]
4	PowerEdge 2650	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex: LP9002-E (LP9002L-E)[1, 3, 4], LP9802-E[1, 3, 4], LP9802DC-E[1, 3, 4], LP982-E[1, 3, 4]; QLogic: QLA2310F-E-SP[1, 3, 4, 9], QLA2340-E-SP[1, 3, 4], QLA2342-E-SP[1, 3, 4]	FC-AL, FC-SW	See[3, 4, 8]
5	PowerEdge 6600	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex LP982-E[1, 3, 4]	FC-AL, FC-SW[4]	See[3, 4, 8]

1. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
4. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
5. LP8000 no longer has removable GBICs for copper cable support.
6. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
7. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
8. CLARiiON FC4500 array is also supported for these configurations.
9. If using ATF/CDE, requires 2.0.9 or greater.
10. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.

HPQ

HPQ – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Netserver LH: 3, 4 II, PRO; Netserver LX PRO, LXR PRO, LXR PRO8, Proliant: 1600[11, 13], 1850[11], 3000[11], 5000[11], 5500[11, 12], 6000[11, 12], 6500[11, 12], 7000[11, 12], 8000[11, 12], 8000 Pro, 8000 Xeon	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex LP8000-EMC[1, 2, 3, 4, 5]; QLogic: QLA2310F-E-SP[1, 3, 4, 10]; QLA2340-E-SP[1, 3, 4]; QLA2342-E-SP[1, 3, 4]	FC-AL, FC-SW	See[1, 4, 8]
2	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver LT 6000R, LXR 8000, LXR 8500; Proliant: 2500[11], 6400R[11], 8500, DL320[11], DL360[11], DL360(G2)[11], DL360(G3), DL380[11], DL380(G2)[11], DL380(G3), DL560, DL580[11], DL580(G2)[11], DL580(G3), DL740, DL760[11], DL760 (G2), ML350[11], ML350(G2)[11], ML370[11], ML370(G2), ML370(G3), ML530[11], ML530(G2)[11], ML750[9]	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4, 5], LP9002-E (LP9002L-E)[1, 3, 4], LP9802-E[1, 3, 4], LP9802DC-E[1, 3, 4], LP982-E[1, 3, 4]; QLogic: QLA2310F-E-SP[1, 3, 4, 10]; QLA2340-E-SP[1, 3, 4]; QLA2342-E-SP[1, 3, 4]	FC-AL, FC-SW	See[1, 4, 8]
3	Proliant 850[11]	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4, 5], LP9802-E[1, 3, 4], LP9802DC-E[1, 3, 4], LP982-E[1, 3, 4]; QLogic: QLA2310F-E-SP[1, 3, 4, 10]; QLA2340-E-SP[1, 3, 4]; QLA2342-E-SP[1, 3, 4]	FC-AL, FC-SW	See[1, 4, 8]

1. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
4. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
5. LP8000 no longer has removable GBICs for copper cable support.
6. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
7. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
8. CLARiiON FC4500 array is also supported for these configurations.
9. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
10. If using ATF/CDE, requires 2.0.9 or greater.
11. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
12. Includes both Pentium PRO and XEON models
13. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.

IBM

IBM – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[10], 7100	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex LP8000-EMC[1, 2, 3, 4, 5]. IBM: 19K1246(QLA2310)[1, 3, 4, 9, 11], 24P0960(QLA2340)[1, 3, 4, 12, 13]; QLogic: QLA2310F-E-SP[1, 3, 4, 9], QLA2340-E-SP[1, 3, 4], QLA2342-E-SP[1, 3, 4]	FC-AL, FC-SW	See[3, 4, 8]
2	xSeries: x235, x345	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4, 5], LP9002-E (LP9002L-E)[1, 3, 4], LP9802-E[1, 3, 4], LP9802DC-E[1, 3, 4]; IBM: 19K1246(QLA2310)[1, 3, 4, 9, 11], 24P0960(QLA2340)[1, 3, 4, 12, 13]; QLogic: QLA2310F-E-SP[1, 3, 4, 9], QLA2340-E-SP[1, 3, 4], QLA2342-E-SP[1, 3, 4]	FC-AL, FC-SW	See[3, 4, 8]
3	Netfinity: 5600, 7600, 8500R; xSeries: X340 (4500R), X342, x230, x240, x250, x255, x350 (6000R), x360, x370, x440, x445	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4, 5], LP9002-E (LP9002L-E)[1, 3, 4], LP9802-E[1, 3, 4], LP9802DC-E[1, 3, 4], LP982-E[1, 3, 4]; IBM: 19K1246(QLA2310)[1, 3, 4, 9, 11], 24P0960(QLA2340)[1, 3, 4, 12, 13]; QLogic: QLA2310F-E-SP[1, 3, 4, 9], QLA2340-E-SP[1, 3, 4], QLA2342-E-SP[1, 3, 4]	FC-AL, FC-SW	See[3, 4, 8]
4	xSeries: x235, x345	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex LP982-E[1, 3, 4]	FC-AL, FC-SW[4]	See[3, 4, 8]

1. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
4. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
5. LP8000 no longer has removable GBICs for copper cable support.
6. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
7. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
8. CLARiiON FC4500 array is also supported for these configurations.
9. If using ATF/CDE, requires 2.0.9 or greater.
10. This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
11. This HBA is equivalent to the qLogic QLA2310.
12. For CX200 direct-connect only, boot from array for clusters not supported.
13. This HBA is equivalent to the qLogic QLA2340.

Unisys

Unisys – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	ES7000/100; ES7000/200	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4, 5], LP9002-E (LP9002L-E)[2, 3, 4]	FC-AL, FC-SW	See[2, 3, 8]
2	ES7000/230; ES7000/500	Microsoft Windows NT 4.0 SP6A[6]	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4, 5], LP9002-E (LP9002L-E)[2, 3, 4], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[2, 3, 4, 9]	FC-AL, FC-SW	See[2, 3, 8]

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
5. LP8000 no longer has removable GBICs for copper cable support.
6. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
7. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
8. CLARiiON FC4500 array is also supported for these configurations.
9. For CX200 direct-connect only, boot from array for clusters not supported.

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Novell Netware

Dell

Dell – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	PowerEdge 8450	Novell Netware 5.10: SP5[2, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic QLA2340-E-SP[7]	FC-AL, FC-SW	See[1, 2, 3]
2	PowerEdge: 2650, 4600, 6600, 6650	Novell Netware 5.10: SP5[2, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP	FC-AL, FC-SW	See[1, 2, 3]
3	PowerEdge: 2650, 4600, 6600, 6650	Novell Netware 6.0: SP1[2, 3, 5], SP2[2, 3, 5], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2310F-E-SP	FC-AL, FC-SW	See[1, 2, 3, 9]
4	PowerEdge 8450	Novell Netware 6.0: SP1[2, 3, 5], SP2[2, 3, 5], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW	See[1, 2, 3, 9]
5	PowerEdge: 2650, 4600, 6600, 6650	Novell Netware 5.10: SP5[2, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic QLA2340-E-SP[7]	FC-AL, FC-SW[6]	See[1, 2, 3]
6	PowerEdge 8450	Novell Netware 5.10: SP5[2, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP	FC-AL, FC-SW[6]	See[1, 2, 3]
7	PowerEdge: 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[8], 2600, 4300, 4400, 6100, 6300, 6350, 6450	Novell Netware 5.10: SP5[2, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW[6]	See[1, 2, 3]
8	PowerEdge: 2650, 4600, 6600, 6650	Novell Netware 6.0: SP1[2, 3, 5], SP2[2, 3, 5], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2340-E-SP[7]	FC-AL, FC-SW[6]	See[1, 2, 3, 9]
9	PowerEdge: 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[8], 2600, 4300, 4400, 6100, 6300, 6350, 6450	Novell Netware 6.0: SP1[2, 3, 5], SP2[2, 3, 5], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW[6]	See[1, 2, 3, 9]

1. CLARiiON FC4500 array is also supported for these configurations.
2. Powerpath & ATF supported.
3. Novell Storage Services supported.
4. Requires NetWare patches: NWPAPT2A and NSS5J.
5. Maximum number of NWFS volumes that can be mounted is 64.
6. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
7. FC-AL for CX200 reguires the following:
   1) QLA2340 driver version 6.50v available at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
   2) If the server is an HPQ Proliant DLxxx or Proliant MLxxx series, then ONLY (G2) and (G3) servers are supported.
8. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
9. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.

HPQ

HPQ – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Proliant DL580(G3)	Novell Netware 5.10 SP5[1, 3, 4, 5]	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW	See[1, 2, 3]
2	Netserver: LC 2000r, LH PRO	Novell Netware 5.10: SP5[1, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP	FC-AL, FC-SW	See[1, 2, 3]
3	Netserver LC 2000 U3; Proliant: 1600[8, 11], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 10], 6000[8, 10], 6400R[8], 6500[8, 10], 7000[8, 10], 8000[8, 10], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL360(G3), DL380[8], DL380(G2)[8], DL380(G3), DL560, DL580[8], DL740, DL760[8], DL760 (G2), ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML570(G2)[14], ML750[6]	Novell Netware 5.10: SP5[1, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW	See[1, 2, 3]
4	Proliant: 1600[8, 11], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 10], 6000[8, 10], 6400R[8], 6500[8, 10], 7000[8, 10], 8000[8, 10], 850[8], 8500, DL320[8], DL360[8], DL360(G2)[8], DL360(G3), DL380[8], DL380(G2)[8], DL380(G3), DL560, DL580[8], DL580(G3), DL740, DL760[8], DL760 (G2), ML350[8], ML350(G2)[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML570(G2)[14], ML750[6]	Novell Netware 6.0: SP1[1, 3, 4, 13], SP2[1, 3, 4, 13], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW	See[1, 2, 3, 12]

HPQ – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
5	Netserver LH PRO	Novell Netware 6.0: SP1[1, 3, 4] SP2[1, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2310F-E-SP	FC-AL, FC-SW	See[1, 2, 3, 12]
6	Netserver LC 2000 U3	Novell Netware 6.0: SP1[1, 3, 4] SP2[1, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW	See[1, 2, 3, 12]
7	Proliant DL580(G3)	Novell Netware 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW[9]	See[1, 2, 3]
8	Netserver: LC 2000r, LH PRO	Novell Netware 5.10: SP5[1, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic QLA2340-E-SP[7]	FC-AL, FC-SW[9]	See[1, 2, 3]
9	Netserver LH: 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant DL580(G2)[8]	Novell Netware 5.10: SP5[1, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW[9]	See[1, 2, 3]
10	Proliant DL580(G2)[8]	Novell Netware 6.0: SP1[1, 3, 4, 13] SP2[1, 3, 4, 13] SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW[9]	See[1, 2, 3, 12]
11	Netserver LH PRO	Novell Netware 6.0: SP1[1, 3, 4] SP2[1, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2340-E-SP[7]	FC-AL, FC-SW[9]	See[1, 2, 3, 12]
12	Netserver LH: 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	Novell Netware 6.0: SP1[1, 3, 4] SP2[1, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW[9]	See[1, 2, 3, 12]

1. Powerpath & ATF supported.
2. CLARiiON FC4500 array is also supported for these configurations.
3. Novell Storage Services supported.
4. Maximum number of NWFS volumes that can be mounted is 64.
5. Requires NetWare patches: NWPAPT2A and NSS5J.
6. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
7. FC-AL for CX200 requires the following:
   1) QLA2340 driver version 6.50v available at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
   2) If the server is an HPQ Proliant DLxxx or Proliant MLxxx series, then ONLY (G2) and (G3) servers are supported.
8. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
9. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
10. Includes both Pentium PRO and XEON models
11. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
12. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
13. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.
14. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).

IBM – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	xSeries: x345, x360, x440, x445	Novell Netware 5.10: SP5[1, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP	FC-AL, FC-SW	See[1, 2, 3]
2	Netfinity 8500R	Novell Netware 5.10: SP5[1, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW	See[1, 2, 3]
3	xSeries: x440, x445	Novell Netware 6.0 SP1[1, 3, 4]	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	IBM 24P0960(QLA2340)[1, 7, 10, 11]	FC-AL, FC-SW	See[1, 2, 3, 9]
4	xSeries: x345, x360, x440, x445	Novell Netware 6.0: SP1[1, 3, 4], SP2[1, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2310F-E-SP	FC-AL, FC-SW	See[1, 2, 3, 9]
5	Netfinity 8500R	Novell Netware 6.0: SP1[1, 3, 4], SP2[1, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW	See[1, 2, 3, 9]
6	xSeries: x440, x445	Novell Netware 5.10: SP5[1, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	IBM 24P0960(QLA2340)[1, 7, 10, 11] QLogic QLA2340-E-SP[7]	FC-AL, FC-SW[6]	See[1, 2, 3]
7	xSeries: x345, x360	Novell Netware 5.10: SP5[1, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic QLA2340-E-SP[7]	FC-AL, FC-SW[6]	See[1, 2, 3]
8	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x240, x250, x255, x350 (6000R), x370	Novell Netware 5.10: SP5[1, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW[6]	See[1, 2, 3]

IBM – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
9	xSeries X335	Novell Netware 5.10: SP5[1, 3, 4, 5], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[7]	FC-AL, FC-SW[6]	See[1, 2, 3]
10	xSeries: x345 x360, x440, x445	Novell Netware 6.0: SP1[1, 3, 4], SP2[1, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2340-E-SP[7]	FC-AL, FC-SW[6]	See[1, 2, 3, 9]
11	Netfinity: 5000, 5500 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600: xSeries: X330, X335, X340 (4500R), X342, x230, x240, x250, x255, x350 (6000R), x370	Novell Netware 6.0: SP1[1, 3, 4], SP2[1, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP QLA2340-E-SP[7]	FC-AL, FC-SW[6]	See[1, 2, 3, 9]
12	xSeries, x440, x445	Novell Netware 6.0: SP2[1, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	IBM 24P0960(QLA2340)[1, 7, 10, 11]	FC-AL, FC-SW[6]	See[1, 2, 3, 9]

1. Powerpath & ATF supported.
2. CLARiiON FC4500 array is also supported for these configurations.
3. Novell Storage Services supported.
4. Maximum number of NWFS volumes that can be mounted is 64.
5. Requires NetWare patches: NWPAPT2A and NSS5J.
6. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
7. FC-AL for CX200 requires the following:
   1) QLA2340 driver version 6.50v available at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
   2) If the server is an HPQ Proliant DLxxx or Proliant MLxxx series, then ONLY (G2) and (G3) servers are supported.
8. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
9. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
10. This HBA is equivalent to the qLogic QLA2340.
11. If using ATF/CDE, requires 2.1.6 or greater.

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Red Hat Linux

Dell

Dell – Red Hat Linux							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	PowerEdge: 1650[9, 10], 1750, 2600[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 14, 19]	Oracle 9i RAC 9.2.0.1.0[15, 16, 17]	RAC: 8	QLogic QLA2342-E-SP[1, 18]	FC-AL, FC-SW	See[3]
2	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 14, 19]	Oracle 9i RAC 9.2.0.1.0[15, 16, 17]	RAC: 8	QLogic: QLA2310F-E-SP[1, 18], QLA2342-E-SP[1, 18]	FC-AL, FC-SW	See[3]
3	PowerEdge: 2650[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 14, 19]	Oracle 9i RAC 9.2.0.1.0[15, 16, 17]	RAC: 8	QLogic: QLA2340-E-SP[1, 18], QLA2342-E-SP[1, 18]	FC-AL, FC-SW	See[3]
4	PowerEdge: 1650[9, 10], 1750, 2600[9, 10] 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 14, 19]	Oracle 9i RAC 9.2.0.1.0[8, 15, 16, 17]	RAC: 8	QLogic QLA2310F-E-SP[1, 2, 18]	FC-AL, FC-SW	See[3]
5	PowerEdge: 1650[9, 10], 1750, 2600[9, 10] 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[6, 14]	Oracle 9i RAC 9.2.0.1.0[8, 15, 16, 17]	RAC: 8	QLogic: QLA2310F-E-SP[1, 2], QLA2342-E-SP[1]	FC-AL, FC-SW	See[3]
6	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[6, 14]	Oracle 9i RAC 9.2.0.1.0[8, 15, 16, 17]	RAC: 8	QLogic: QLA2340-E-SP[1, 2], QLA2342-E-SP[1]	FC-AL, FC-SW	See[3]
7	PowerEdge: 1650[9, 10], 1750, 2600[9, 10] 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[6, 14]	Veritas Cluster Server (VCS) 2.0[20, 21, 22]	HA: 8	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	See[3]
8	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[6, 14]	Veritas Cluster Server (VCS) 2.0[20, 21, 22]	HA: 8	QLogic: QLA2310F-E-SP[1], QLA2340-E-SP[1, 2], QLA2342-E-SP[1]	FC-AL, FC-SW	See[3]
9	PowerEdge: 1650[9, 10], 1750, 2600[9, 10] 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[4, 5, 6, 7]	Oracle 9i RAC 9.2.0.1.0[8]	RAC: 8	QLogic QLA2310F-E-SP[1, 2]	FC-AL, FC-SW	See[3]
10	PowerEdge: 1650[9, 10], 1750, 2600[9, 10] 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[6, 14]	Oracle 9i RAC 9.2.0.1.0[15, 16, 17]	RAC: 8	QLogic: QLA2310F-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	See[3]
11	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[6, 14]	Oracle 9i RAC 9.2.0.1.0[15, 16, 17]	RAC: 8	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	See[3]
12	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[6, 14], v2.4.9-E.9[6, 14]	Oracle 9i RAC 9.2.0.1.0[15, 16, 17]	RAC: 8	QLogic QLA2310F-E-SP[1]	FC-AL, FC-SW	See[3]
13	PowerEdge: 1650[9, 10], 1750, 2600[9, 10] 2650[9, 10], 4600[9, 10] 6450[9, 10], 6600[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[6, 14], v2.4.9-E.9[6, 14]	Oracle 9i RAC 9.2.0.1.0[15, 16, 17]	RAC: 8	QLogic QLA2340-E-SP[1]	FC-AL, FC-SW	See[3]
14	PowerEdge: 1650[9, 10], 1750, 2600[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 14, 19]	Oracle 9i RAC 9.2.0.1.0[15, 16, 17]	RAC: 8	QLogic QLA2340-E-SP[1, 18]	FC-AL, FC-SW[11, 12]	See[3]
15	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 14, 19]	Oracle 9i RAC 9.2.0.1.0[8, 15, 16, 17]	RAC: 8	QLogic QLA2340-E-SP[1, 2, 18]	FC-AL, FC-SW[11, 12]	See[3]
16	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[4, 5, 6, 7, 13]	Oracle 9i RAC 9.2.0.1.0[8]	RAC: 8	QLogic QLA2340-E-SP[1, 2]	FC-AL, FC-SW[11, 12]	See[3]

1. Requires QLogic driver v6.04.02 and BIOS v1.34
2. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
3. CLARiiON FC4500 array is also supported for these configurations.
4. OCFS (Oracle Cluster File System) is not supported.
5. Watchdog Timer should be disabled in ocmargs.ora
6. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
7. Supported with QLogic driver v6.04.02 or v6.05.00.
8. Configuration information available on EMC PowerLink and Avatar: See the Case Study "Oracle 9i RAC on Linux Red Hat 7.1 and Red Hat 2.1 Advanced Server with CLARiiON Storage Arrays" in the EMC Networked Storage Topology Guide.
9. An RPM from Dell may be used to install the QLogic v6.X driver. RPM may be obtained from the QLogic website.
10. QLogic driver is available with Dell/Oracle CC kit.
11. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
12. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
13. PowerPath is not supported.
14. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
15. Requires patch p2646914_9202_LINUX.zip (Private Network Fix).

16. requires patch p2632931_9202_LINUX.zip (9.2.0.2 patch set).
17. Oracle Cluster File System v1.0 supported with Linux v2.4.9-E9 through E12.
18. Driver v6.04.00 or above must be used with Qlogic HBAs for direct attach configurations.
19. OCFS (Oracle Cluster File System) is supported. Requires patch mount-2.11g-6i386.rpm (ocfs mount support).
20. Review single attach VxVM notes for PowerPath and DMP restrictions.
21. When VxVM is used, EMC recommends VxVM 3.2 update 2, VxFS 3.4 update 1 and above.
22. GAB disks (membership and service group heartbeat disks) are not supported.

HPQ

HPQ – Red Hat Linux							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[7, 12]	Oracle 9i RAC 9.2.0.1.0[8, 11]	RAC: 8	QLogic QLA2342-E-SP[1, 2, 16, 17]	FC-AL, FC-SW	See[3]
2	Proliant: 6500[13, 14], DL360[14], DL380[14], DL560, DL580[14]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[7, 12]	Veritas Cluster Server (VCS) 2.0[18, 19, 20]	HA: 8	QLogic QLA2342-E-SP[2]	FC-AL, FC-SW	See[3]
3	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[7, 12]	Veritas Cluster Server (VCS) 2.0[18, 19, 20]	HA: 8	QLogic: QLA2310F-E-SP[1, 2], QLA2342-E-SP[1, 2, 16, 17]	FC-AL, FC-SW	See[3]
4	Proliant: DL740, DL760[14], DL760 (G2)	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[7, 12]	Veritas Cluster Server (VCS) 2.0[18, 19, 20]	HA: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW	See[3]
5	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.34[4, 5, 6, 7]	Oracle 9i RAC 9.2.0.1.0[8]	RAC: 8	QLogic QLA2310F-E-SP[1, 2]	FC-AL, FC-SW	See[3]
6	Proliant: 6500[13, 14], 8500, DL360[14], DL380[14], DL560, DL580[14]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[7, 12]	Oracle 9i RAC 9.2.0.1.0[11]	RAC: 8	QLogic QLA2340-E-SP[2]	FC-AL, FC-SW	See[3]
7	Proliant DL740	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 12, 15], v2.4.9-E.12[7, 12]	Oracle 9i RAC 9.2.0.1.0[11]	RAC: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW	See[3]
8	Proliant 8500	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 12, 15], v2.4.9-E.12[7, 12]	Oracle 9i RAC 9.2.0.1.0[8, 11]	RAC: 8	QLogic QLA2310F-E-SP[1, 2]	FC-AL, FC-SW	See[3]
9	Proliant: 6500[13, 14], DL360[14], DL380[14], DL560, DL580[14]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 12, 15], v2.4.9-E.12[7, 12], v2.4.9-E.9[7, 12]	Oracle 9i RAC 9.2.0.1.0[11]	RAC: 8	QLogic QLA2342-E-SP[2]	FC-AL, FC-SW	See[3]
10	Proliant: DL760[14], DL760 (G2)	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 12, 15], v2.4.9-E.12[7, 12], v2.4.9-E.9[7, 12]	Oracle 9i RAC 9.2.0.1.0[11]	RAC: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW	See[3]
11	Proliant 8500	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 12, 15], v2.4.9-E.9[7, 12]	Oracle 9i RAC 9.2.0.1.0[11]	RAC: 8	QLogic QLA2342-E-SP[2]	FC-AL, FC-SW	See[3]
12	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[7, 12]	Veritas Cluster Server (VCS) 2.0[18, 19, 20]	HA: 8	QLogic QLA2340-E-SP[1, 2]	FC-AL, FC-SW[9, 10]	See[3]
13	Proliant: 6500[13, 14], DL360[14], DL380[14], DL560, DL580[14]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[7, 12]	Veritas Cluster Server (VCS) 2.0[18, 19, 20]	HA: 8	QLogic QLA2340-E-SP[2]	FC-AL, FC-SW[9, 10]	See[3]
14	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.34[4, 5, 6, 7]	Oracle 9i RAC 9.2.0.1.0[8]	RAC: 8	QLogic QLA2340-E-SP[1, 2]	FC-AL, FC-SW[9, 10]	See[3]
15	Proliant: 6500[13, 14], DL360[14], DL380[14], DL560, DL580[14]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 12, 15], v2.4.9-E.12[7, 12]	Oracle 9i RAC 9.2.0.1.0[11]	RAC: 8	QLogic QLA2340-E-SP[2]	FC-AL, FC-SW[9, 10]	See[3]
16	Proliant 8500	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 12, 15], v2.4.9-E.12[7, 12]	Oracle 9i RAC 9.2.0.1.0[8, 11]	RAC: 8	QLogic QLA2340-E-SP[1, 2]	FC-AL, FC-SW[9, 10]	See[3]

1. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
2. Requires QLogic driver v6.04.02 and BIOS v1.34
3. CLARiiON FC4500 array is also supported for these configurations.
4. Watchdog Timer should be disabled in ocmargs.ora
5. Supported with QLogic driver v6.04.02 or v6.05.00.
6. OCFS (Oracle Cluster File System) is not supported.
7. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
8. Configuration information available on EMC PowerLink and Avatar: See the Case Study "Oracle 9i RAC on Linux Red Hat 7.1 and Red Hat 2.1 Advanced Server with CLARiiON Storage Arrays" in the EMC Networked Storage Topology Guide.
   FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
9. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
10. Oracle Cluster File System v1.0 supported with Linux v2.4.9-E9 through E12.
11. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath.
    Booting from EMC storage arrays is NOT supported with PowerPath.
12. Includes both Pentium PRO and XEON models
13. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
14. OCFS (Oracle Cluster File System) is supported. Requires patch mount-2.11g-6i386.rpm (ocfs mount support).
15. Host must be offline for interfamily Symmetrix microcode upgrade.
16. Driver v6.04.00 or above must be used with Qlogic HBAs for direct attach configurations.
17. Review single attach VxVM notes for PowerPath and DMP restrictions.
18. When VxVM is used, EMC recommends VxVM 3.2 update 2, VxFS 3.4 update 1 and above.
19. GAB disks (membership and service group heartbeat disks) are not supported.

SGI IRIX

SGI

SGI – SGI IRIX						
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Origin 2000	SGI IRIX 6.5.17	SGI Failsafe 2.1.2	HA: 2	SGI PCI-FC-1P-OPT-A	FC-AL, FC-SW
2	Origin: 2000, 3000	SGI IRIX, 6.5.11, 6.5.12, 6.5.13, 6.5.14	SGI Failsafe 2.1.1	HA: 2	SGI PCI-FC-1P-OPT-A	FC-AL[1], FC-SW[1]
3	Origin 3000	SGI IRIX, 6.5.13, 6.5.14	SGI Failsafe 2.1.1	HA: 2	SGI PCI-FC-1P-OPT-B	FC-AL[1], FC-SW[1]
4	Origin 3000	SGI IRIX, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI Failsafe 2.1.2	HA: 2	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B	FC-AL[1], FC-SW[1]
5	Origin 2000	SGI IRIX: 6.5.14, 6.5.15, 6.5.16, 6.5.18	SGI Failsafe 2.1.2	HA: 2	SGI PCI-FC-1P-OPT-A	FC-AL[1], FC-SW[1]

1. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.

Sun Solaris

Sun

Sun – Sun Solaris							
No.	**Host System**	**Operating System**	**Cluster Software**	**Max # Nodes**	**Host Bus Adapter**	**Adapter Type**	**Comments**
1	Ultra Enterprise: 10000[13], 3000, 3500, 6000 6500	Sun Solaris 2.6	Veritas Cluster Server (VCS) 1.3[2]	HA: 8 [17]	JNI FC64-1063-DG	FC-AL[8]	
2	Ultra Enterprise: 10000[13], 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[15, 32]	HA: 8	JNI FC64-1063-DG[3, 4, 5, 6, 7]	FC-AL[8]	
3	Ultra Enterprise: 10000[13], 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris: 2.6, 7[12], 8	Sun Sun Cluster 2.2[1, 2]	HA: 2	JNI FC64-1063-DG[3, 4, 5, 6, 7]	FC-AL[8]	
4	Ultra Enterprise: 10000[13], 3000, 3500, 6000, 6500	Sun Solaris 2.6	Veritas Cluster Server (VCS) 1.3[2]	HA: 8 [17]	Emulex LP9002S-E; JNI FC64-1063-N-DG	FC-AL[8], FC-SW[9, 10, 11]	
5	Ultra Enterprise: 10000[13] 5000	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[15, 32]	HA: 8	Emulex LP9002S-E; JNI FC64-1063-N-DG[4, 5, 6, 7]	FC-AL[8], FC-SW[9, 10, 11]	
6	Ultra Enterprise: 3000, 3500, 4000 4500, 5500, 6000, 6500	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[15, 32]	HA: 8	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E; JNI FC64-1063-N-DG[4, 5, 6, 7]; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8], FC-SW[9, 10, 11]	
7	Netra: 1120[29], 1125[29], 1400[29], 1405[29], T1; Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[15, 32]	HA: 8	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8], FC-SW[9, 10, 11]	
8	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 6000, Enterprise 6500	Sun Solaris 7[12]	Veritas Cluster Server (VCS) 1.1.2[15]	HA: 2	Emulex LP9802-E	FC-AL[8], FC-SW[9, 10, 11]	
9	Sun Fire: 3800, 4800	Sun Solaris 8	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[15, 16]	HA: 8	Emulex LP9002C-E; QLogic QCP2202F-E-SP[26]	FC-AL[8], FC-SW[9, 10, 11]	
10	Sun Fire 6800	Sun Solaris 8	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[15, 16]	HA: 8	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic QCP2202F-E-SP[26]	FC-AL[8], FC-SW[9, 10, 11]	
11	Netra 1280; Sun Fire: 280R, 4800[2], 4810[2], V1280, V240, V480, V880	Sun Solaris 8	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[15, 16]	HA: 8	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E	FC-AL[8], FC-SW[9, 10, 11]	
12	Sun Fire: 3800, 4800	Sun Solaris 8	Veritas Cluster Server (VCS) 1.3[2]	HA: 8 [17]	Emulex LP9002C-E; QLogic QCP2202F-E-SP[26]	FC-AL[8], FC-SW[9, 10, 11]	
13	Sun Fire 6800	Sun Solaris 8	Veritas Cluster Server (VCS) 1.3[2]	HA: 8 [17]	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic QCP2202F-E-SP[26]	FC-AL[8], FC-SW[9, 10, 11]	
14	Netra 1280; Sun Fire: 280R, 4800[2], 4810[2], V1280, V240, V480, V880	Sun Solaris 8	Veritas Cluster Server (VCS) 1.3[2]	HA: 8 [17]	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E	FC-AL[8], FC-SW[9, 10, 11]	
15	Sun Fire 3800	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[15, 19]	HA: 8	Emulex LP9002C-E; QLogic QCP2202F-E-SP	FC-AL[8], FC-SW[9, 10, 11]	
16	Sun Fire: 4800, 6800	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[15, 19]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL[8], FC-SW[9, 10, 11]	
17	Netra 1280; Sun Fire: 280R, 4810, V1280, V240, V480, V880	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[15, 19]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8], FC-SW[9, 10, 11]	
18	Ultra: 220R[24], 250, 420R[24], 450	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[15, 19]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8], FC-SW[9, 10, 11]	
19	Ultra Enterprise: 10000, 3500, 4500, 6500	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[15, 19]	HA: 8	Emulex: LP9002S-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8], FC-SW[9, 10, 11]	
20	**Sun Fire 3800**	Sun Solaris 8 Update 7[18]	**Sun Sun Cluster 3.1[34, 35]**	**HA: 2**	**Emulex LP9002C-E; QLogic QCP2202F-E-SP**	FC-AL[8], FC-SW[9, 10, 11]	
21	**Ultra Enterprise: 10000, 3500, 4500, 5500, 6500**	Sun Solaris 8 Update 7[18]	**Sun Sun Cluster 3.1[34, 35]**	**HA: 2**	**Emulex LP9002S-E**	FC-AL[8], FC-SW[9, 10, 11]	

Sun – Sun Solaris							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
22	**Sun Fire: 4800, 6800**	Sun Solaris 8 Update 7[18]	**Sun Sun Cluster 3.1[34, 35]**	HA: 2	**Emulex: LP8000-EMC[25] LP9002-E (LP9002L-E), LP9002C-E, LP9802-E;** **QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL[8] FC-SW[9], 10, 11	
23	**Netra 1280, Sun Fire: 280R, 4810, V1280, V240, V480, V880**	Sun Solaris 8 Update 7[18]	**Sun Sun Cluster 3.1[34, 35]**	HA: 2	**Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9802-E;** **QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[8] FC-SW[9], 10, 11	
24	**Ultra: 220R[24], 250, 420R[24], 450**	Sun Solaris 8 Update 7[18]	**Sun Sun Cluster 3.1[34, 35]**	HA: 2	**Emulex: LP9002-E (LP9002L-E), LP9802-E;** **QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[8] FC-SW[9], 10, 11	
25	**Sun Fire 3800**	**Sun Solaris 8[18]**	**Sun Sun Cluster 3.0 Update 3[28]**	HA: 4[27] OPS: 4[27] RAC: 4[27]	**Emulex LP9002C-E; QLogic QCP2202F-E-SP**	FC-AL[8] FC-SW[9], 10, 11	
26	**Ultra Enterprise 10000, 3500, 4500, 5500, 6500**	**Sun Solaris 8[18]**	**Sun Sun Cluster 3.0 Update 3[28]**	HA: 4[27] OPS: 4[27] RAC: 4[27]	**Emulex LP9002S-E**	FC-AL[8] FC-SW[9], 10, 11	
27	**Sun Fire: 4800, 6800**	**Sun Solaris 8[18]**	**Sun Sun Cluster 3.0 Update 3[28]**	HA: 4[27] OPS: 4[27] RAC: 4[27]	**Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9002C-E, LP9802-E;** **QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL[8] FC-SW[9], 10, 11	
[illegible]	**Netra 1280; Sun Fire: 280R, 4810, V1280, V240, V480, V880**	**Sun Solaris 8[18]**	**Sun Sun Cluster 3.0 Update 3[28]**	HA: 4[27] OPS: 4[27] RAC: 4[27]	**Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9802-E;** **QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[8] FC-SW[9], 10, 11	
29	**Ultra: 220R[24], 250, 420R[24], 450**	**Sun Solaris 8[18]**	**Sun Sun Cluster 3.0 Update 3[28]**	HA: 4[27] OPS: 4[27] RAC: 4[27]	**Emulex: LP9002-E (LP9002L-E), LP9802-E,** **QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[8] FC-SW[9], 10, 11	
30	Netra 1280; Sun Fire: 280R, 4800, 4810, 6800, V1280, V240, V480, V880	Sun Solaris 8[18]	Veritas Cluster Server (VCS) 3.5[15, 19]	HA: 8	Emulex LP8000-EMC[25]	FC-AL[8] FC-SW[9], 10, 11	
31	Ultra Enterprise 5500	Sun Solaris 8[18]	Veritas Cluster Server (VCS) 3.5[15, 19]	HA: 8	Emulex LP9002S-E	FC-AL[8] FC-SW[9], 10, 11	
32	Sun Fire 3800	Sun Solaris 8[18]	Veritas DBED/AC for 9iRAC 3.5[15, 19, 20, 21, 22]	RAC: 4[23]	Emulex LP9002C-E; QLogic QCP2202F-E-SP	FC-AL[8] FC-SW[9], 10, 11	
33	Sun Fire: 4800, 6800	Sun Solaris 8[18]	Veritas DBED/AC for 9iRAC 3.5[15, 19, 20, 21, 22]	RAC: 4[23]	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	
34	Netra 1280; Sun Fire: 280R, 4810, V1280, V240, V480, V880	Sun Solaris 8[18]	Veritas DBED/AC for 9iRAC 3.5[15, 19, 20, 21, 22]	RAC: 4[23]	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	
35	Ultra: 220R[24], 250, 420R[24], 450	Sun Solaris 8[18]	Veritas DBED/AC for 9iRAC 3.5[15, 19, 20, 21, 22]	RAC: 4[23]	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	
36	Ultra Enterprise: 10000, 3500, 4500, 6500	Sun Solaris 8[18]	Veritas DBED/AC for 9iRAC 3.5[15, 19, 20, 21, 22]	RAC: 4[23]	Emulex: LP9002S-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	
37	Sun Fire 3800	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[15, 19, 31]	HA: 8	Emulex LP9002C-E; QLogic QCP2202F-E-SP	FC-AL[8] FC-SW[9], 10, 11	See[30]
38	Ultra Enterprise 5500	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[15, 19, 31]	HA: 8	Emulex LP9002S-E	FC-AL[8] FC-SW[9], 10, 11	See[30]
39	Sun Fire: 4800, 6800	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[15, 19, 31]	HA: 8	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	See[30]
40	Netra 1280; Sun Fire: 280R, 4810, V1280, V240, V480, V880	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[15, 19, 31]	HA: 8	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	See[30]
41	Ultra: 220R[24] 250, 420R[24], 450	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[15, 19, 31]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	See[30]

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No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
42	Ultra Enterprise: 10000, 3500, 4500, 6500	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[15, 19, 31]	HA: 8	Emulex: LP9002S-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	See[30]
43	Sun Fire 3800	Sun Solaris 9[33]	Sun Sun Cluster 3.0 Update 3[28]	HA: 4 [27]	Emulex LP9002C-E; QLogic QCP2202F-E-SP	FC-AL[8] FC-SW[9], 10, 11	
44	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris 9[33]	Sun Sun Cluster 3.0 Update 3[28]	HA: 4 [27]	Emulex LP9002S-E	FC-AL[8] FC-SW[9], 10, 11	
45	Sun Fire: 4800, 6800	Sun Solaris 9[33]	Sun Sun Cluster 3.0 Update 3[28]	HA: 4 [27]	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9002C-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	
46	Netra 1280; Sun Fire: 280R, 4810, V1280, V240, V480, V880	Sun Solaris 9[33]	Sun Sun Cluster 3.0 Update 3[28]	HA: 4 [27]	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	
47	Ultra: 220R[24], 250, 420R[24], 450	Sun Solaris 9[33]	Sun Sun Cluster 3.0 Update 3[28]	HA: 4 [27]	Emulex: LP9002-E (LP9002L-E), LP9802-E, QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	
48	Sun Fire 3800	Sun Solaris 9[33]	Sun Sun Cluster 3.1	HA: 2 [35, 36]	Emulex LP9002C-E; QLogic QCP2202F-E-SP	FC-AL[8] FC-SW[9], 10, 11	
	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris 9[33]	Sun Sun Cluster 3.1	HA: 2 [35, 36]	Emulex LP9002S-E	FC-AL[8] FC-SW[9], 10, 11	
50	Sun Fire: 4800, 6800	Sun Solaris 9[33]	Sun Sun Cluster 3.1	HA: 2 [35, 36]	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9002C-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	
51	Netra 1280; Sun Fire: 280R, 4810, V1280, V240, V480, V880	Sun Solaris 9[33]	Sun Sun Cluster 3.1	HA: 2 [35, 36]	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	
52	Ultra: 220R[24], 250, 420R[24], 450	Sun Solaris 9[33]	Sun Sun Cluster 3.1	HA: 2 [35, 36]	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	
53	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80	Sun Solaris: 2.6, 7[12]	Veritas Cluster Server (VCS) 1.1.2[15]	HA: 2	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E)	FC-AL[8] FC-SW[9], 10, 11	
54	Ultra Enterprise: 10000, 3000, 3500, 6000, 6500	Sun Solaris: 2.6, 7[12]	Veritas Cluster Server (VCS) 1.1.2[15]	HA: 2	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E); JNI FC64-1063-N-DG[6]	FC-AL[8] FC-SW[9], 10, 11	
55	Ultra Enterprise: 10000[13], 5000	Sun Solaris: 2.6, 7[12], 8	Sun Sun Cluster 2.2[1, 2]	HA: 2	Emulex LP9002S-E; JNI FC64-1063-N-DG[4, 5, 6, 7]	FC-AL[8] FC-SW[9], 10, 11	
56	Ultra Enterprise: 3000, 3500, 4000, 4500, 5500, 6000, 6500	Sun Solaris: 2.6, 7[12], 8	Sun Sun Cluster 2.2[1, 2]	HA: 2	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E; JNI FC64-1063-N-DG[4, 5, 6, 7]; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	
57	Netra: 1120[29], 1125[29], 1400[29], 1405[29], T1; Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000	Sun Solaris: 2.6, 7[12], 8	Sun Sun Cluster 2.2[1, 2]	HA: 2	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[9], 10, 11	
58	Netra: 1120, 1125, 1400, 1405	Sun Solaris: 2.6, 7[12], 8	Veritas Cluster Server (VCS) 1.3[2]	HA: 8 [17]	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E)	FC-AL[8] FC-SW[9], 10, 11	
59	Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000	Sun Solaris: 7[12], 8	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9802-E	FC-AL[8] FC-SW[9], 10, 11	
60	Ultra Enterprise 10000[13]	Sun Solaris: 7[12], 8	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[15, 16]	HA: 8	Emulex LP9002S-E	FC-AL[8] FC-SW[9], 10, 11	
61	Ultra Enterprise: 3000, 3500, 6000, 6500	Sun Solaris: 7[12], 8	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[15, 16]	HA: 8	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E	FC-AL[8] FC-SW[9], 10, 11	
62	Ultra Enterprise: 10000[13] 3000, 3500, 6000, 6500	Sun Solaris: 7[12], 8	Veritas Cluster Server (VCS) 1.3[2]	HA: 8 [14]	Emulex LP9002S-E	FC-AL[8] FC-SW[9], 10, 11	
63	Netra: 1120, 1125, 1400, 1405	Sun Solaris: 7[12], 8	Veritas Cluster Server (VCS) 1.3[2]	HA: 8 [17]	Emulex LP9802-E	FC-AL[8] FC-SW[9], 10, 11	

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No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
64	Netra: 1120, 1125, 1400, 1405; Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000	Sun Solaris: 7[12], 8	Veritas Cluster Server (VCS) 2.0[15, 16]	HA: 8	Emulex: LP8000-EMC[25], LP9002-E (LP9002L-E), LP9802-E	FC-AL[8] FC-SW[9, 10, 11]	
65	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 6000, Enterprise 6500	Sun Solaris 7[12]	Veritas Cluster Server (VCS) 1.1.2[15]	HA: 2	Emulex LP9002DC-E	FC-AL[8] FC-SW[10, 11]	
66	Sun Fire: 12K, 15K	Sun Solaris 8	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[15, 16]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E	FC-AL[8] FC-SW[10, 11]	
67	Sun Fire: 12K, 15K	Sun Solaris 8	Veritas Cluster Server (VCS) 1.3[2]	HA: 8 [17]	Emulex: LP9002-E (LP9002L-E), LP9802-E	FC-AL[8] FC-SW[10, 11]	
68	Ultra: 220R[24], 250, 420R[24], 450	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[15, 19]	HA: 8	Emulex LP9002DC-E	FC-AL[8] FC-SW[10, 11]	
69	Sun Fire: 12K, 15K	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[15, 19]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E, QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[10, 11]	
70	**Ultra: 220R[24], 250, 420R[24], 450**	Sun Solaris 8 Update 7[18]	**Sun Sun Cluster 3.1[34, 35]**	**HA: 2**	**Emulex LP9002DC-E**	FC-AL[8] FC-SW[10, 11]	
71	**Sun Fire: 12K, 15K**	Sun Solaris 8 Update 7[18]	**Sun Sun Cluster 3.1[34, 35]**	**HA: 2**	**Emulex: LP9002-E (LP9002L-E), LP9802-E, QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[8] FC-SW[10, 11]	
72	**Ultra: 220R[24], 250, 420R[24], 450**	**Sun Solaris 8[18]**	**Sun Sun Cluster 3.0 Update 3[28]**	HA: 4 [27] OPS: 4 [27] RAC: 4 [27]	**Emulex LP9002DC-E**	FC-AL[8] FC-SW[10, 11]	
73	**Sun Fire: 12K, 15K**	**Sun Solaris 8[18]**	**Sun Sun Cluster 3.0 Update 3[28]**	HA: 4 [27] OPS: 4 [27] RAC: 4 [27]	**Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[8] FC-SW[10, 11]	
74	Ultra: 220R[24], 250, 420R[24], 450	Sun Solaris 8[18]	Veritas DBED/AC for 9iRAC 3.5[15, 19, 20, 21, 22]	RAC: 4 [23]	Emulex LP9002DC-E	FC-AL[8] FC-SW[10, 11]	
75	Sun Fire: 12K, 15K	Sun Solaris 8[18]	Veritas DBED/AC for 9iRAC 3.5[15, 19, 20, 21, 22]	RAC: 4 [23]	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[10, 11]	
76	Ultra: 220R[24], 250, 420R[24], 450	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[15, 19, 31]	HA: 8	Emulex LP9002DC-E	FC-AL[8] FC-SW[10, 11]	See[30]
77	Sun Fire: 12K, 15K	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[15, 19, 31]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[8] FC-SW[10, 11]	See[30]
78	**Ultra: 220R[24], 250, 420R[24], 450**	**Sun Solaris 9[33]**	**Sun Sun Cluster 3.0 Update 3[28]**	HA: 4 [27]	**Emulex LP9002DC-E**	FC-AL[8] FC-SW[10, 11]	
79	**Sun Fire: 12K, 15K**	**Sun Solaris 9[33]**	**Sun Sun Cluster 3.0 Update 3[28]**	HA: 4 [27]	**Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[8] FC-SW[10, 11]	
	Ultra: 220R[24], 250, 420R[24], 450	**Sun Solaris 9[33]**	**Sun Sun Cluster 3.1**	**HA: 2 [35, 36]**	**Emulex LP9002DC-E**	FC-AL[8] FC-SW[10, 11]	
81	**Sun Fire: 12K, 15K**	**Sun Solaris 9[33]**	**Sun Sun Cluster 3.1**	**HA: 2 [35, 36]**	**Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[8] FC-SW[10, 11]	
82	Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 6000, Enterprise 6500	Sun Solaris: 7[12], 8	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	Emulex LP9002DC-E	FC-AL[8] FC-SW[10, 11]	
83	Netra: 1120[29], 1125[29], 1400[29], 1405[29] T1; Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris: 7[12], 8	Sun Sun Cluster 2.2[1, 2]	HA: 2	Emulex LP9002DC-E	FC-AL[8] FC-SW[10, 11]	
84	Netra: 1120, 1125, 1400, 1405	Sun Solaris: 7[12], 8	Veritas Cluster Server (VCS) 1.3[2]	HA: 8 [17]	Emulex LP9002DC-E	FC-AL[8] FC-SW[10, 11]	
85	Netra: 1120, 1125, 1400, 1405; Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 6000, Enterprise 6500	Sun Solaris: 7[12], 8	Veritas Cluster Server (VCS) 2.0[15, 16]	HA: 8	Emulex LP9002DC-E	FC-AL[8] FC-SW[10, 11]	

1. PowerPath support for Sun Cluster 2.2 with Solaris 8 only FC4700 with Flare level 08.45 only. ODS is not available at this time.
2. Support for FC4500, FC4700 and FC5300, FC5500, FC5700.
3. No longer available
4. Mixing JNI and Emulex SBUS HBAs on the same host connected to the same storage system is not supported. If there is a business reason to do so, submit an RPQ.
5. Requires driver rev 2.07.17 or higher and fcode 13.3.8.02C
6. JNI FC64-1063 HBA's cannot be connected directly to an FC4500 storage array in a multi-host environment. Hubs or switches must be used.
7. Support for FC4500, FC4700, and FC5300.
8. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
9. FC-AL and FC-SW topologies can co-exist on the same server but not on the same HBA, provided that the different topologies are attached to different HBAs
10. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.
11. FC-SW applies only to CX600, CX400, FC4500 and FC4700
12. No OPS support for Solaris 7.

13. Dynamic Reconfiguration is supported (Enterprise 10000 SBus only); requires ATF v3.1.2 or higher
14. Cluster with more than 4 nodes requires VCS patch P2 and VxVM v3.1 patch P4
15. GAB disks (membership and service group heartbeat disks) are not supported.
16. Supported on CX600, CX400, FC4500, FC4700 Only
17. Clusters with more than 4 nodes require VCS patch P2 and VxVM v3.1 patch P4
18. Requires Solaris 8 update 7
19. Supported with Powerpath 3.x configuration only. Native names only, no "power devices". Review the ESN topology guide section on Oracle DBED/AC case studies for configuration restrictions.
20. Veritas HA clusters are supported with FC-SW only
21. Review the ESN Topology Guide section on Oracle DBED/AC Case Studies for configuration restrictions.
22. If all FC connectivity to the array is lost (without a server shutdown), then after connectivity is restored, the user must execute a vxdctl enable command, before the VCS Oracle 9iRAC service group is brought back online.
23. Veritas MP1 is required for clusters with more than 2 servers
24. 64-bit HBAs will not fit into the 32-bit slot due to a physical obstruction.
25. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
26. See the EMC price book for HBA vendor ordering information. This HBA is not sold by EMC
27. OPS, RAC, or greater than 2-node HA are supported with FC-SW only
28. **For new installations, core software minimum requirement with**
    CX600
    Array software – Access Logix 02.04.1.60.5.002
    Array software – Non-Access Logix 02.04.0.60.5.002
    CX400
    Array software – Access Logix 02.04.1.40.5.002
    Array software – Non-Access Logix 02.04.0.40.5.002
    FC4700
    Array software – Access Logix 08.49.51
    Array software – Non-Access Logix 08.49.01

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Solaris 9:
Core software minimum requirements same as new installations (above)
Support for Veritas Volume Manager VxVM 3.2 Patch 03 and Solaris Volume Manager require an RPQ.

Solaris 8:
Supported on CX600, CX400 running release core software, FC4700 running Flare level 08.46 or later. Requires PowerPath 3.0.2 or later, no ATF support.
Greater than 2-node OPS, RAC configurations supported on CX600 running 02.02.1.60.5.005, CX400 running 02.02.1.40.5.006 level core software (or later), FC4700 running Flare level 08.47 or later.
If using VxVM, requires VxVM 3.2 patch 03. Do not install VxVM patch 112388-01.

29. Supported with VCS only.
30. Supported on CX600, CX400 and FC4700-2 only.
31. Supported with VCS 3.5 Maintenance Patch 1
32. Please review Veritas support pages for latest patch information.
33. **EMC required Sun patches for Solaris 9:**
    112233-06 Sun OS 5.9: kernel patch
    112834-02 Sun OS 5.9: patch SCSI
    113277-11 Sun OS 5.9: sd and ssd patch
34. **Supported only on VxVM 3.2 P03, VxVM 3.5 MP1, and SDS 4.2.1**
35. **Requires RPQ**
36. **Supported only on VxVM 3.5 MP1 and SVM**

Fibre Connectivity: Hub

Please refer to the fibre channel cables and connectors reference file: EPIc_FibreCablesConnectors.pdf.Please refer to the Base Connectivity Interoperability Application for details concerning kernel versions, minimum driver and BIOS / firmware revisions.

HPQ HP-UX

HPQ HP-UX									
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	HPQ HP-UX; 11.0[6], 11.0 990P[6], 11.0 ACE[6], 11i v1.0 (HP-UX 11.11)[6]	HPQ: A3404A, A3591B, A3740A, A5158A, A6684A, A6685A, A6795A	Gadzoox FCL1063TW; HPQ: A3724A/AZ[7], A4839A/AZ[7]	4	1	256	256	128	See[1, 2, 3, 4, 5]

1. Fanout represents the maximum initiators (host adapters) per CLARiiON port. Fanin represents the number of CLARiiON ports visible to a single initiator (host adapter). In arbitrated loop environments, these numbers represent the maximum initiators per loop. In switch environments, these numbers are achieved through Zoning. For further details on Fanin/Fanout, see 'CLARiiON Open Systems Configuration Guide.
2. Hubs not supported for FC4700, CX600, CX400, CX200.
3. Lun Per HBA (FC-AL)

   CX600 256
   CX400 256
   FC4700 233
   FC4500 223
4. Fanout/Fan in

   CX600 4:1/1 4
   CX400 4:1/1 4
   FC4700 4:1/1 4
   FC4500 4:1/1 4
5. Luns Per Array (FC-AL)

   CX600 256
   CX400 256
   FC4700 223
   FC4500 223
6. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
7. HP optical Hubs (HP models A3724A and A4839A) have been qualified, but are not sold by EMC.

IBM AIX

IBM AIX									
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	IBM AIX: 4.3.3, 5.1	IBM: 6227, 6228	Gadzoox FCL1063TW[5]	4[10, 11, 12]	4[8, 9] 8[6, 7]	CX400 512 luns, CX600 1024 luns, FC4700 223 luns	256	CX400 512 luns, CX600 1024 luns, FC4700 223 luns	
2	IBM AIX: 4.3.3, 5.1[13]	Emulex: LP8000-EMC[1], LP9002-E, LP9002L-E, LP9002L-F2	Gadzoox FCL1063TW[5]	4[6, 10, 11, 12]	4[8, 9] 8[6, 7]	CX400 512 luns, CX600 1024 luns, FC4700 223 luns	256	CX400 512 luns, CX600 1024 luns, FC4700 223 luns	See[2, 3, 4]

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1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. FC4700 Fanout/Fanin 4:1/1:4
3. CX400 Fanout/Fanin 4:1/1.4
4. CX600 Fanout/Fanin 8:1/1:4
5. Hubs not supported for FC4700, CX600, CX400, CX200.
6. Fanout represents the maximum initiators (host adapters) per CLARiiON port. Fanin represents the number of CLARiiON ports visible to a single initiator (host adapter). In arbitrated loop environments, these numbers represent the maximum initiators per loop. In switch environments, these numbers are achieved through Zoning. For further details on Fanin/Fanout, see CLARiiON Open Systems Configuration Guide.
7. CX600 Fanout 8:1
8. FC4700 Fanout 4:1
9. CX400 Fanout 4:1
10. FC4700 Fanin 1:4
11. CX600 Fanin 1:4
12. CX400 Fanin 1:4
13. No support for the CX400 or CX600. Supports FC4500, FC4700, FC4700-2

Microsoft Windows 2000

Microsoft Windows 2000								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Server: SP2[1], SP3[1]	Emulex: LP8000-EMC[11], LP9802-E, LP9802DC-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Gadzoox FCL1063TW	4	2[3, 4, 7, 4[5, 8], 8[9]	1024[9, 10], 223[3, 4, 5], 256[7], 512[6]	223[2], 256[7, 8, 9]	128
2	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Server: SP2[1], SP3[1]	Emulex: LP9002-E (LP9002L-E), LP982-E	Gadzoox FCL1063TW	4	2[3, 4, 7, 4[5, 8], 8[9]	1024[9, 10], 223[3, 4, 5], 256[7], 512[6]	223[3, 4, 5], 256[7, 8, 9]	128

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. FC4700, FC4500, and FC5300.
3. FC5300
4. FC4500
5. FC4700
6. 256 LUNs per storage group for a maximum of 512 LUNs. 256 LUNs without Access Logix.
7. CX200
8. CX400
9. CX600
10. 256 Luns per storage group for a maximum of 1024 LUNs. 256 LUNs without Access Logix.
11. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

icrosoft Windows NT

Microsoft Windows NT								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Gadzoox FCL1063TW[3]	4	2[7, 8, 9], 4[5, 6], 8[4]	1024[4, 11], 223[6, 7, 8], 256[9], 512[5, 10]	223[6, 7, 8], 256[4, 5, 9]	128

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. No support for Fibre Channel Hubs on AViiON servers.
4. CX600
5. CX400
6. FC4700
7. FC5300
8. FC4500
9. CX200
10. 256 LUNs per storage group for a maximum of 512 LUNs. 256 LUNs without Access Logix.
11. 256 Luns per storage group for a maximum of 1024 LUNs. 256 LUNs without Access Logix.

Novell Netware

Novell Netware									
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	Novell Netware 5.10: SP5[1], SP6; Novell Netware 6.0: SP1[1], SP2[1], SP3	QLogic QLA2310F-E-SP, QLA2340-E-SP	Gadzoox FCL1063TW[3]	4	2[10], 4[5], 8[2]	1024[8], 223[6], 512[7]	223[6], 256[9]	128	See[4]

1. Maximum number of NWFS volumes that can be mounted is 64.
2. CX600 only
3. Hubs not supported for FC4700, CX600, CX400, CX200.
4. Fanout represents the maximum initiators (host adapters) per CLARiiON port. Fanin represents the number of CLARiiON ports visible to a single initiator (host adapter). In arbitrated loop environments these numbers represent the maximum initiators per loop. In switch environments, these numbers are achieved through Zoning. For further details on Fanin/Fanout, see CLARiiON Open Systems Configuration Guide.
5. CX400 and FC4700
6. FC4700, FC4500, and FC5300.
7. CX400 : 256 LUNs per storage group for a maximum of 512 LUNs. 256 LUNs without Access Logix.
8. CX600: 256 Luns per storage group for a maximum of 1024 LUNs. 256 LUNs without Access Logix.
9. CX600 and CX400
10. FC4500 and FC5300

Red Hat Linux

Red Hat Linux								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[2, 9], v2.4.9-E.12[2, 9], v2.4.9-E.16[2, 9] **v2.4.9-E.3[2, 3, 14, 15]**, v2.4.9-E.9[2, 9, 14, 15]; Red Hat Linux 2.1 ES. **v2.4.9-e.12[2, 9]**, v2.4.9-e.16[2, 9]; Red Hat Linux 7.3: (v2.4.18-3)[2], updated w/ v2.4.18-27.7.x rpm[2, 15]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E	Gadzoox FCL1063TW	4	2[6, 10, 11], 4[12, 13], 8[8]	128	128	128
2	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[2, 9], v2.4.9-E.12[2, 9], v2.4.9-E.16[2, 9], **v2.4.9-E.3[2, 3]**, v2.4.9-E.9[2, 9]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[2, 9]**, v2.4.9-e.16[2, 9]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[2, 15]	QLogic: QLA2200F-EMC[1], QLA2310F-E-SP[1], QLA2340-E-SP[1]	Gadzoox FCL1063TW[4]	4	2[6, 7], 4[5], 8[8]	128	128	128
3	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[2, 20], ES v2.4.9-e.24[2, 20]**	**Emulex: LP9002-E (LP9002L-E)[16, 17, 19], LP9802-E[16, 17, 19], LP9802DC-E[16, 17, 19], [22, 23], LP982-E[16, 17, 19]**	**Gadzoox FCL1063TW**	**4**	**2[6, 10, 11], 4[12, 13], 8[8]**	**128**	**128**	**128**
4	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[2, 20], ES v2.4.9-e.24[2, 20]**	**QLogic: QLA2200F-EMC[1, 16, 17, 18, 19], QLA2310F-E-SP[1, 16, 17, 19, 21], QLA2340-E-SP[1, 16, 21]**	**Gadzoox FCL1063TW[4]**	**4**	**2[6, 7], 4[5], 8[8]**	**128**	**128**	**128**

1. Single HBA zoning is required regardless of the switch being utilized.
2. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
3. **Supported with QLogic driver v6.04.02 or v6.05.00.**
4. Hubs not supported for FC4700, CX600, CX400, CX200
5. CX400 and FC4700
6. CX200
7. FC4500 and FC5300
8. CX600
9. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
10. FC5300
11. FC4500
12. CX400
13. FC4700
14. This kernel is limited to 100 devices, not 128.
15. Requires v6.2.1 or higher Navisphere host agent/CLI.
16. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
17. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
18. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
19. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
20. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
21. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
22. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
23. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**

SGI IRIX

SGI IRIX								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	SGI IRIX 6.5.11, 6.5.12	SGI PCI-FC-1P-OPT-A	Gadzoox FCL1063TW[7]	4[1]	8[1, 6]	255[4, 5]	256	223[2, 3] See notes[2, 3]
2	SGI IRIX 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B	Gadzoox FCL1063TW[7]	4[1]	8[1, 6]	255[4, 5]	256	223[2, 3] See notes[2, 3]

1. Fanout represents the maximum initiators (host adapters) per CLARiiON port. Fanin represents the number of CLARiiON ports visible to a single initiator (host adapter). In arbitrated loop environments, these numbers represent the maximum initiators per loop. In switch environments, these numbers are achieved through Zoning. For further details on Fanin/Fanout, see CLARiiON Open Systems Configuration Guide.
2. FC4700 223, CX400 512, CX600 1024
3. The maximum number of LUNs which IRIX can address on a single CLARiiON is 255.
4. Maximum for FC4700 is 223
5. This is the maximum number of LUNs supported by IRIX on a single CLARiiON, independent of the number of ports on the array.
6. FC4700, CX400 4:1; CX600 8:1
7. Hubs not supported for FC4700 CX600, CX400, CX200

SuSE Linux

SuSE Linux								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	SuSE Linux SLES 7: (v2.4.7)[2, 3, 4], updated with SuSE v2.4.18 rpm[10, 11]	QLogic: QLA2200F-EMC[1]. QLA2310F-E-SP[1], QLA2340-E-SP[1]	Gadzoox FCL1063TW[9]	4	2[6, 7], 4[8], 8[5]	128	128	128
2	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[17, 18]**	**QLogic. QLA2200F-EMC[1, 19, 21] QLA2310F-E-SP[1, 19, 20], QLA2340-E-SP[1, 19, 20]**	**Gadzoox FCL1063TW[9]**	**4**	**2[6, 7], 4[8], 8[5]**	**128**	**128**	**128**
3	SuSE Linux SLES 8 v2.4.19-SuSE.175[12, 13, 14]	QLogic: QLA2200F-EMC[1, 15], QLA2310F-E-SP[1, 16], QLA2340-E-SP[1, 16]	Gadzoox FCL1063TW[9]	4	2[6, 7], 4[8], 8[5]	128	128	128

1. Single HBA zoning is required regardless of the switch being utilized.
2. Supported with QLogic driver v6.04.02.
3. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
4. EMC supports the following filesystems: ext2, ext3 reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
5. CX600
6. CX200
7. FC4500 and FC5300
8. CX400 and FC4700
9. Hubs not supported for FC4700, CX600, CX400, CX200
10. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
11. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
12. Requires QLogic driver v6.04.00 or above.
13. Requires QLogic v6.04.02 driver.
14. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
15. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
16. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
17. **Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
18. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
19. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
20. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
21. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

ın Solaris

Sun Solaris									
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	Sun Solaris 8	Emulex: LP8000-EMC[7], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9002S-E, LP9802-E; JNI: FC64-1063-DG, FC64-1063-N-DG; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Gadzoox FCL1063TW	4	4	1024[3, 4], 256[5, 6]	256	128	See[1, 2]
2	Sun Solaris 9	Emulex: LP9002C-E, LP9002DC-E, LP9802-E: QLogic QCP2202F-E-SP	Gadzoox FCL1063TW	4	4	1024[3, 4], 256[5, 6]	256	128	See[1, 2]
3	Sun Solaris: 2.6, 7	Emulex: LP8000-EMC[7], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E; JNI: FC64-1063-DG, FC64-1063-N-DG; QLogic: QLA2340-E-SP, QLA2342-E-SP	Gadzoox FCL1063TW	4	4	1024[3, 4], 256[5, 6]	256	128	See[1, 2]

1. Hubs not supported for FC4700, CX600, CX400, CX200
2. Fanout represents the maximum initiators (host adapters) per CLARiiON port. Fanin represents the number of CLARiiON ports visible to a single initiator (host adapter). In arbitrated loop environments, these numbers represent the maximum initiators per loop. In switch environments, these numbers are achieved through Zoning. For further details on Fanin/Fanout, see CLARiiON Open Systems Configuration Guide.
3. CX600
4. 256 Luns per storage group for a maximum of 1024 LUNs. 256 LUNs without Access Logix.
5. CX400
6. 256 LUNs per storage group for a maximum of 512 LUNs. 256 LUNs without Access Logix.
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Fibre Connectivity: Switch

DG DG/UX

DG DG/UX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	DG DG/UX R4.20MU07	Emulex LP8000-F1	Brocade Silkworm: 2400[1], 2800[1], 6400[1]: EMC Connectrix: DS-16B[1, 2], DS-16B2[3], DS-8B[1]	6	6	128	256	N

1. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
2. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
3. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.

EMC NAS

EMC NAS								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	**EMC NAS 4.2.18**	**EMC: 201-712-900, 250-734-902, 250-735-900, 250-736-900**	**Brocade Silkworm: 2400, 2800, 3200, 3800, 6400;** **EMC Connectrix: DS-16B[1], DS-16B2[3, 4], DS-16M2, DS-24M2, DS-32M2, ED-1032[5], ED-140M, ED-64M;** **Fujitsu Siemens PSFS-B161;** **McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**8[2]**	**14**	**138[7], 92[8]**	**40**	**N**

EMC NAS								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
2	**EMC NAS 5.1.15**	**EMC: 201-712-900, 250-734-902, 250-735-900, 250-736-900**	**Brocade Silkworm: 2400, 2800, 3200, 3800, 6400; Cisco MDS: 9216[6], 9509[6]; EMC Connectrix: DS-16B[1], DS-16B2[3, 4], DS-16M2, DS-24M2, DS-32M2, ED-1032[5], ED-140M, ED-64M; Fujitsu Siemens PSFS-B161, McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**8[2]**	**14**	**138[7], 92[8]**	**40**	**N**
3	**EMC NAS: 4.1.12, 4.1.4, 4.1.8, 4.2.11, 4.2.5**	**EMC: 201-712-900 250-734-902, 250-735-900, 250-736-900**	**Brocade Silkworm: 2400, 2800, 3200, 3800, 6400; EMC Connectrix: DS-16B[1], DS-16B2[3, 4], DS-16M2, DS-24M2, DS-32M2, ED-1032[5], ED-140M, ED-64M; Fujitsu Siemens PSFS-B161, McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**8[2]**	**14**	**92**	**40**	**N**
4	**EMC NAS: 5.0.11, 5.0.9, 5.1.9**	**EMC: 201-712-900, 250-734-902, 250-735-900, 250-736-900**	**Brocade Silkworm: 2400, 2800, 3200, 3800, 6400; Cisco MDS: 9216[6], 9509[6]; EMC Connectrix: DS-16B[1], DS-16B2[3, 4], DS-16M2, DS-24M2, DS-32M2, ED-1032[5], ED-140M, ED-64M; Fujitsu Siemens PSFS-B161, McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**8[2]**	**14**	**92**	**40**	**N**

1. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
2. With 4 DPE
3. Firmware 3.02a or later required.
   EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
   Firmware 4.00.00 or later required.
   For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
7. **CX600**
8. **FC4700-2**

HPQ HP-UX

HPQ HP-UX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	HPQ HP-UX 11.0 Dec 2002[7]	HPQ A6795A[15]	Cisco MDS: 9216, 9509[17]	4	1, 32	256	256	Y	See[16]
2	HPQ HP-UX 11.0 March 2003[7]	HPQ A5158A	Cisco MDS 9216[17]	4	32	256	512	Y	See[4, 5, 6, 14]
3	HPQ HP-UX 11.0 March 2003[7]	HPQ: A6684A A6685A	Cisco MDS 9509[17]	4	32	256	512	Y	See[4, 5, 6, 14]
4	HPQ HP-UX 11.0: 990P[7], ACE[7]; HPQ HP-UX 11i v1.0 (HP-UX 11.11)[7]	HPQ A6795A	Brocade Silkworm: 12000[3, 9], 2400[1, 2, 3], 2800[1, 2, 3], 3200[3, 9, 11], 3800[3, 9, 11], 3900[3, 9, 11], 6400[3, 9, 11]; Cisco MDS 9509[17]; EMC Connectrix: DS-16B[1, 2, 3, 8], DS-16B2[3, 9, 10, 11], DS-16M2[3], DS-24M2[3], DS-32B2[3, 12], DS-32M2[3], DS-8B[1, 2, 3], ED-1032[3], ED-12000B[9, 12], ED-140M, ED-64M[3]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	1	256	256	Y	See[4, 5, 6]
5	HPQ HP-UX 11.0: 990P[7], ACE[7]; HPQ HP-UX 11i v1.0 (HP-UX 11.11)[7]	HPQ: A3404A, A3591B, A3740A, A5158A, A6684A, A6685A	Brocade Silkworm: 12000[3, 9], 2400[1, 2, 3], 2800[1, 2, 3], 3200[3, 9, 11], 3800[3, 9, 11], 3900[3, 9, 11], 6400[3, 9, 11]; EMC Connectrix: DS-16B[1, 2, 3, 8], DS-16B2[3, 9, 10, 11], DS-16M2[3], DS-24M2[3], DS-32B2[3, 12], DS-32M2[3], DS-8B[1, 2, 3], ED-1032[3], ED-12000B[9, 12], ED-140M, ED-64M[3]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	1	256	256	Y	See[4, 5, 6]
6	HPQ HP-UX 11.0[7]	HPQ A6795A	Brocade Silkworm: 12000[3, 9, 13], 2400[1, 2, 3], 2800[1, 2, 3], 3200[3, 9, 11], 3800[3, 9, 11], 3900[3, 9, 11], 6400[3, 9, 11]; Cisco MDS 9509[17]; EMC Connectrix: DS-16B[1, 2, 3, 8], DS-16B2[3, 9, 10, 11], DS-16M2[3], DS-24M2[3], DS-32B2[3, 12], DS-32M2[3], DS-8B[1, 2, 3], ED-1032[3], ED-12000B[9, 12], ED-140M, ED-64M[3]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	1	256	256	Y	See[4, 5, 6]

HPQ HP-UX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
7	HPQ HP-UX 11.0[7]	HPQ: A3404A, A3591B, A3740A, A5158A, A6684A, A6685A	Brocade Silkworm: 12000[3, 9, 13], 2400[1, 2, 3], 2800[1, 2, 3], 3200[3, 9, 11], 3800[3, 9, 11], 3900[3, 9, 11], 6400[3, 9, 11]; EMC Connectrix: DS-16B[1, 2, 3, 8], DS-16B2[3, 9, 10, 11], DS-16M2[3], DS-24M2[3], DS-32B2[3, 12], DS-32M2[3], DS-8B[1, 2, 3], ED-1032[3], ED-12000B[9, 12], ED-140M, ED-64M[3]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	1	256	256	Y	See[4, 5, 6]
8	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2002[7]	HPQ A5158A	Cisco MDS 9216[17]	4	32	256	512	Y	See[18]
9	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2002[7]	HPQ: A6684A A6685A	Cisco MDS 9509[17]	4	32	256	512	Y	See[18]
10	HPQ HP-UX: 11.0 March 2003[7], 11i v1.0 (HP-UX 11.11) Dec 2002[7]	HPQ A6795A	Cisco MDS: 9216[17], 9509[17]	4	32	256	512	Y	See[18]
11	HPQ HP-UX: 11.0 March 2003[7], 11i v1.0 (HP-UX 11.11) March 2003[7]	**HPQ A5158A**	**Cisco MDS 9509[17]**	**4**	**32**	**256**	**512**	**Y**	
12	HPQ HP-UX: 11.0[7], 11i v1.0 (HP-UX 11.11)[7]	HPQ A6795A	Brocade Silkworm: 12000, 3200, 3800, 3900; Cisco MDS 9509[17]; EMC Connectrix: DS-16B2[10], DS-16M2, DS-24M2, DS-32B2[12], DS-32M2, ED-1032, ED-64M	4	32	256	256	Y	See[14]
13	HPQ HP-UX: 11.0[7], 11i v1.0 (HP-UX 11.11)[7]	HPQ: A3404A, A3591B, A3740A, A5158A, A6684A, A6685A	Brocade Silkworm: 12000, 3200, 3800, 3900; EMC Connectrix: DS-16B2[10], DS-16M2, DS-24M2, DS-32B2[12], DS-32M2, ED-1032, ED-64M	4	32	256	256	Y	See[14]

1. Requires at least v5.11.09 of FC5700 Core Software (a.k.a. Flare), v5.32.01 of FC4500 Core Software or v5.24.00 of FC5300 Core Software.
2. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
3. Switch support can be QuickLoop dedicated to any HP hosts in Table 84 on page 226 or heterogeneous fabric with HP FC-SW (fabric) hosts in that table. For FC4700, one port on each SP may be used for QuickLoop when the other port is used for FC-SW. QuickLoop support requires chargeable model DSBQLP-0D.
4. Luns Per Array (FC-SW)

   CX600 1024 (256 LUNs per storage group, 32 LUNs maximum per RAID group, 32 RAID groups maximum.

   CX400 512
   FC4700 223
   FC4500 223
5. Fanout/Fan in

   CX600 32:1/1:4
   CX400 32:1/1:4
   FC4700 32:1/1:4 (08.42.xx or higher microcode)
   15:1/1:4 (08.41.xx or lower microcode)

   FC4500 15:1/1:4
6. Luns Per HBA

   CX600 256
   CX400 256
   FC4700 223
   FC4500 223
7. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
   EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
   QuickLoop is not supported with Brocade 3200/3800/12000 or DS-16B2, ED-12000B.
10. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only
11. FC4700-2 supported at 1 Gb and 2 Gb.
12. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware. 1 x L1 or 2 x L2 ports per quad only.
13. Boot support Minimum fw.v4.0.2a
14. CX600 Fanout/in 32:1/1:4
    CX400 Fanout/in 32:1/1:4
    FC4700 Fanout/in 32:1/1:4
    FC4500 Fanout/in 15:1/1:4
15. supported sever model: rp5470 PDC 42.06
16. NDU base: 08.49.51
17. During initial switch configuration, the Persistent FC ID's must be enabled on the Vsan that contains any HPUX HBAs. If Persistent FC IDs are enabled to an existing Vsan containing non HPUX HBAs, the process may be disruptive. See MDS 9000 Family Configuration Guild for details.
18. Minimum microcode revision: 08.49.51

HPQ Tru64 UNIX

HPQ Tru64 UNIX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	HPQ Tru64 UNIX V5.0A	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	Brocade Silkworm: 12000, 2400[5], 2800[5], 3200, 3800[4], 3900, 6400; EMC Connectrix: DS-16B[5, 8], DS-16B2[4, 7], DS-16M2, DS-24M2, DS-32B2[6], DS-32M2, DS-8B[5], ED-1032, ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	CX400: 512, CX600: 1024, FC4700: 223	255[3]	Y	See[1]

HPQ Tru64 UNIX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
2	HPQ Tru64 UNIX: V5.1, V5.1A, **V5.1B**[2]	HPQ KGPSA-CA (168794-B21)	Brocade Silkworm: 12000, 2400[5], 2800[5], 3200, 3800[4], 3900, 6400: EMC Connectrix: DS-16B[5, 8], DS-16B2[4, 7], DS-16M2, DS-24M2, DS-32B2[6], DS-32M2, DS-8B[5], ED-1032, ED-12000B[6], ED-140M ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	CX400: 512, CX600: 1024, FC4700: 223	255[3]	Y	See[1]
3	HPQ Tru64 UNIX: V5.1 V5.1A, **V5.1B**[2]	HPQ KGPSA-CA (168794-B21)[10]	Cisco MDS: 9216[9], 9509[9]	4	32	CX400: 512, CX600: 1024, FC4700: 223	255[3]	Y	See[1]
4	HPQ Tru64 UNIX: V5.1, V5.1A, **V5.1B**[2]	HPQ: FCA2354 (LP9002), KGPSA-BC (380574-001), KGPSA-DA (261329-B21)	Brocade Silkworm: 12000, 2400[5], 2800[5], 3200, 3800[4], 3900, 6400: Cisco MDS: 9216[9], 9509[9]: EMC Connectrix: DS-16B[5, 8], DS-16B2[4, 7], DS-16M2, DS-24M2, DS-32B2[6], DS-32M2, DS-8B[5], ED-1032, ED-12000B[6], ED-140M, ED-64M: McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	CX400: 512, CX600: 1024, FC4700: 223	255[3]	Y	See[1]

1. Supported on CX600, CX400 and FC4700-2 only.
2. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
3. CX600/CX400: 255 LUNs/HBA -- FC4700 223 LUNs/HBA
4. Firmware v3.0.2d or later is required with the DS-16B2 switch.
5. DS-8B or DS-16B switches only; qualified with firmware v2.1.4a, v2.2, and v2.3.
6. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
7. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only
8. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
9. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
10. KGPSA-CA / Cisco MDS 9xxx. Tru64 host bootup may fail if switch port speed is hard-set to 1 Gb/s. Switch port should be set to Auto-Negotiate.

IBM AIX

IBM AIX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	IBM AIX 5.1	IBM 6239	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2], 3800[2], 3900[2], 6400[2]; EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 9, 10], DS-16M2[2], DS-24M2[2], DS-32B2[2, 7], DS-32M2[2], DS-8B[2], ED-1032[2, 4, 8], ED-12000B[2, 7], ED-140M[2], ED-64M[2]; McDATA: ED-6064[2], ED-6140[2], ES-3216[2], ES-3232[2], ES-4500[2]	4	32	CX400 512 luns, Cx600 1024 luns, FC4700 223 luns	256, 512	Y[5]	See[3]
2	IBM AIX: 4.3.3, 5.1	Emulex LP9002-E	Brocade Silkworm: 12000[2], 2400[2, 3], 2800[2, 3], 3200[2], 3800[2], 3900[2], 6400[2]; EMC Connectrix: DS-16B[2, 4, 6], DS-16B2[9, 10], DS-16M2[2, 4], DS-24M2[2, 4], DS-32B2[2, 4, 7], DS-32M2[2, 4], DS-8B[2, 3, 4] ED-1032[2, 4, 8], ED-12000B[2, 4, 7], ED-140M[2, 4], ED-64M[2, 4]; McDATA: ED-6064[2, 4], ED-6140[2, 4], ES-3216[2, 4], ES-3232[2, 4], ES-4500[2, 4]	32	4	CX400 512 luns, Cx600 1024 luns, FC4700 223 luns	256	Y[5]	See[3]
3	IBM AIX 4.3.3, 5.1	Emulex LP9002-E	EMC Connectrix DS-16B2[10]	32	4	1024, 223[13], 512[12]	256	Y[5]	
4	IBM AIX: 4.3.3, 5.1	Emulex: LP8000-EMC[1], LP9002L-E, LP9002L-F2	Brocade Silkworm: 12000[2], 2400[2, 3], 2800[2, 3], 3200[2], 3800[2], 3900[2], 6400[2]; EMC Connectrix: DS-16B[2, 4, 6], DS-16B2[9, 10], DS-16M2[2, 4], DS-24M2[2, 4], DS-32B2[2, 4, 7], DS-32M2[2, 4], DS-8B[2, 3, 4] ED-1032[2, 4, 8], ED-12000B[2, 4, 7], ED-140M[2, 4], ED-64M[2, 4]; McDATA: ED-6064[2, 4], ED-6140[2, 4], ES-3216[2, 4], ES-3232[2, 4], ES-4500[2, 4]	32	4	CX400 512 luns, Cx600 1024 luns, FC4700 223 luns	256 luns	Y[5]	See[3]
5	IBM AIX: 4.3.3, 5.1	Emulex: LP8000-EMC[1], LP9002L-E, LP9002L-F2	EMC Connectrix DS-16B2[10]	32	4	1024[11], 223[13], 512[12]	256	Y[5]	
6	IBM AIX, 4.3.3, 5.1	IBM: 6227, 6228	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2], 3800[2], 3900[2], 6400[2]; EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 9, 10], **DS-16M[2]**, DS-16M2[2], DS-24M2[2], DS-32B2[2, 7], **DS-32M[2]**, DS-32M2[2], DS-8B[2], ED-1032[2, 4, 8], ED-12000B[2, 7], ED-140M[2], ED-64M[2]; McDATA: ED-6064[2], ED-6140[2], **ES-3032[2]**, ES-3216[2], ES-3232[2], ES-4500[2]	4	32	CX400 512 luns, Cx600 1024 luns, FC4700 223 luns	256 luns	Y[5]	See[3]
7	IBM AIX: 5.1 5.2	IBM 6239	Cisco MDS: 9216[9], 9509[9]	32	4	1024[11], 223[13], 512[12]	256, 512	Y[5]	
8	IBM AIX, 5.1, 5.2	IBM: 6227, 6228	Cisco MDS: 9216[9], 9509[9]; **EMC Connectrix: DS-16M[2], DS-32M[2],** **McDATA ES-3032[2]**	32	4	1024[11], 223[13], 512[12]	512	Y[5]	

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. Refer to Table 71 on page 202 for single-vendor and mixed-vendor switched fabrics and supported switch firmware
3. Requires at least v5.11.09 of FC5700 Core Software (a.k.a Flare), v5.32.01 of FC4500 Core Software or v5.24.00 of FC5300 Core Software.
4. ED-64 and ED-1032 not supported for FC5300
5. "Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a CLARiiON port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for NO means this host cannot share an FA/SP port with any different OS/HBA):
   1. Access Logix is required to prevent sharing CLARiiON devices between Operating Systems on a single FA port.
   2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/Fanin of 12:1/1:12 and NetWare using the QLA2200F, which has a Fanout/Fanin of 6:1/1:6. The Fanout/Fanin is restricted to 6:1/1:6.
   3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information.
6. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
7. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only
8. Multipath support or connections to the secondary port are not supported at this time.
9. See Switched Fabric Topology Parameters for switch firmware levels.
10. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware. 1 ISL per quad only.
11. CX600 only.
12. CX400 Only
13. FC4700 only

Microsoft Windows 2000

Microsoft Windows 2000									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3]; Microsoft Windows 2000 Server: SP2[3], SP3[3]	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000, 2400[11], 2800[11], 3200, 3800, 3900, 6400; Cisco MDS: 9216[15], 9509[15]; EMC Connectrix: DS-16B[11, 14], DS-16B2[13], DS-16M, DS-16M2, DS-24M2, DS-32B2[12], DS-32M, DS-32M2, DS-8B[11], ED-1032, ED-12000B[12], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4[4]	15[9], 32[4]	223[5]	223[5] 256[6, 7, 8]	Y[10]	See[2]
2	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4	Emulex LP850-EMC	EMC Connectrix ED-140M[15]	4[4]	32[4, 9]	223[5]	256	Y[10]	See[2]
3	**Microsoft Windows 2000: Advanced Server SP4, Datacenter SP4, Server SP4**	**HPQ Dual-port mezzanine controller card[16]**	**EMC Connectrix: DS-16M[15], DS-16M2[15], DS-24M2[15], DS-32M[15], DS-32M2[15], ED-140M[15], ED-64M[15];** **McDATA: ED-5000[15], ED-6064[15], ED-6140[15], ES-2500[15], ES-3016[15], ES-3032[15], ES-3216[15], ES-3232[15], ES-4500[15]**	4	12, 4	128	128	Y	

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. 32 initiators per SP port (128 max) with 08.42.xx or higher microcode on FC4700.
   FC4700, FC4500, and FC5300.
   CX600
7. CX400
8. CX200
9. 15 initiators per array with 08.41.xx or lower microcode on FC4700.
10. "Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a CLARiiON port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for NO means this host cannot share an FA/SP port with any different OS/HBA):
    1. Access Logix is required to prevent sharing CLARiiON devices between Operating Systems on a single FA port.
    2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/Fanin of 12:1/1:12 and NetWare using the QLA2200F, which has a Fanout/Fanin of 6:1/1:6. The Fanout/Fanin is restricted to 6:1/1:6.
    3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information.
11. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D
12. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only
13. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
14. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
15. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
16. **FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.**

Microsoft Windows 2003

Microsoft Windows 2003									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	**Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]**	**Emulex LP850-EMC**	**EMC Connectrix ED-140M[6]**	4[7]	32[7, 8]	223[10]	256	Y[9]	See[5]

Microsoft Windows 2003									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
2	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Emulex: LP8000-EMC[14], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000, 2400[17], 2800[17], 3200, 3800, 3900, 6400; Cisco MDS: 9216[6], 9509[6]; EMC Connectrix: DS-16B[16, 17], DS-16B2[15], DS-16M, DS-16M2, DS-24M2, DS-32B2[18], DS-32M, DS-32M2, DS-8B[17], ED-1032, ED-12000B[18], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4[7]	15[8] 32[7]	223[10]	223[10] 256[11, 12, 13]	Y[9]	See[5]
3	Microsoft Windows 2003, DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	HPQ Dual-port mezzanine controller card[4]	EMC Connectrix: DS-16M[6], DS-16M2[6], DS-24M2[6], DS-32M[6], DS-32M2[6], ED-140M, ED-64M[6]; McDATA: ED-5000[6], ED-6064[6], ED-6140[6], ES-2500[6], ES-3016[6], ES-3032[6], ES-3216[6], ES-3232[6], ES-4500[6]	4	12, 4	128	128	Y	

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
2. PowerPath is not supported.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.
5. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
6. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
7. 32 initiators per SP port (128 max) with 08.42.xx or higher microcode on FC4700.
8. 15 initiators per array with 08.41.xx or lower microcode on FC4700.
9. "Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a CLARiiON port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for NO means this host cannot share an FA/SP port with any different OS/HBA):
   1. Access Logix is required to prevent sharing CLARiiON devices between Operating Systems on a single FA port.
   2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/Fanin of 12:1/1:12 and NetWare using the QLA2200F, which has a Fanout/Fanin of 6:1/1:6. The Fanout/Fanin is restricted to 6:1/1:6.
   3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information.
10. FC4700, FC4500, and FC5300.
11. CX600
12. CX400
13. CX200
14. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
15. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
16. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
17. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
18. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.

Microsoft Windows NT

Microsoft Windows NT									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000, 2400[14], 2800[14], 3200, 3800, 3900, 6400; Cisco MDS: 9216[18], 9509[18]; EMC Connectrix: DS-16B[14, 15], DS-16B2[14, 16], DS-16M, DS-16M2, DS-24M2, DS-32B2[17], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[17], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4[11]	15[9, 12], 2[4, 5], 32[7, 10, 11]	1024[10, 13], 223[4, 5, 6], 256[9], 512[7, 8]	223[4, 5, 6], 256[7, 9, 10]	Y	See[3]

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
   FC5300
5. FC4500
6. FC4700
7. CX400
8. 256 LUNs per storage group for a maximum of 512 LUNs. 256 LUNs without Access Logix.
9. CX200
10. CX600
11. 32 initiators per SP port (128 max) with 08.42.xx or higher microcode on FC4700.
12. 15 initiators per array with 08.41.xx or lower microcode on FC4700.
13. 256 Luns per storage group for a maximum of 1024 LUNs. 256 LUNs without Access Logix.
14. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
15. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
16. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
17. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
18. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.

Novell Netware

Novell Netware									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	**Novell Netware 5.10: SP2[3], SP2A[3]**	**QLogic: QLA2200F-EMC, QLA2202F-EMC**	**Brocade Silkworm: 12000, 2400[2], 2800[2], 3200 3800, 6400; EMC Connectrix: DS-16B[2, 12], DS-16B2[13], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[14], ED-12000B[15], ED-140M, ED-64M[14]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	15[4], 32[5], 4[6]	1024[10], 223[7], 512[9]	128	Y[11]	See[1]
2	Novell Netware 5.10: SP2[3], SP2A[3], SP5[3], SP6	QLogic QLA2200F-EMC[20, 21, 22, 23]	Brocade Silkworm: 12000, 2400[28], 2800[2, 28], 3200[27], 3800[27], 3900[24], 6400; EMC Connectrix: DS-16B[2, 12, 28], DS-16B2[13, 27], DS-16M, DS-16M2, DS-24M2, DS-32B2[15, 24], DS-32M2, DS-8B[2, 28], ED-12000B[15], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4[7, 8, 25]	12[7, 8, 25], 4[6]	128	128	Y	
3	**Novell Netware 5.10: SP5[3], SP6**	**IBM: 19K1246(QLA2310)[16, 18], 24P0960(QLA2340)[16, 17]; QLogic: QLA2200F-EMC, QLA2202F-EMC**	**Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400; EMC Connectrix: DS-16B[2, 12], DS-16B2[13], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[14], ED-12000B[15], ED-140M, ED-64M[14]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	15[4], 32[5], 4[6]	1024[10], 223[7], 512[9]	128	Y[11]	See[1]
4	Novell Netware 5.10: SP5[3], SP6; Novell Netware 6.0: SP1[3], SP2[3], SP3	QLogic: QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400; EMC Connectrix: DS-16B[2, 12], DS-16B2[13], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[14], ED-12000B[15], ED-140M, ED-64M[14]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	15[4], 32[5], 4[6]	1024[10], 223[7], 512[9]	223[7], 256[8]	Y[11]	See[1]
5	**Novell Netware 6.0: SP1[3], SP2[3], SP3**	**IBM: 00N6881 (QLA2200)[19], 19K1246(QLA2310)[16, 18], 24P0960(QLA2340)[16, 17]; QLogic: QLA2200F-EMC, QLA2202F-EMC**	**Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400; EMC Connectrix: DS-16B[2, 12], DS-16B2[13], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[14], ED-12000B[15], ED-140M, ED-64M[14]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	15[4], 32[5], 4[6]	1024[10], 223[7], 512[9]	128	Y[11]	See[1]

1. Refer to Table 71 on page 202 for single-vendor and mixed-vendor switched fabrics and supported switch firmware.
2. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
3. Maximum number of NWFS volumes that can be mounted is 64.
4. FC4500 and FC4700(15 initiators per array with 08.41.xx or lower microcode
5. CX400, CX600, and FC4700(32 initiators per SP port (128 max.) with 08.42.xx or higher microcode.
6. FC5300
7. FC4700, FC4500, and FC5300.
8. CX600 and CX400
9. CX400 : 256 LUNs per storage group for a maximum of 512 LUNs. 256 LUNs without Access Logix.
10. CX600: 256 Luns per storage group for a maximum of 1024 LUNs. 256 LUNs without Access Logix.
11. "Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a CLARiiON port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for NO means this host cannot share an FA/SP port with any different OS/HBA):
    1. Access Logix is required to prevent sharing CLARiiON devices between Operating Systems on a single FA port.
    2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/Fanin of 12:1/1:12 and NetWare using the QLA2200F, which has a Fanout/Fanin of 6:1/1:6. The Fanout/Fanin is restricted to 6:1/1:6.
    3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information.
12. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
13. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
    ED-64 and ED-1032 not supported for FC5300.
    EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
16. **For IBM Netfinity and xSeries Intel servers only.**
17. **This HBA is equivalent to the qLogic QLA2340.**
18. **This HBA is equivalent to the qLogic QLA2310.**
19. **(QLA2200) For IBM xSeries and Netfinity servers only.**
20. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
21. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
22. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
23. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
24. **See Switched Fabric Topology Parameters for switch firmware levels.**
25. **CX200**
26. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
27. **Firmware 3.0.2a or later required.**
28. **Firmware v2.5.1b or later required**
29. **Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

Red Hat Linux

Red Hat Linux									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 13], v2.4.9-E.12[3, 13], v2.4.9-E.16[3, 13], **v2.4.9-E.3[3, 4, 15, 16]**, v2.4.9-E.9[3, 13, 15, 16]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 13]**, v2.4.9-e.16[3, 13]; Red Hat Linux 7.3: (v2.4.18-3)[3] updated w/ v2.4.18-27.7.x rpm[3, 15]	Emulex: LP9002-E (LP9002L-E)[14], LP9802-E[14], LP9802DC-E[14], LP982-E[14]	Brocade Silkworm: 12000, 2400[2], 2800[1, 2], 3200[10], 3800[10], 3900[21], 6400; EMC Connectrix: DS-16B[1, 2, 9], DS-16B2[10, 11], DS-16M, DS-16M2, DS-24M2, DS-32B2[12, 21], DS-32M2, DS-8B[1, 2], ED-12000B[12], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12[5, 17, 18, 19, 20], 4[8]	128	128	Y	

Red Hat Linux									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
2	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[3, 13], v2.4.9-E.12[3, 13], v2.4.9-E.16[3, 13], **v2.4.9-E.3[3, 4]**, v2.4.9-E.9[3, 13]; Red Hat Linux 2.1 ES. **v2.4.9-e.12[3, 13]**, v2.4.9-e.16[3, 13], Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 15]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[2], 2800[1, 2], 3200[10], 3800[10], 3900[21], 6400; EMC Connectrix: DS-16B[1, 2, 9], DS-16B2[10, 11], DS-16M, DS-16M2, DS-24M2, DS-32B2[12, 21], DS-32M2, DS-8B[1, 2], ED-12000B[12], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4[5, 6, 7]	12[5, 6, 7], 4[8]	128	128	Y	
3	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[3, 13], v2.4.9-E.3[3]; Red Hat Linux 8.0 updated to v2.4.18-19.8.0[3]	HPQ Dual-port mezzanine controller card[23]	EMC Connectrix: DS-16M[22], DS-16M2[22], DS-24M2[22], DS-32M2[22], DS-32M2[22], ED-140M[22], ED-64M[22], McDATA: ED-5000[22], ED-6064[22], ED-6140[22], ES-2500[22], ES-3016[22], ES-3032[22], ES-3216[22], ES-3232[22], ES-4500[22]	4	12, 4	128	128	Y	
4	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3, 28]**, ES **v2.4.9-e.24[3, 28]**	**Emulex: LP9002-E (LP9002L-E)[14, 24, 25, 26], LP9802-E[14, 24, 25, 26] LP9802DC-E[14, 24, 25, 26, 30, 31], LP982-E[14, 24, 25, 26]**	**Brocade Silkworm: 12000, 2400[2], 2800[1, 2], 3200[10], 3800[10], 3900[21], 6400; EMC Connectrix: DS-16B[1, 2, 9], DS-16B2[10, 11], DS-16M, DS-16M2, DS-24M2, DS-32B2[12, 21], DS-32M2, DS-8B[1, 2], ED-12000B[12], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	12[5, 17, 18, 19, 20], 4[8]	128	128	Y	
	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3, 28], ES **v2.4.9-e.24[3, 28]**	**QLogic: QLA2200F-EMC[24, 25, 26, 29], QLA2310F-E-SP[24, 25, 26, 27], QLA2340-E-SP[25, 27]**	**Brocade Silkworm: 12000, 2400[2], 2800[1, 2], 3200[10], 3800[10], 3900[21], 6400; EMC Connectrix: DS-16B[1, 2, 9], DS-16B2[10, 11], DS-16M, DS-16M2, DS-24M2, DS-32B2[12, 21], DS-32M2, DS-8B[1, 2], ED-12000B[12], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4[5, 6, 7]	12[5, 6, 7], 4[8]	128	128	Y	
6	**Red Hat Linux: 7.3 (v2.4.18-3)[3], 8.0 updated to v2.4.18-19.8.0[3], 8.0 updated to v2.4.18-27.8.0[3]**	**QLogic QLA2200F-EMC[24, 25, 26, 29]**	**Brocade Silkworm: 12000, 2400[2], 2800[1, 2], 3200[10], 3800[10], 3900[21], 6400; EMC Connectrix: DS-16B[1, 2, 9], DS-16B2[10, 11], DS-16M, DS-16M2, DS-24M2, DS-32B2[12, 21], DS-32M2, DS-8B[1, 2], ED-12000B[12], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4[5, 6, 7]	12[5, 6, 7], 4[8]	128	128	Y	
7	**Red Hat Linux: 7.3 (v2.4.18-3)[3], 8.0 updated to v2.4.18-19.8.0[3], 8.0 updated to v2.4.18-27.8.0[3]**	**QLogic: QLA2200F-EMC, QLA2202F-EMC**	**Brocade Silkworm: 12000, 2400[1], 2800[1], 3200, 3800, 6400; EMC Connectrix: DS-16B[1, 9], DS-16B2[11], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[1], ED-1032[39], ED-12000B[12], ED-140M, ED-64M[39]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	15[34], 32[33], 4[8]	1024[36], 223[7], 512[37]	128	Y[35]	See[32]

1. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
   Firmware v2.5.1b or later required
   EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
4. **Supported with QLogic driver v6.04.02 or v6.05.00.**
5. CX200
6. CX600 and CX400
7. FC4700, FC4500, and FC5300
8. FC5300
9. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
10. Firmware 3.0.2a or later required.
11. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
12. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
13. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath.
    Booting from EMC storage arrays is NOT supported with PowerPath.
14. Single HBA zoning is required regardless of the switch being utilized.
15. Requires v6.2.1 or higher Navisphere host agent/CLI.
16. This kernel is limited to 100 devices, not 128.
17. CX600
18. CX400
19. FC4500
20. FC4700
21. See Switched Fabric Topology Parameters for switch firmware levels.
22. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
23. FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.
24. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
25. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
26. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
27. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
28. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
29. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
30. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
31. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
32. **Refer to Table 71 on page 202 for single-vendor and mixed-vendor switched fabrics and supported switch firmware.**
33. **CX400, CX600, and FC4700(32 initiators per SP port (128 max.) with 08.42.xx or higher microcode.**
34. **FC4500 and FC4700(15 initiators per array with 08.41.xx or lower microcode**

35. **"Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a CLARiiON port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for NO means this host cannot share an FA/SP port with any different OS/HBA):**
    1. Access Logix is required to prevent sharing CLARiiON devices between Operating Systems on a single FA port.
    2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/Fanin of 12:1/1:12 and NetWare using the QLA2200F, which has a Fanout/Fanin of 6:1/1:6. The Fanout/Fanin is restricted to 6:1/1:6.
    3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information.
36. **CX600: 256 Luns per storage group for a maximum of 1024 LUNs. 256 LUNs without Access Logix.**
37. **CX400 : 256 LUNs per storage group for a maximum of 512 LUNs. 256 LUNs without Access Logix.**
38. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
39. **ED-64 and ED-1032 not supported for FC5300.**
40. **Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

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SGI IRIX

SGI IRIX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	SGI IRIX: 6.5.11, 6.5.12	SGI PCI-FC-1P-OPT-A	Brocade Silkworm: 12000[1], 3200[1], 3800[1], 6400[1]: EMC Connectrix: DS-16M2[1, 5], DS-24M2[1, 5], DS-32M2[1, 5], ED-12000B[1, 6], ED-140M[1], ED-64M[1, 5]; McDATA: ED-6064[1, 5], ED-6140[1], ES-3216[1, 5], ES-3232[1, 5], ES-4500[1]	4	32	255[2, 3]	256	Y[4]
2	SGI IRIX: 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B	Brocade Silkworm: 12000[1], 3200[1], 3800[1], 6400[1]: EMC Connectrix: DS-16M2[1, 5], DS-24M2[1, 5], DS-32M2[1, 5], ED-12000B[1, 6], ED-140M[1], ED-64M[1, 5]; McDATA: ED-6064[1, 5], ED-6140[1], ES-3216[1, 5], ES-3232[1, 5], ES-4500[1]	4	32	255[2, 3]	256	Y[4]

1. Refer to the Switched Fabric Topology Parameters Table (formerly Table 71 on Page 202 of the ESM) for single-vendor and mixed vendor switched fabrics and supported switch firmware
2. Maximum for FC4700 is 223
   This is the maximum number of LUNs supported by IRIX on a single CLARiiON, independent of the number of ports on the array.
   "Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a CLARiiON port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for NO means this host cannot share an FA/SP port with any different OS/HBA):
   1. Access Logix is required to prevent sharing CLARiiON devices between Operating Systems on a single FA port.
   2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/Fanin of 12:1/1:12 and NetWare using the QLA2200F, which has a Fanout/Fanin of 6:1/1:6. The Fanout/Fanin is restricted to 6:1/1:6.
   3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information.
5. FC4700 only with Access Logix 8.42.5x or higher.
6. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.

SuSE Linux

SuSE Linux								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	SuSE Linux SLES 7: (v2.4.7)[3, 4, 5], updated with SuSE v2.4.18 rpm[14, 15]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[2], 2800[1, 2], 3200[11], 3800[11], 3900[16], 6400: EMC Connectrix: DS-16B[1, 2, 10], DS-16B2[11, 12], DS-16M, DS-16M2, DS-24M2, DS-32B2[13, 16], DS-32M2, DS-8B[1, 2], ED-12000B[13], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4[6, 7, 8]	12[6, 7, 8], 4[9]	128	128	Y
2	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]**	**QLogic: QLA2200F-EMC[22, 26], QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23]**	**Brocade Silkworm: 12000, 2400[2], 2800[1, 2], 3200[11], 3800[11], 3900[16], 6400;** **EMC Connectrix: DS-16B[1, 2, 10], DS-16B2[11, 12], DS-16M, DS-16M2, DS-24M2, DS-32B2[13, 16], DS-32M2, DS-8B[1, 2], ED-12000B[13], ED-140M, ED-64M;** **McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4[6, 7, 8]	12[6, 7, 8], 4[9]	**128**	**128**	**Y**
	SuSE Linux SLES 8 v2.4.19-SuSE 175[18, 19, 20]	QLogic: QLA2200F-EMC[17], QLA2310F-E-SP[21], QLA2340-E-SP[21]	Brocade Silkworm: 12000, 2400[2], 2800[1, 2], 3200[11], 3800[11], 3900[16], 6400: EMC Connectrix: DS-16B[1, 2, 10], DS-16B2[11, 12], DS-16M, DS-16M2, DS-24M2, DS-32B2[13, 16], DS-32M2, DS-8B[1, 2], ED-12000B[13], ED-140M, ED-64M. McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4[6, 7, 8]	12[6, 7, 8], 4[9]	128	128	Y

1. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
2. Firmware v2.5.1b or later required
3. Supported with QLogic driver v6.04.02.
4. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
5. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
6. CX200
7. CX600 and CX400
8. FC4700, FC4500 and FC5300.
9. FC5300
10. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
11. Firmware 3.0 2a or later required.
12. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
13. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
14. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
15. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
16. See Switched Fabric Topology Parameters for switch firmware levels
17. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
18. Requires QLogic v6.04.02 driver.
19. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
20. Requires QLogic driver v6.04.00 or above.
21. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
22. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
23. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
24. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**

25. **Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
26 **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

Sun Solaris

Sun Solaris								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Sun Solaris 8	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000, 2400[7], 2800[7], 3200, 3800, 3900, 6400; Cisco MDS: 9216[12], 9509[12]; EMC Connectrix: DS-16B[7, 8], DS-16B2[9], DS-16M, DS-16M2, DS-24M2, DS-32B2[10], DS-32M, DS-32M2, DS-8B[7], ED-1032[11], ED-12000B[10], ED-140M, ED-64M[11]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[5, 6], 256[3, 4]	256	Y[2]
2	Sun Solaris 8	JNI: FC64-1063-DG, FC64-1063-N-DG	Brocade Silkworm: 12000, 2400[7], 2800[7], 3200, 3800, 3900, 6400; EMC Connectrix: DS-16B[7, 8], DS-16B2[9], DS-16M, DS-16M2, DS-24M2, DS-32B2[10], DS-32M, DS-32M2, DS-8B[7], ED-1032[11], ED-12000B[10], ED-140M, ED-64M[11]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[5, 6], 256[3, 4]	256	Y[2]
3	Sun Solaris: 2.6, 7	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E; JNI: FC64-1063-DG, FC64-1063-N-DG; QLogic: QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000, 2400[7], 2800[7], 3200, 3800, 3900, 6400; EMC Connectrix: DS-16B[7, 8], DS-16B2[9], DS-16M, DS-16M2, DS-24M2, DS-32B2[10], DS-32M, DS-32M2, DS-8B[7], ED-1032[11], ED-12000B[10], ED-140M, ED-64M[11]; McDATA: ED-6064 ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[5, 6], 256[3, 4]	256	Y[2]
4	Sun Solaris: 8, 9	Emulex: LP9002C-E, LP9002DC-E, LP9802-E; QLogic QCP2202F-E-SP	Brocade Silkworm: 12000, 2400[7], 2800[7], 3200, 3800, 3900, 6400; Cisco MDS: 9216[12], 9509[12]; EMC Connectrix: DS-16B[7, 8], DS-16B2[9], DS-16M, DS-16M2, DS-24M2, DS-32B2[10], DS-32M, DS-32M2, DS-8B[7], ED-1032[11], ED-12000B[10], ED-140M, ED-64M[11]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	256	256	Y[2]

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. "Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a CLARiiON port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for NO means this host cannot share an FA/SP port with any different OS/HBA):
   1. Access Logix is required to prevent sharing CLARiiON devices between Operating Systems on a single FA port.
   2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/Fanin of 12:1/1:12 and NetWare using the QLA2200F, which has a Fanout/Fanin of 6:1/1:6. The Fanout/Fanin is restricted to 6:1/1:6.
   3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information.
3. CX400
4. 256 LUNs per storage group for a maximum of 512 LUNs. 256 LUNs without Access Logix.
5. CX600
6. 256 Luns per storage group for a maximum of 1024 LUNs. 256 LUNs without Access Logix.
7. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
8. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
9. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
10. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
11. ED-64 and ED-1032 not supported for FC5300.
12. No boot support at this time.

Application Software

DG DG/UX

DG DG/UX				
No.	Operating System	Host Bus Adapter	Application Software	Comments
1	DG DG/UX R4.20MU07[3, 4, 5]	Emulex: LP8000-EMC[10], LP8000-F1[6, 7, 8, 9]	MirrorView 1.25.01; Navisphere: Agent/CLI 5.1.0, Analyzer 6.2.0, Integrator 6.2.0[11], Manager,Event Monitor 6.2.1[11, 12]	See[1, 2]

1. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
2. All installations currently require an RPQ with diagrams and revisions noted. Support for Core Array software is frozen at v8.42.10/60 for DG/UX systems.
3. Support for core software is frozen at v8.42 10/60 for DG/UX systems.
4. The release notice for DG/UX (included with the software release at path: "/usr/release/dgux*.rn) lists supported platforms.
5. FC4700 is only supported on DG/UX 4.20 MU07.
   Maximum of 2 fabrics, each with a maximum of 4 switches.
   Maximum of 4 FC4700s per fabric.
   Maximum of 16 HBAs per fabric.
   Maximum of 32 HBAs per FC4700 SP
   Maximum of 6 DG/UX servers per FC4700.
   Maximum of 4 HBAs per AV3750 server (2 per fabric).
   Maximum of 4 HBAs per NUMA block (2 per fabric in non-clustered environments).
   FA4500 may be mixed within the same fabric with FC4700 running Access Logix, but must be separately zoned.
6. Only the Brocade FC switch connection is supported. Connectrix FC switch is not supported.
7. DG/UX automatically loads the firmware and BIOS onto the Emulex HBA during boot-up as needed. Current DG/UX R4.20MU06 OS supported firmware is V3.20x1 and BIOS V1.4.
8. Requires firmware 3.20x4 using the native driver.
9. FC-AL support requires LP8000 BIOS version DB1.60A7 and firmware version DS3.20x4.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. Shipped with Navisphere Manager Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
12. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed. The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200-arrays from a Windows 2000 host.

Fujitsu Technology Solutions Solaris

Fujitsu Technology Solutions Solaris			
No.	Operating System	Host Bus Adapter	Application Software
1	Fujitsu Technology Solutions Solaris: 2.6, 7, 8, 9	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E)	PowerPath: 3.0.3, 3.0.4

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

HPQ HP-UX

EMC storage (Clariion & Symmetrix) interoperability support is listed as part of the Base Connectivity, Clustered Host and Switch Interoperability tables of the EMC Support Matrix. It should be understood that arrays with matching matrix configurations can be used in a shared SAN, Shared Server or Shared HBA, unless explicitly noted. PowerPath and other load balancing software versions must be reviewed independently for mutual array support or coexistence concerns.

HPQ HP-UX				
No.	Operating System	Host Bus Adapter	Application Software	Comments
1	HPQ HP-UX: 11.0[1], 11i v1.0 (HP-UX 11.11)[1]	HPQ A3591B	PowerPath 3.0.2 b41[5]	See[3]
2	HPQ HP-UX: 11.0[1], 11i v1.0 (HP-UX 11 11)[1]	HPQ: A3404A, A3591B, A3740A, A5158A, A6684A, A6685A, A6795A	MirrorView 1.7[6]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 11], **SAN Copy v1.0[8, 9, 10]**; SnapView 2.1[6, 7]; admsnap 2.1[6, 7]	
3	HPQ HP-UX: 11.0[1], 11i v1.0 (HP-UX 11.11)[1]	HPQ: A3404A, A3740A, A5158A, A6684A, A6685A, A6795A	PowerPath 3.0.2 b41[5]	See[3, 4]

1. For HP-UX systems only.LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
2. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
   Minimum code revisions levels -
   FC4700 - 08.49.51 AccessLogics
   - 08.49.01 Non-AcessLogics

   FC4500 - 06.32.18
4. CLARiiON and Symmetrix can coexist in the SAN with the same server.
5. Supported with HP-UX 11.0. 11i only
6. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
7. A Snapshot must not be in a clustered Storage Group.
8. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
9. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
10. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
11. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.

HPQ Tru64 UNIX

HPQ Tru64 UNIX			
No.	Operating System	Host Bus Adapter	Application Software
1	HPQ Tru64 UNIX: V5.0A, **V5.1[4]**, V5.1A[3], **V5.1B[1]**	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	MirrorView 1.7[5]; Navisphere: Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 10]; **SAN Copy v1.0[7, 8, 9]**; SnapView 2.1[5, 6]
2	HPQ Tru64 UNIX: **V5.1[4]**, V5.1A[3], **V5.1B[1]**	HPQ: FCA2354 (LP9002), KGPSA-DA (261329-B21)	MirrorView 1.7[5]; Navisphere: Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 10]; **SAN Copy v1.0[7, 8, 9]**; SnapView 2.1[5, 6]

1. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
2. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
3. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
4. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
5. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
6. A Snapshot must not be in a clustered Storage Group.
7. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
8. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
9. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
10. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host

IBM AIX

IBM AIX			
No.	Operating System	Host Bus Adapter	Application Software
1	IBM AIX 4.3.3	Emulex LP9002L-E	ATF/CDE 4.0.4[6]; Navisphere Integrator 6.2.0[2]
2	IBM AIX 4.3.3	Emulex: LP8000-EMC[3], LP9002-E, LP9002L-F2	ATF/CDE 4.0.4[6]; MirrorView 1.7[7]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2]; SnapView 2.1[7, 8]
3	IBM AIX 4.3.3[5]	IBM: 6227, 6228	MirrorView 1.7[7]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 11]; PowerPath: 3.0.3[6, 9], 3.0.4[6, 9]; SnapView 2.1[7, 8]; admsnap 2.1[7, 8]

IBM AIX			
No	Operating System	Host Bus Adapter	Application Software
4	IBM AIX 5 1	Emulex LP9002L-E	ATF/CDE 4.0.4[4, 6]; MirrorView 1 7[7]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2, 4]; **SAN Copy v1.0[12, 13, 14]**; SnapView 2.1[7]
5	IBM AIX 5.1	Emulex: LP8000-EMC[3], LP9002-E, LP9002L-F2	ATF/CDE 4.0.4[4, 6]; MirrorView 1.7[7]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2, 4]; SnapView 2 1[7]
6	**IBM AIX. 4.3.3[5]. 5.1[1]**	**Emulex: LP8000-EMC[3]. LP9002-E. LP9002L-F2**	**Navisphere Manager, Event Monitor 6.4.1[2, 11]**
7	IBM AIX. 5.1[1], 5.2[10]	IBM: 6227, 6228, **6239**	MirrorView 1.7[7]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], **Manager, Event Monitor 6.4.1[2, 11]**; PowerPath 3.0.3[6, 9], 3 0 4[6, 9]; SnapView 2 1[7, 8]; admsnap 2.1[7, 8]

1. Requires CLArrayS3.5.1.0.10
2. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
3. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
4. No support for the CX400 or CX600. Supports FC4500, FC4700, FC4700-2
5. Requires CLArrayS3.4.3.0.13
6. ATF/CDE and PowerPath cannot co-exist in the same server
7. For FC4700, CX600, and CX400 only SnapView and Mirrorview require Access Logix.
8. A Snapshot must not be in a clustered Storage Group.
9. CLARiiON and Symmetrix can coexist in the SAN with the same server.
10. Requires CLArrayS3.5.2.0.7
11. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.**
12. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.
14. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**

Microsoft Windows 2000

Microsoft Windows 2000			
No.	Operating System	Host Bus Adapter	Application Software
1	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Emulex: **LP8000-EMC[3], LP9002-E (LP9002L-E), LP9002DC-E,** LP9802-E, **LP9802DC-E, LP982-E;** **HPQ Dual-port mezzanine controller card;** **IBM 24P0960(QLA2340)[12];** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	PowerPath 3.0.2[9, 10]
2	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Emulex: LP8000-EMC[3], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; HPQ Dual-port mezzanine controller card; IBM 24P0960(QLA2340)[12]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	ATF/CDE 2.1.7[9]; MirrorView 1.7[2]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[8], **Manager, Event Monitor 6.4.1[8, 11]**; **SAN Copy v1.0[4, 5, 6]**; SnapView 2.1[2, 7]; admsnap 2.1[2, 7]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
3. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
4. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
5. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
6. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
7. A Snapshot must not be in a clustered Storage Group.
Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
ATF/CDE and PowerPath cannot co-exist in the same server.
10. Powerpath supported on FC4500, FC5300, FC4700, CX600, CX400, and CX200.
PowerPath Base supported on FC4500, CX200 only
CLARiiON and Symmetrix can co-exist in the SAN with the same server.
11. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.**
12. This HBA is equivalent to the qLogic QLA2340.

Microsoft Windows 2003

Microsoft Windows 2003			
No.	Operating System	Host Bus Adapter	Application Software
1	Microsoft Windows 2003: DataCenter[1, 2, 3, 4], Enterprise Edition (Advanced Server)[1, 2, 3, 4], Standard Edition (Server)[1, 2, 3, 4]	Emulex: LP8000-EMC[7], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; HPQ Dual-port mezzanine controller card; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	MirrorView 1.7[6]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[8], **Manager, Event Monitor 6.4.1[8, 12]**; **SAN Copy v1.0[9, 10, 11]**; SnapView 2.1[5, 6]; admsnap 2.1[5, 6]

1. Support limited to the following configurations: 1 HBA with 1 path to 1 SP; 2 HBAs, one with a single path to SPA and the other with a single path to SPB. Powerpath not supported. Refer to HBA guides for expected device behavior.
2. PowerPath is not supported.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. A Snapshot must not be in a clustered Storage Group.
6. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
8. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
9. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
10. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
11. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
12. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600,**

non-CX400, non-CX200 arrays from a Windows 2000 host.

Microsoft Windows NT

Microsoft Windows NT			
No.	Operating System	Host Bus Adapter	Application Software
1	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[3], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E: IBM 24P0960(QLA2340)[13] QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	ATF/CDE 2.0.10[2]; MirrorView 1.7[4]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[10], **Manager, Event Monitor 6.4.1[10, 12]**; **PowerPath 3.0.2[11]** **SAN Copy v1.0[5, 6, 7]**; SnapView 2.1[4, 8]; admsnap 2.1[4, 8, 9]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. ATF/CDE and PowerPath cannot co-exist in the same server
3. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
4. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix
5. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
6. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
7. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
8. A Snapshot must not be in a clustered Storage Group
9. Admsnap is not qualified with VERITAS Volume Manager
10. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
11. **Powerpath supported on FC4500, FC5300, FC4700, CX600, CX400, and CX200.**

CLARiiON and Symmetrix can co-exist in the SAN with the same server.

12. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.**
13. This HBA is equivalent to the qLogic QLA2340.

.ovell Netware

Novell Netware			
No.	Operating System	Host Bus Adapter	Application Software
1	Novell Netware 5.10: SP5[1], SP6; Novell Netware 6.0: SP1[1], SP2[1], SP3	QLogic: QLA2200F-EMC, QLA2310F-E-SP	ATF/CDE 1.03; MirrorView 1.7[3]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], **Manager, Event Monitor 6.4.1[2, 9]**; PowerPath 3.0.1[8]; **SAN Copy v1.0[5, 6, 7]**; SnapView 2.1[3, 4]; admsnap 2.1[3, 4]
2	Novell Netware 5.10: SP5[1], SP6; Novell Netware 6.0: SP2[1], SP3	QLogic QLA2340-E-SP	MirrorView 1.7[3]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], **Manager, Event Monitor 6.4.1[2, 9]**; PowerPath 3.0.1[8]; **SAN Copy v1.0[5, 6, 7]**; SnapView 2.1[3, 4]; admsnap 2.1[3, 4]
3	Novell Netware 6.0 SP1[1]	QLogic QLA2340-E-SP	ATF/CDE 1.03; MirrorView 1.7[3]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], **Manager, Event Monitor 6.4.1[2, 9]**; PowerPath 3.0.1[8]; **SAN Copy v1.0[5, 6, 7]**; SnapView 2.1[3, 4]; admsnap 2.1[3, 4]

1. Maximum number of NWFS volumes that can be mounted is 64.
2. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
3. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
4. A Snapshot must not be in a clustered Storage Group.
   SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.
   Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux
7. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
8. Powerpath supported on FC4500, FC5300, FC4700, CX600, CX400, and CX200.
   PowerPath Base supported on FC4500, CX200 only.
   CLARiiON and Symmetrix can co-exist in the SAN with the same server
9. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31 01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.**

Red Hat Linux

Red Hat Linux			
No.	Operating System	Host Bus Adapter	Application Software
1	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], **v2.4.9-E.3[4, 5]**, v2.4.9-E.9[2, 3, 4]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 4]**, v2.4.9-e.16[3, 4]; Red Hat Linux 7.3: (v2.4.18-3)[4], updated w/ v2.4.18-27.7.x rpm[4]	Emulex: LP9802-E, LP9802DC-E, LP982-E	MirrorView 1.7[6]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[1], Manager, Event Monitor 6.4.1[1, 11]; **SAN Copy v1.0[8, 9, 10]**; SnapView 2.1[6, 7]; admsnap 2.1[6, 7]
2	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], **v2.4.9-E.3[4, 5]**, v2.4.9-E.9[2, 3, 4]; Red Hat Linux 2.1 **ES v2.4.9-e.12[3, 4]**, 7.3 (v2.4.18-3)[4], 7.3 updated w/ v2.4.18-27.7.x rpm[4]	QLogic QLA2200F-EMC	MirrorView 1.7[6]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[1], Manager, Event Monitor 6.4.1[1, 11]; **SAN Copy v1.0[8, 9, 10]**; SnapView 2.1[6, 7]; admsnap 2.1[6, 7]

Red Hat Linux			
No.	Operating System	Host Bus Adapter	Application Software
3	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], **v2.4.9-E.3[4, 5]**, v2.4.9-E.9[2, 3, 4]; Red Hat Linux: **2.1 ES v2.4.9-e.12[3, 4]** 7.3 (v2.4.18-3)[4], 7.3 updated w/ v2.4.18-27.7.x rpm[4]	QLogic: QLA2310F-E-SP, QLA2340-E-SP	MirrorView 1.7[6]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[1], Manager, Event Monitor 6.4.1[1, 11]; SnapView 2.1[6, 7]; admsnap 2.1[6, 7]
4	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[3, 4], ES v2.4.9-e.16[3, 4]	QLogic QLA2200F-EMC	MirrorView 1.7[6]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[1], Manager, Event Monitor 6.4.1[1, 11]; **PowerPath 3.0.3 b065[12]**; **SAN Copy v1.0[8, 9, 10]**; SnapView 2.1[6, 7]; admsnap 2.1[6, 7]
5	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[3, 4], ES v2.4.9-e.16[3, 4]**	**QLogic QLA2342-E-SP[13]**	**PowerPath 3.0.3 b065[12]**
6	Red Hat Linux 2.1: Advanced Server v2.4.9-E.18[3, 4], ES v2.4.9-e.16[3, 4]	QLogic: QLA2310F-E-SP, QLA2340-E-SP	MirrorView 1.7[6]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[1], Manager, Event Monitor 6.4.1[1, 11]; **PowerPath 3.0.3 b065[12]**; SnapView 2.1[6, 7]; admsnap 2.1[6, 7]
7	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 14], ES v2.4.9-e.24[4, 14]**	**Emulex: LP9802-E[15, 16, 17], LP9802DC-E[15, 16, 17, 21, 22], LP982-E[15, 16, 17];** **QLogic QLA2200F-EMC[15, 16, 17, 18]**	**MirrorView 1.7[6];** **Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[1], Manager, Event Monitor 6.4.1[1, 11];** **SAN Copy v1.0[8, 9, 10];** **SnapView 2.1[6, 7];** **admsnap 2.1[6, 7]**
	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 14], ES v2.4.9-e.24[4, 14]	**QLogic: QLA2310F-E-SP[15, 16, 17, 19], QLA2340-E-SP[17, 19]**	**MirrorView 1.7[6];** **Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[1], Manager, Event Monitor 6.4.1[1, 11];** **SnapView 2.1[6, 7];** **admsnap 2.1[6, 7]**
9	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4], ES v2.4.9-e.24[4]**	**QLogic: QLA2200F-EMC[15, 16, 17, 18], QLA2310F-E-SP[15, 16, 17, 19], QLA2340-E-SP[17, 19], QLA2342-E-SP[15, 16, 17, 19, 20]**	**PowerPath 3.0.3 b065[12]**

1. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
2. This kernel is supported with PowerPath v3.0.2 via RPQ only.
3. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
4. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
5. **Supported with QLogic driver v6.04.02 or v6.05.00.**
6. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
7. A Snapshot must not be in a clustered Storage Group.
8. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
9. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
10. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
11. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.
12. **PowerPath Base is supported on the FC4500 and CX200 only.**
13. **Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
14. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
15. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
16. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
17. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
18. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
19. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
20. **Single HBA zoning is required regardless of the switch being utilized.**
    Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
    Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.

SGI IRIX

SGI IRIX			
No.	Operating System	Host Bus Adapter	Application Software
1	SGI IRIX: 6.5.11, 6.5.12, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI PCI-FC-1P-OPT-A	MirrorView 1.7[2]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[1], **Manager, Event Monitor 6.4.1[1, 7];** **SAN Copy v1.0[3, 4, 5];** SnapView 2.1[2] admsnap 2.1[2, 6]
2	SGI IRIX: 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI PCI-FC-1P-OPT-B	MirrorView 1.7[2]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[1], **Manager, Event Monitor 6.4.1[1, 7];** **SAN Copy v1.0[3, 4, 5];** SnapView 2.1[2]; admsnap 2.1[2, 6]

1. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
2. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
3. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
4. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
5. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
6. A Snapshot must not be in a clustered Storage Group.
7. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.**

SuSE Linux

SuSE Linux			
No.	Operating System	Host Bus Adapter	Application Software
1	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[5, 6]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP	MirrorView 1.7[7]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Manager, Event Monitor 6.4.1[4, 17]; **SAN Copy v1.0[9, 10, 11];** **SnapView 2.1[7, 8];** **admsnap 2.1[7, 8]**
2	SuSE Linux SLES 7 (v2.4.7)[1, 2, 3], updated with SuSE v2.4.18 rpm[5, 6]	QLogic QLA2200F-EMC	MirrorView 1.7[7]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[4], Manager, Event Monitor 6.4.1[4, 17]; **SAN Copy v1.0[9, 10, 11];** **SnapView 2.1[7, 8];** **admsnap 2.1[7, 8]**
3	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[19, 25]**	**QLogic QLA2200F-EMC[23, 24]**	**MirrorView 1.7[7];** **Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[4], Manager, Event Monitor 6.4.1[4, 17];** **SAN Copy v1.0[9, 10, 11];** **SnapView 2.1[7, 8];** **admsnap 2.1[7, 8]**
4	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[19, 25]**	**QLogic: QLA2310F-E-SP[24, 26], QLA2340-E-SP[24, 26]**	**MirrorView 1.7[7];** **Navisphere: Agent/CLI 6.4, Analyzer 6.4, Manager, Event Monitor 6.4.1[4, 17];** **SAN Copy v1.0[9, 10, 11];** **SnapView 2.1[7, 8];** **admsnap 2.1[7, 8]**
5	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic QLA2200F-EMC[12]	MirrorView 1.7[7]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[4], Manager, Event Monitor 6.4.1[4, 17]; **SAN Copy v1.0[9, 10, 11];** **SnapView 2.1[7, 8];** **admsnap 2.1[7, 8]**
6	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic: QLA2310F-E-SP[16], QLA2340-E-SP[16]	MirrorView 1.7[7]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Manager, Event Monitor 6.4.1[4, 17]; **SAN Copy v1.0[9, 10, 11];** **SnapView 2.1[7, 8];** **admsnap 2.1[7, 8]**
7	**SuSE Linux SLES 8 v2.4.19-SuSE.175[14, 15, 18, 19]**	**QLogic: QLA2200F-EMC[12], QLA2310F-E-SP[16], QLA2340-E-SP[16], QLA2342-E-SP[27]**	**PowerPath 3.0.3 b065[20, 21, 22]**

1. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
2. Supported with QLogic driver v6.04.02.
3. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
4. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
5. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
6. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
7. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
8. **A Snapshot must not be in a clustered Storage Group.**
9. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
10. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
11. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
12. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
13. Requires QLogic driver v6.04.00 or above.
14. Requires QLogic v6.04.02 driver
15. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
16. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
17. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.
18. **Requires QLogic v6.04.02 or v6.05.00 driver.**
    EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
    CLARiiON and Symmetrix can co-exist in the SAN with the same server.
21. **PowerPath supported on FC4500, FC4700, CX600, CX400, and CX200.**
22. **PowerPath Base is supported on the FC4500 and CX200 only.**
23. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
24. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
25. **Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
26. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
27. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

Sun Solaris

Sun Solaris			
No.	Operating System	Host Bus Adapter	Application Software
1	Sun Solaris 2.6	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002S-E	ATF/CDE 3.4.1[3]; MirrorView 1.7[4]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 10]; PowerPath: 3.0.4[3, 11], 4.0.1[3, 11, 13]; **SAN Copy v1.0[7, 8, 9];** SnapView 2.1[4, 5]; admsnap 2.1[4, 5, 6]
2	Sun Solaris 9	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), **LP9002DC-E**, LP9002S-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	MirrorView 1.7[4]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 10]; PowerPath: 3.0.4[3, 11], 4.0.1[3, 11, 13]; **SAN Copy v1.0[7, 8, 9];** SnapView 2.1[4, 5]; admsnap 2.1[4, 5, 6]

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Sun Solaris			
No.	Operating System	Host Bus Adapter	Application Software
3	Sun Solaris: 2.6, 7, 8	Emulex LP9802-E; QLogic: QLA2340-E-SP QLA2342-E-SP	MirrorView 1.7[4]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 10]; PowerPath: 3.0.4[3, 11], **4.0.1**[3, 11, 13]; **SAN Copy v1.0**[7, 8, 9]; SnapView 2.1[4, 5]; admsnap 2.1[4, 5, 6]
4	Sun Solaris: 2.6, 7 8	JNI: FC64-1063-DG, FC64-1063-N-DG	ATF/CDE 3.4.1[3]; MirrorView 1.7[4]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 10]; **SAN Copy v1.0**[7, 8, 9]; SnapView 2.1[4, 5]; admsnap 2.1[4, 5, 6]
5	Sun Solaris: 2.6, 7, 8	JNI: FC64-1063-DG[12], FC64-1063-N-DG[12]	PowerPath: 3.0.4[3, 11], **4.0.1**[3, 11, 13]
6	Sun Solaris: 7, 8	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), **LP9002DC-E**, LP9002S-E	ATF/CDE 3.4.1[3]; MirrorView 1.7[4]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 10]; PowerPath: 3.0.4[3, 11], **4.0.1**[3, 11, 13]; **SAN Copy v1.0**[7, 8, 9]; SnapView 2.1[4, 5]; admsnap 2.1[4, 5, 6]

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. Shipped with Navisphere Manager Integrator supports HP Open view 6.1,Tivoli NetView 6.0b. and Unicenter TNG 2.2 and 2.4.
3. ATF/CDE and PowerPath cannot co-exist in the same server
   For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
4. A Snapshot must not be in a clustered Storage Group.
5. Admsnap is not qualified with VERITAS Volume Manager
6. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
7. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
8. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
9. Manager v6 x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31 01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.
10. Powerpath supported on FC4500, FC4700, CX600, and CX400.
    CLARiiON and Symmetrix can co-exist in the SAN with the same server.
11. PowerPath supported as a migration path only. PowerPath Volume Manager not supported.
12. **The Volume Manager component of PowerPath 4.x is not currently supported with Sun SunCluster products.**

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CLARiiON CX200

Base Connectivity

Do not use a LUN in the CLARiiON DAE2-ATA as a host OS boot device.Do not use a LUN in the CLARiiON DAE2-ATA as a host OS boot device.CX200LC configurations are limited to direct attach configurations under the CX200 section. PowerPath is not supported on CX200LC.Windows NT/Windows 2000/2003 Servers (Fibre Channel/SCSI) Boot CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN. EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.

Microsoft Windows 2000

Bull

Bull - Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Express 5800: 320La, 320La-R, 320Lb, 320Lb-R 330Ma-R, 330Mb-R, 340Ha-R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[3, 7, 8], SP3[3, 7, 8]**	**QLogic QLA2310F-E-SP[5, 6]**	FC-AL, FC-SW	N	**See[4]**
2	Express 5800 180Rb7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4, Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4	Emulex LP8000-EMC[1, 2]	FC-AL, FC-SW	N	

1. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
   EMC strongly recommends that HBAs of different vendors not be used in the same host server.
   Windows 2000 Professional is supported as the management workstation.
6. **Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**
7. **Qlogic SANSurfer/SANBlade Manager is not supported.**
8. **FC-AL supported for direct attach only. No support for hubs or Quickloop at this time.**
9. **Refer to the Stratus, Bull or NEC documentation for hardware, software and non-storage related setup and configuration.**

DG

DG - Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON: AV1400, AV2300, AV2800, AV3700, AV3704R, AV3800, AV8950	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex LP8000-EMC[7, 19] **QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[20, 21], QLA2342-E-SP[20, 21]**	FC-AL, FC-SW	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18]	See[1, 2]
2	AViiON: AV8900, AV8950R	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex: LP8000-EMC[7, 19], LP9002-E (LP9002L-E)[4, 7, 8], LP9002DC-E[4, 23, 24, 25], LP9802-E[4, 5, 6], LP9802DC-E[4, 5, 6], LP982-E[4, 5, 6, 23]; **QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[20, 21], QLA2342-E-SP[20, 21]**	FC-AL, FC-SW	N	See[1, 2]
3	AViiON: AV2700, AV3600, AV3704, AV8700	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex: LP8000-EMC[7, 19], LP9002-E (LP9002L-E)[7, 8], LP9002DC-E[4, 23, 24, 25], LP9802-E[5, 6], LP9802DC-E[4, 5, 6], LP982-E[5, 6, 23]; **QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[20, 21], QLA2342-E-SP[20, 21]**	FC-AL, FC-SW	N	See[1, 2]
4	AViiON AV8950	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000. Datacenter SP4. Server SP2[3], Server SP3[3]. Server SP4	Emulex: LP9002-E (LP9002L-E)[4, 7, 8], LP9002DC-E[4, 23, 24, 25], LP9802-E[4, 5, 6], LP9802DC-E[4, 5, 6], LP982-E[4, 5, 6, 23]	FC-AL, FC-SW	N	See[1, 2]
5	AViiON: AV1400, AV2300, AV2800, AV3700, AV3704R, AV3800	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex: LP9002-E (LP9002L-E)[7, 8], LP9002DC-E[4, 23, 24, 25], LP9802-E[5, 6], LP9802DC-E[4, 5, 6], LP982-E[5, 6, 23]	FC-AL, FC-SW	N	See[1, 2]

1. Windows 2000 Professional is supported as the management workstation
2. CX200 available through selected channels.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
5. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
6. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
7. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
8. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
9. Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
10. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
11. If using ATF/CDE with QLogic, requires v2.1.6 or greater
12. Supports PowerPath 3.0 or greater.
13. No MirrorView or SnapView used on boot LUNs.
14. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
15. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
16. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
17. MSCS cluster configurations are supported with CX600, CX400 and FC4700.
18. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
19. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
20. **PowerPath supported. ATF/CDE not supported.**
21. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**

22. **If using ATF/CDE, requires 2.1.6 or greater.**
23. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
24. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
25. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

Dell

Dell – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerVault: 750N[23], 755N[23]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9002-E (LP9002L-E)[4, 27, 28], LP9002DC-E[4, 9, 24, 27, 28, 29]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
2	PowerEdge: 2300, 6100, 6300, 6350	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex LP8000-EMC[3, 4]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
3	PowerEdge: 4300, 4350	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex LP8000-EMC[3, 4]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	N	See[1, 2]
4	PowerEdge 8450	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[4, 27], LP9002DC-E[9, 24, 28, 29], LP9802-E[9, 10, 11], LP9802DC-E[9, 10, 11], LP982-E[9, 10, 11, 24]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
5	PowerEdge: 1550, 1650, 2400, 2450, 2500, 2550[22], 4400, 6400, 6450	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[4, 27], LP9002DC-E[9, 24, 28, 29], LP9802-E[10, 11], LP9802DC-E[9, 10, 11], LP982-E[10, 11, 24]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
6	PowerEdge: 2300, 6100, 6300, 6350	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP9002-E (LP9002L-E)[4, 27], LP9002DC-E[9, 24, 28, 29], LP9802-E[10, 11], LP9802DC-E[9, 10, 11], LP982-E[10, 11, 24]	FC-AL, FC-SW	N	See[1, 2]
7	PowerVault: 770N[23], 775N[23]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP9002-E (LP9002L-E)[4, 27], LP9002DC-E[9, 24, 28, 29], LP9802-E[10, 11], LP9802DC-E[9, 10, 11], LP982-E[10, 11, 24]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
8	PowerVault: 750N[23], 755N[23]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP9802-E[10, 11], LP9802DC-E[9, 10, 11], LP982-E[10, 11, 24]	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
9	PowerEdge 8450[25]	PCI	Microsoft Windows 2000 Datacenter: SP2[8, 26], SP3[8], SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[4], LP9002DC-E[9, 24, 28, 29]; **QLogic QLA2310F-E-SP[5, 6]**	FC-AL, FC-SW	N	See[1, 2]
10	PowerEdge 8450	PCI	Microsoft Windows 2000 Datacenter: SP2[8], SP3[8], SP4	Emulex: LP9802-E[9, 10, 11], LP9802DC-E[9, 10, 11], LP982-E[9, 10, 11, 24]	FC-AL, FC-SW	N	See[1, 2]
11	**PowerEdge 8450**	PCI	**Microsoft Windows 2000 Datacenter: SP2[8], SP3[8], SP4**	**QLogic QLA2340-E-SP[6, 9]**	FC-AL, FC-SW	N	
12	PowerVault: 750N, 755N	PCI	Microsoft Windows 2000 Server: SP2[8], SP3[8], SP4	Emulex LP9002-E (LP9002L-E)[28]; **QLogic: QLA2310F-E-SP[6], QLA2340-E-SP[6], QLA2342-E-SP[6]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	
13	PowerVault: 750N[23], 755N[23]	PCI	Microsoft Windows 2000 Server: SP2[8], SP3[8], SP4	Emulex LP9002DC-E[4, 27]	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
14	PowerEdge 2650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex LP8000-EMC[3, 28]	FC-AL, FC-SW	N	See[1, 2]
15	PowerEdge 2600	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[4, 27], LP9002DC-E[9, 24, 28, 29], LP9802-E[10, 11], LP9802DC-E[9, 10, 11], LP982-E[10, 11, 24]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	N	See[1, 2]
16	PowerEdge: 1750, 4600, 6600, 6650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[4, 27], LP9002DC-E[9, 24, 28, 29], LP9802-E[10, 11], LP9802DC-E[9, 10, 11], LP982-E[10, 11, 24]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]

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Dell – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
17	PowerEdge 2650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP9002-E (LP9002L-E)[4, 27], LP9002DC-E[9, 24, 28, 29], LP9802-E[10, 11], LP9802DC-E[9, 10, 11], LP982-E[10, 11, 24]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels
3. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
4. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
5. **If using ATF/CDE, requires 2.1.6 or greater.**
6. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
7. **PowerPath supported. ATF/CDE not supported.**
8. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
9. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
10. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only
11. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
12. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
13. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
14. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
15. Supports PowerPath 3.0 or greater.
16. No MirrorView or SnapView used on boot LUNs.
17. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
18. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
19. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
20. MSCS cluster configurations are supported with CX600, CX400 and FC4700.
21. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
Not supported with Emulex LP8000-EMC HBA.
24. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
25. Supported on CX600, CX400, CX200 and FC4700-2 only.
26. PowerPath not supported. ATF is supported only using Emulex 5-2.11a2 driver.
27. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
28. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
29. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

Fuji Serv (ICL)

Fuji Serv (ICL) – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Tnmetra Nova	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex: LP8000-EMC[11, 13], LP9002-E (LP9002L-E)[11, 12], LP9002DC-E[4, 10, 14, 15], LP9802-E[5, 6], LP9802DC-E[4, 5, 6], LP982-E[5, 6, 10]; **QLogic: QLA2310F-E-SP[6, 9], QLA2340-E-SP[7, 8], QLA2342-E-SP[7, 8]**	FC-AL, FC-SW	N	See[1, 2]

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
5. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
6. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only
7. **PowerPath supported. ATF/CDE not supported.**
8. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
9. **If using ATF/CDE, requires 2.1.6 or greater.**
10. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
11. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
14. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
15. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Primergy T850	PCI	Microsoft Windows 2000 Advanced Server, SP2[6, 7], SP3[7], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[1, 3, 12], LP9002-E (LP9002L-E)[1, 2, 3, 4, 5], LP9802-E[2, 9, 10], LP9802DC-E[4, 9, 10], LP982-E[2, 9, 10]	FC-AL, FC-SW	N	
2	Primergy: F200, H200, H400, K400, L200, N400, N800, P200, P250, R450, RX100	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[7], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP8000-EMC[3, 12], LP850-EMC[3], LP9002-E (LP9002L-E)[2, 3, 4, 5], LP9002DC-E[2, 3, 4, 16], LP9802-E[2, 9], LP9802DC-E[4, 9], LP982-E[2, 9]	FC-AL, FC-SW	N	
3	Primergy: B210, C200 E200, N200	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[7], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP8000-EMC[3, 12], LP850-EMC[3], LP982-E[9]	FC-AL, FC-SW	N	
4	Primergy T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[7], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP850-EMC[3], LP9002DC-E[2, 3, 4, 16]	FC-AL, FC-SW	N	

Fujitsu Siemens – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
5	Primergy: B210, C200, E200, N200	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[7], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP9002-E (LP9002L-E)[1, 2, 3, 4, 5, 15], LP9002DC-E[2, 3, 4, 16]	FC-AL, FC-SW	N	See[13, 14]
6	**Primergy T850**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[7], SP3[7], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**QLogic: QLA2300F-E-SP[4, 11], QLA2310F-E-SP[4, 11], QLA2340-E-SP[4, 11], QLA2342-E-SP[4, 11]**	FC-AL, FC-SW	N	
7	Primergy T850	PCI	Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP8000-EMC[3, 12], LP9002-E (LP9002L-E)[2, 3, 4, 5], LP9802-E[2, 9], LP9802DC-E[4, 9], LP982-E[2, 9]	FC-AL, FC-SW	N	
8	Primergy H450	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[7], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[1, 3, 12], LP9002-E (LP9002L-E)[1, 2, 3, 4, 5], LP9802-E[2, 9, 10], LP9802DC-E[4, 9, 10], LP982-E[2, 9, 10]	FC-AL, FC-SW	N	
9	Primergy F250[8]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[7], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[1, 3, 12], LP9802-E[2, 9, 10], LP9802DC-E[4, 9, 10], LP982-E[2, 9, 10]	FC-AL, FC-SW	N	
10	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[7], SP4; Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4. Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP8000-EMC[3, 12], LP9002-E (LP9002L-E)[2, 3, 4, 5], LP9002DC-E[2, 3, 4, 16]	FC-AL, FC-SW	N	
11	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[7], SP4, Microsoft Windows 2000 Server SP2[6, 7], SP3[6, 7], SP4	Emulex: LP850-EMC[3], LP9802-E[2, 9], LP9802DC-E[4, 9], LP982-E[2, 9]	FC-AL, FC-SW	N	
12	Primergy: H250[8], R450, T850	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[7], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP8000-EMC[3, 12], LP850-EMC[3], LP9002-E (LP9002L-E)[2, 3, 4, 5], LP9002DC-E[2, 3, 4, 16], LP9802-E[2, 9], LP9802DC-E[4, 9], LP982-E[2, 9]	FC-AL, FC-SW	N	
13	Primergy F250[8]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[7], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP850-EMC[3], LP9002-E (LP9002L-E)[1, 2, 3, 4, 5], LP9002DC-E[2, 3, 4, 16]	FC-AL, FC-SW	N	
14	Primergy H450	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[7], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP850-EMC[3], LP9002DC-E[2, 3, 4, 16]	FC-AL, FC-SW	N	
15	**Primergy: F250[8], H450**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[7], SP3[7], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**QLogic: QLA2300F-E-SP[4, 11], QLA2310F-E-SP[4, 11], QLA2340-E-SP[4, 11], QLA2342-E-SP[4, 11]**	FC-AL, FC-SW	N	
16	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[7], SP3[7], SP4; Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4; Microsoft Windows 2000 Server: SP2[7], SP3[7] SP4	Emulex: LP8000-EMC[3, 12], LP850-EMC[3], LP9002-E (LP9002L-E)[2, 3, 4, 5], LP9802DC-E[4, 9]	FC-AL, FC-SW	N	
17	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[7], SP3[7], SP4; Microsoft Windows 2000 Datacenter: SP3[6, 7], SP4; Microsoft Windows 2000 Server: SP2[7], SP3[7] SP4	Emulex: LP9002DC-E[2, 3, 4, 16], LP9802-E[2, 9]	FC-AL, FC-SW	N	
18	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[7], SP3[7], SP4; Microsoft Windows 2000: Datacenter SP4 Server SP2[7], Server SP3[7], Server SP4	Emulex LP982-E[2, 9]	FC-AL, FC-SW	N	
19	Primergy N800	PCI-X	Microsoft Windows 2000 Datacenter SP2[6, 7]	Emulex: LP9002DC-E, LP9802-E[9]	FC-AL, FC-SW	N	
20	Primergy N800	PCI-X	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7]	Emulex LP982-E[9]	FC-AL, FC-SW	N	
21	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP850-EMC[2, 3, 4], LP9802-E[2, 4, 9], LP9802DC-E[2, 4, 9], LP982-E[2, 4, 9]; **QLogic: QLA2340-E-SP[4, 11], QLA2342-E-SP[4, 11]**	FC-AL, FC-SW	N	
22	**Primergy N800**	PCI-X	**Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4**	**QLogic: QLA2340-E-SP[4, 11], QLA2342-E-SP[4, 11]**	FC-AL, FC-SW	N	
23	Primergy H450	PCI-X	Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP8000-EMC[3, 12], LP9002-E (LP9002L-E)[2, 3, 4, 5], LP9802-E[2, 9], LP9802DC-E[4, 9], LP982-E[2, 9]	FC-AL, FC-SW	N	
24	Primergy F250[8]	PCI-X	Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP8000-EMC[3, 12], LP9802-E[2, 9], LP9802DC-E[4, 9], LP982-E[2, 9]	FC-AL, FC-SW	N	
25	Primergy R450	PCI, PCI-X	Microsoft Windows 2000 Server: SP2[7], SP3[7], SP4	Emulex LP8000-EMC[12]	FC-AL, FC-SW	N	

1. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.

2. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
3. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
4. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
5. The LP9002-E now ships with the LP9002L-E low profile adapter
6. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
7. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
8. Must use standard PCI 32bit/33MHz slot for SCSI
9. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
10. CLARiiON CX200 NOTE. Requires 1.00x3 for direct-connect configurations only.
11. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
13. Windows 2000 Professional is supported as the management workstation.
14. CX200 available through selected channels.
15. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
16. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

HPQ

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000 Datacenter SP4**	**Emulex LP9002-E (LP9002L-E)[19, 20, 27]; QLogic: QLA2310F-E-SP[14, 15, 23], QLA2340-E-SP[13, 14, 23], QLA2342-E-SP[13, 14, 23]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	**See[1, 2]**
2	Netserver LH III: Proliant 850[25]	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex LP8000-EMC[19, 21]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]
3	Netserver LH: II, PRO; Netserver: LX PRO, LXR PRO, LXR PRO8	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex LP8000-EMC[19, 21]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	
4	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4**	**Emulex LP8000-EMC[19, 21]**	FC-AL, FC-SW	N	**See[1, 2]**
5	Netserver LH: 3, 4; Proliant: 1600[24, 25], 1850[25], 3000[25], 5000[25], 5500[25, 26], 6000[25, 26], 7000[25, 26], 8000[25, 26]	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex LP8000-EMC[19, 21]; **QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]
6	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 2500[25], 6400R[25], 6500[25, 26], 8500, DL320[25], DL360[25], DL360(G2)[25, 28], **DL380[25], DL380(G2)[25]**, DL580[25], ML350[25], ML350(G2)[25], ML370[25], ML370(G2), ML370(G3), ML530[25], ML530(G2)[25], ML570[25], ML750[29]	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP8000-EMC[19, 21], LP9002-E (LP9002L-E)[19, 20], LP9002DC-E[17, 23, 36, 37], LP9802-E[16, 18], LP9802DC-E[16, 18, 23], LP982-E[16, 17, 18]; **QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]
7	Netserver: LP 2000r, LPR	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP8000-EMC[19, 21], LP9002-E (LP9002L-E)[19, 20], LP9002DC-E[17, 23, 36, 37], LP9802-E[16, 18], LP9802DC-E[16, 18, 23], LP982-E[16, 17, 18]; **QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	N	See[1, 2]
8	Proliant: 1600[24, 25], 1850[25]	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP9002-E (LP9002L-E)[19, 20], LP9002DC-E[17, 23, 36, 37], LP9802-E[16, 18], LP9802DC-E[16, 18, 23], LP982-E[16, 17, 18]	FC-AL, FC-SW	N	See[1, 2]
9	Proliant 850[25]	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP9002-E (LP9002L-E)[19, 20], LP9002DC-E[17, 23, 36, 37], LP9802-E[16, 18], LP9802DC-E[16, 18, 23], LP982-E[16, 17, 18]; **QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	N	See[1, 2]
10	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4**	**Emulex: LP9002DC-E[17, 23, 36, 37], LP9802-E[16, 18], LP9802DC-E[16, 18, 23], LP982-E[16, 17, 18]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	**See[1, 2]**

HPQ – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
11	**Netserver LH III**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4**	**QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	N	**See[1, 2]**
12	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Server: SP2[22], SP3[22], SP4**	**Emulex LP9002-E (LP9002L-E)[19, 20]; QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]**	**See[1, 2]**
13	Proliant: BL40p, DL740, DL760[25], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9002-E (LP9002L-E)[19, 20, 27]	FC-AL, FC-SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]**	See[1, 2]
14	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP8000-EMC[19, 21], LP9002-E (LP9002L-E)[19, 20], LP9002DC-E[17, 23, 36, 37], LP9802-E[16, 18], LP9802DC-E[16, 18, 23], LP982-E[16, 17, 18]; **QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]**	See[1, 2]
15	Proliant: BL40p, DL740, DL760[25], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP8000-EMC[19, 21], LP9002DC-E[17, 23, 36, 37], LP9802-E[16, 18], LP9802DC-E[16, 18, 23], LP982-E[16, 17, 18]; **QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]**	See[1, 2]
16	Proliant: DL740, DL760[25], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter: SP2[22], SP3[22], SP4	Emulex: LP9002-E (LP9002L-E)[17, 19, 20, 27], LP9002DC-E[17, 23, 36, 37]	FC-AL, FC-SW	N	See[1, 2]
17	Proliant: BL40p, DL740, DL760[25], DL760 (G2)	PCI-X	Microsoft Windows 2000 Server: SP2[22], SP3[22], SP4	Emulex LP9002-E (LP9002L-E)[19, 20]	FC-AL, FC-SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]**	See[1, 2]
18	Proliant BL20p (G2)[33, 34]	PCI-X[35]	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	HPQ Dual-port mezzanine controller card[31, 32]	FC-AL, FC-SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 30]**	
19	Proliant BL20p (G2)[33, 34]	PCI-X[35]	Microsoft Windows 2000 Datacenter: SP2[22], SP3[22], SP4	HPQ Dual-port mezzanine controller card[31, 32]	FC-AL, FC-SW	N	
20	Proliant: DL580(G2)[25], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP8000-EMC[19, 21], LP9002-E (LP9002L-E)[19, 20], LP9002DC-E[17, 23, 36, 37], LP9802-E[16, 18], LP9802DC-E[16, 18, 23], LP982-E[16, 17, 18]; **QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]**	See[1, 2]
21	**Proliant 8500**	**PCI**	**Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000 Datacenter: SP2[22], SP3[22]; Microsoft Windows 2000 Server: SP2[22], SP3[22], SP4**	**HPQ: FCA2354 (LP9002)[17, 23, 36, 37], FCA2355 (LP9002DC)[17, 23, 36, 37]**	**FC-SW**	**Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]**	**See[1, 2]**

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. Access Logic required. direct connect or fabric, (no booting through switch inter-switch links)
4. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
5. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
6. Supports PowerPath 3.0 or greater.
7. No MirrorView or SnapView used on boot LUNs.
8. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability
9. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
10. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation
11. MSCS cluster configurations are supported with CX600, CX400 and FC4700.
12. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
13. **PowerPath supported. ATF/CDE not supported.**
14. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
15. **If using ATF/CDE, requires 2.1.6 or greater.**
16. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
17. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
18. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
19. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
20. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
21. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
22. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
23. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
24. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
25. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
26. Includes both Pentium PRO and XEON models
27. The LP9002-E now ships with the LP9002L-E low profile adapter.
28. Requires minimum BIOS v4.01 rev A (5/17/2002) for use with Emulex HBAs.
29. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.

30. BIOS for the BL20p mezzanine card must be obtained from HP. Cannot use BIOS from Qlogic web site. EMC NVRAM settings must be configured manually. Refer to page 2-6 of the Readme document "EMC Fibre Channel with QLogic Host Bus Adapters in the Windows NT/Windows 2000 Environment" found at http://www.qlogic.com for the settings.
31. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
32. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
33. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
34. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
35. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.
36. Requires driver 2.20a12, firmware 3.90a7 and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
37. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

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IBM

IBM – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9002-E (LP9002L-E)[25, 26]; IBM 19K1246(QLA2310)[2]; **QLogic: QLA2340-E-SP[5, 8], QLA2342-E-SP[5, 8]**	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	
2	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[25, 28], LP9002-E (LP9002L-E)[25, 26], LP9002DC-E[5, 9, 31, 32]; IBM 19K1246(QLA2310)[2]; **QLogic: QLA2340-E-SP[5, 8], QLA2342-E-SP[5, 8]**	FC-AL, FC-SW	N	
3	Netfinity 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9002-E (LP9002L-E)[12, 25, 26], LP9802-E[5, 6, 7], LP982-E[5, 6, 7, 9]; IBM 24P0960(QLA2340)[10, 11]; **QLogic: QLA2310F-E-SP[5, 8, 29], QLA2340-E-SP[5, 8, 10], QLA2342-E-SP[5, 8, 10]**	FC-AL, FC-SW	N	See[3, 4]
4	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 7, 9]; **QLogic QLA2310F-E-SP[5, 8]**	FC-AL, FC-SW	N	See[3, 4]
5	**Netfinity 8500R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4**	**QLogic QLA2310F-E-SP[5, 8]**	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
6	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7100	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex LP8000-EMC[25, 28]; IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]; **QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 10], QLA2342-E-SP[8, 10]**	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
7	Netfinity 7000 M10[24]	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex LP8000-EMC[25, 28]; **QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 10], QLA2342-E-SP[8, 10]**	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 30]	See[3, 4]
8	Netfinity: 5600, 7600; xSeries: X330[13], X335, X340 (4500R)[13], X342[13], x230, x232[13], x240[13], x250[13], x350 (6000R)[13], x370[13]	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP8000-EMC[25, 28], LP9002-E (LP9002L-E)[12, 25], LP9002DC-E[5, 9, 31, 32], LP9802-E[6, 7], LP9802DC-E[5, 6, 7], LP982-E[6, 7, 9]; IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]; **QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 10], QLA2342-E-SP[8, 10]**	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
	xSeries x255[13]	PCI	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**Emulex: LP8000-EMC[25, 28], LP9002-E (LP9002L-E)[12, 25], LP9002DC-E[5, 9, 31, 32], LP9802-E[6, 7], LP9802DC-E[5, 6, 7], LP982-E[6, 7, 9]; IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]; QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 10], QLA2342-E-SP[8, 10]**	FC-AL, FC-SW	N	See[3, 4]
10	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP8000-EMC[25, 28], LP9002DC-E[5, 9, 31, 32]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	
11	Netfinity 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP8000-EMC[25, 28], LP9002DC-E[5, 9, 31, 32], LP9802DC-E[5, 6, 7]; IBM 19K1246(QLA2310)[2]	FC-AL, FC-SW	N	See[3, 4]
12	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[24], 7100	PCI	Microsoft Windows 2000 Advanced Server, SP2[1], SP3[1], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP9002-E (LP9002L-E)[12, 25], LP9002DC-E[5, 9, 31, 32], LP9802-E[6, 7], LP9802DC-E[5, 6, 7], LP982-E[6, 7, 9]	FC-AL, FC-SW	N	See[3, 4]
13	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 7, 9]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
14	Netfinity 7000 M10[30]	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
15	Netfinity 8500R	PCI	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4	Emulex: LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 7, 9]; QLogic QLA2310F-E-SP[8]	FC-AL, FC-SW	N	See[3, 4]
16	Netfinity 8500R	PCI	Microsoft Windows 2000 Server: SP2[1] SP3[1], SP4	Emulex LP9002-E (LP9002L-E)[9, 25, 26]; IBM 19K1246(QLA2310)[2, 8]; QLogic: QLA2340-E-SP[5, 8, 27], QLA2342-E-SP[5, 8, 27]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	
17	Netfinity 8500	PCI	Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Emulex: LP9002-E (LP9002L-E)[12, 25], LP9802-E[6, 7], LP982-E[6, 7, 9]; IBM 24P0960(QLA2340)[11]; QLogic QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 10], QLA2342-E-SP[8, 10]	FC-AL, FC-SW	N	See[3, 4]
18	Netfinity 8500R	PCI	Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	QLogic QLA2310F-E-SP[8]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
19	xSeries: x360[13], x440[13]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex LP850-EMC[25]	FC-AL, FC-SW	N	See[3, 4]
	xSeries: x360[13], x440[13]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP8000-EMC[25, 28], LP9002-E (LP9002L-E)[12, 25], LP9002DC-E[5, 9, 31, 32], LP9802-E[6, 7], LP9802DC-E[5, 6, 7], LP982-E[6, 7, 9]; IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]; QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 10], QLA2342-E-SP[8, 10]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
21	xSeries x235[13]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP8000-EMC[25, 28], LP9002-E (LP9002L-E)[12, 25], LP9802-E[6, 7], LP9802DC-E[5, 6, 7], LP982-E[6, 7, 9]; IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]; QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 10], QLA2342-E-SP[8, 10]	FC-AL, FC-SW	N	See[3, 4]
22	xSeries x235[13]	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9002DC-E[5, 9, 31, 32]	FC-AL, FC-SW	N	See[3, 4]
23	xSeries x440[13]	PCI-X	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Emulex LP850-EMC[25]	FC-AL, FC-SW	N	
24	xSeries x440[13]	PCI-X	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4	IBM 19K1246(QLA2310)[2]; QLogic QLA2310F-E-SP[8]	FC-AL, FC-SW	N	
25	xSeries x235[13]	PCI-X	Microsoft Windows 2000: Advanced Server SP2[1], Server SP2[1], Server SP3[1], Server SP4	Emulex LP9002DC-E[5, 9, 25, 31, 32]	FC-AL, FC-SW	N	See[3, 4]
26	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[1, 43], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[1, 43], Server SP3[1, 43], Server SP4	Emulex: LP9002-E (LP9002L-E)[5, 12, 25], LP9002DC-E[5, 9, 31, 32, 39]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 40, 41, 42]	See[3, 4]
	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[1], Server SP3[1, 43], Server SP4	Emulex: LP9802-E[6, 7, 9], LP9802DC-E[5, 6, 7], LP982-E[6, 7, 9]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 40, 41, 42]	See[3, 4]
28	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex LP8000-EMC[25, 28, 32]; IBM 24P0960(QLA2340)[11]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 40, 41, 42]	See[3, 4]
29	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex LP850-EMC[25]	FC-AL, FC-SW	N	See[3, 4]
30	xSeries x345[13]	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP8000-EMC[25, 28], LP9002-E (LP9002L-E)[12, 25], LP9002DC-E[5, 9, 31, 32], LP9802-E[6, 7], LP9802DC-E[5, 6, 7], LP982-E[6, 7, 9]; IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]; QLogic QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 10], QLA2342-E-SP[8, 10]	FC-AL, FC-SW	N	See[3, 4]
31	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	IBM 19K1246(QLA2310)[2]; QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 10], QLA2342-E-SP[8, 10]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]

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No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
32	**xSeries x445**	PCI, PCI-X	**Microsoft Windows 2000 Datacenter: SP2[1, 43], SP3[1, 43], SP4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E[5, 9, 31, 32, 39]**	**FC-AL, FC-SW**	**N**	
33	**xSeries x445**	PCI PCI-X	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]**	**Emulex LP850-EMC[25]**	FC-AL, FC-SW	N	
34	**xSeries x445**	PCI, PCI-X	**Microsoft Windows 2000 Datacenter, SP2[1], SP3[1]**	**IBM 24P0960(QLA2340)[11]**	FC-AL, FC-SW	Y[40, 41, 42]	
35	**xSeries x445**	PCI, PCI-X	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4**	**IBM 19K1246(QLA2310)[2], QLogic QLA2310F-E-SP[8]**	FC-AL, FC-SW	N	
36	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	IBM 24P0960(QLA2340)[10, 11]	FC-AL, FC-SW[12]	N	See[3, 4]
37	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1]	IBM 24P0960(QLA2340)[10, 11]	FC-AL, FC-SW[12]	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
38	Netfinity 8500R	PCI	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4	IBM 24P0960(QLA2340)[10, 11]	FC-AL, FC-SW[12]	N	See[3, 4]
39	**Netfinity 8500R**	PCI	**Microsoft Windows 2000 Server: SP3[1], SP4**	**IBM 24P0960(QLA2340)[5, 10, 11]**	FC-AL, FC-SW[12]	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
40	**eServer BladeCenter HS20 (Model 8678)[33]**	PCI-X[34]	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**IBM HS20 FC Expansion card 48P7061[35, 36, 37, 38]**	**FC-SW**	**Y**	

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. This HBA is equivalent to the qLogic QLA2310.
3. Windows 2000 Professional is supported as the management workstation.
4. CX200 available through selected channels.
5. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
6. CLARiiON CX200 NOTE. Requires 1.00x3 for direct-connect configurations only.
7. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
8. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
9. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
10. PowerPath supported. ATF/CDE not supported.
11. This HBA is equivalent to the qLogic QLA2340.
12. FC-SW applies only to CX600. CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
13. For IBM xSeries Servers running Windows NT and Windows 2000 with IBM ServerRaid controller 4M, the ServerRaid Driver must be 6.00 or above for use with EMC PowerPath 3.0 and above. IBM driver can be downloaded at: http://www-3.ibm.com/pc/support/site.wss/document.do?indocid=MIGR-39723
14. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
15. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
16. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
17. Supports PowerPath 3.0 or greater.
18. No MirrorView or SnapView used on boot LUNs.
19. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
20. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
21. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
22. MSCS cluster configurations are supported with CX600, CX400 and FC4700.
23. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
24. This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
25. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
26. The LP9002-E now ships with the LP9002L-E low profile adapter.
27. **If using ATF/CDE, requires 2.0.9 or greater.**
28. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
29. **If using ATF/CDE, requires 2.1.6 or greater.**
30. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
31. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API. NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
32. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
33. **EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.**
34. **IBM HS20 Fibre Channel Expansion Card (48P7061)**
35. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)" This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.**
36. **Due to the HS20's embedded FC-SW design, EMC Access Logix is required to assign LUNS to each individual blade server.**
37. **This server has a built-in FC-SW and must be direct-attached to the external storage.**
38. **IBM BIOS 1.34, EMC Approved Qlogic Driver Version 8.2.2.25. Available at http://www.qlogic.com.**
39. **Host must be offline for interfamily Symmetrix microcode upgrade.**
40. **Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.**
41. **Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.**
42. **MSCS cluster configurations are supported. PowerPath 3.0 or greater required.**
43. **Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.**

NEC

NEC – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Express 5800: 320La, 320La-R, 320Lb, 320Lb-R, 330Ma-R, 330Mb-R, 340Ha-R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4, 5, 6], SP3[4, 5, 6]**	**QLogic QLA2310F-E-SP[2, 3]**	FC-AL, FC-SW	N	See[1]

1. Windows 2000 Professional is supported as the management workstation
2. **Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**

3. **Qlogic SANSurfer/SANBlade Manager is not supported.**
4. **FC-AL supported for direct attach only. No support for hubs or Quickloop at this time.**
5. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
6. **Refer to the Stratus, Bull or NEC documentation for hardware, software and non-storage related setup and configuration.**

SUPERMICRO

SUPERMICRO – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Super P3TDL3[17]	PCI	Microsoft Windows 2000 Advanced Server: SP2[13], SP3[13], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[13], Server SP3[13], Server SP4	Emulex LP850-EMC[18]	FC-AL FC-SW	N	See[1, 2]
2	Super: P3TDL3[17], S2DL3[17]	PCI	Microsoft Windows 2000 Advanced Server. SP2[13], SP3[13], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[13], Server SP3[13], Server SP4	Emulex: LP8000-EMC[18, 24], LP9002-E (LP9002L-E)[18, 22, 23], LP9002DC-E[14, 22, 25, 26], LP9802-E[14, 15, 16], LP9802DC-E[14, 15, 16], LP982-E[14, 15, 16, 22]; **QLogic: QLA2310F-E-SP[19, 21], QLA2340-E-SP[19, 20], QLA2342-E-SP[19, 20]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
4. If using ATF/CDE with Emulex, requires v2.1 5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
5. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
6. Supports PowerPath 3.0 or greater.
7. No MirrorView or SnapView used on boot LUNs.
8. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
9. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
10. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
    MSCS cluster configurations are supported with CX600, CX400 and FC4700.
11. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
13. EMC strongly recommends that HBAs of different vendors not be used in the same host server
14. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
15. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
16. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
17. 64-bit slots for 3.3v HBAs only.
18. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
19. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
20. **PowerPath supported. ATF/CDE not supported.**
21. **If using ATF/CDE, requires 2.1.6 or greater.**
22. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
23. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
24. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
25. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
26. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

Stratus

Stratus – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**ftServer: 5240, 6500**	**PCI**	**Microsoft Windows 2000 Advanced Server SP3[5, 6, 7, 8]**	**QLogic QLA2310F-E-SP[2, 3, 4]**	**FC-AL, FC-SW**	**N**	**See[1]**
2	**ftServer: 3210, 3220 3300, 5200**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[5, 6, 7], SP3[5, 6, 7, 8]**	**QLogic QLA2310F-E-SP[2, 3, 4]**	FC-AL, FC-SW	N	**See[1]**

1. Windows 2000 Professional is supported as the management workstation.
2. **FC-AL supported for direct attach only. No support for hubs or Quickloop at this time.**
3. **Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**
   Qlogic SANSurfer/SANBlade Manager is not supported.
   EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. **Refer to the Stratus, Bull or NEC documentation for hardware, software and non-storage related setup and configuration.**
7. **Requires Stratus ftServer 1.2.2.x.**
   Requires Microsoft HotFix Q327477, available from Microsoft customer support.
   Requires VxVM 2.7 HotFix 5A, available from http://support.veritas.com/index.htm choose support downloads, choose Volume Manager, choose Volume Manager for Windows 2000. Choose VM2K27HF05aENU_248733.exe Patch - VERITAS Volume Manager 2.7 for Windows 2000 HotFix05a, English Version Size: 5892Kb
   Requires PowerPath 3.0.0 or higher.
8. **Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.**

Unisys

Unisys – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4	**QLogic QLA2310F-E-SP[5, 6]**; Unisys FCH732213-P64 (LP9002L-F2)[15]	FC-AL, FC-SW	N	
2	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4, Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[9, 10], LP9002-E (LP9002L-E)[8, 9], LP9002DC-E[5, 7, 15, 16], LP9802-E[2, 4], LP9802DC-E[4, 5], LP982-E[2, 4, 7]; **QLogic: QLA2340-E-SP[5, 6], QLA2342-E-SP[5, 6]**	FC-AL, FC-SW	N	
3	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[9, 10], LP9002-E (LP9002L-E)[8, 9], LP9002DC-E[5, 7, 15, 16]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 6], QLA2342-E-SP[5, 6]**	FC-AL, FC-SW	N	
4	ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter. SP2[3], SP3[3], SP4, Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4	Unisys FCH732213-P64 (LP9002L-F2)[15]	FC-AL, FC-SW	N	

Unisys – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
5	ES7000/230	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4	Unisys FCH732213-P64 (LP9002L-F2)[15]	FC-AL, FC-SW	N	
6	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex: LP9802-E[2, 4], LP9802DC-E[4, 5], LP982-E[2, 4]	FC-AL, FC-SW	N	
7	ES7000/520; ES7000/530; ES7000/540	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Unisys FCH732213-P64 (LP9002L-F2)[15]	FC-AL, FC-SW	N	
8	**ES7000/100; ES7000/200**	PCI	**Microsoft Windows 2000 Datacenter SP4**	**QLogic QLA2310F-E-SP[5, 6, 14]**	FC-AL, FC-SW	N	**See[11, 12]**
9	**ES7000/100; ES7000/200**	PCI	**Microsoft Windows 2000 Datacenter: SP2[3, 13], SP3[3]**	**QLogic QLA2310F-E-SP[6, 14]**	FC-AL, FC-SW	N	**See[11, 12]**
10	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[3, 13], SP3[3], SP4	Emulex: LP8000-EMC[9, 10], LP9002-E (LP9002L-E)[7, 9], LP9002DC-E[5, 7, 15, 16]	FC-AL, FC-SW	Y[1]	See[11, 12]
11	ES7000/100; ES7000/200; ES7000/230	PCI	Microsoft Windows 2000 Datacenter: SP2[3, 13], SP3[3], SP4	Unisys FCH732213-P64 (LP9002L-F2)[15]	FC-AL, FC-SW	N	See[11, 12]
12	**ES7000/200**	PCI	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**QLogic: QLA2340-E-SP[6], QLA2342-E-SP[6]**	FC-AL, FC-SW	N	
13	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4	Emulex LP9802DC-E[4, 5]	FC-AL, FC-SW	Y[1, 2]	
14	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4	Emulex: LP9802-E[2, 4, 7], LP982-E[2, 4, 7]	FC-AL, FC-SW	Y[1]	
15	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4	Emulex: LP9802-E[2, 4], LP982-E[2, 4]	FC-AL, FC-SW	Y[1]	

1. CX600 only.
2. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
5. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
6. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
7. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
8. The LP9002-E now ships with the LP9002L-E low profile adapter.
9. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. ATF/CDE is not supported with driver 2.20a12. For ATF/CDE, use driver version 2.11a2. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com. NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC. Supports SNIA HBA API.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. Windows 2000 Professional is supported as the management workstation.
12. CX200 available through selected channels.
13. PowerPath not supported. ATF is supported only using Emulex 5-2.11a2 driver.
14. **If using ATF/CDE, requires 2.1.6 or greater.**
15. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
16. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

Microsoft Windows 2003

Dell

Dell – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
	PowerEdge: 6400, 6450, 8450	PCI	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 5], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	PowerEdge: 2600, 2650, 4600, 6600, 6650	PCI-X	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 5], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. PowerPath is not supported
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Primergy: B210, C200, E200, F200, H200, H400, K400, L200, N200, N400, P200, P250, R450, RX100, T850	PCI	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 6], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N

Fujitsu Siemens – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
2	Primergy: F250[5] H250[5], H450, N800, RX200, RX300	PCI-X	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 6], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. Must use standard PCI 32bit/33MHz slot for SCSI
6. The LP8000-EMC HBA has a permanent GBIC and does not have copper cable support
7. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
8. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

HPQ

HPQ – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Proliant: **8500**, DL320[5], DL360[5], DL360(G2)[5], **DL380[5]**, **DL380(G2)[5]**, **DL380(G3)**, DL580[5], ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML750[5]	PCI	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 11], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[12], LP9802DC-E[12], LP982-E[12]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N
2	Proliant: BL40p, DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[5], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 11], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[12], LP9802DC-E[12], LP982-E[12]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N
3	Proliant BL20p (G2)[9, 10]	PCI-X[6]	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	HPQ Dual-port mezzanine controller card[7, 8]	FC-AL, FC-SW	N
4	Proliant: DL580(G2)[5], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2003, DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 11], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[12], LP9802DC-E[12], LP982-E[12]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N
5	Proliant: **8500**, DL320[5], DL360[5], DL360(G2)[5], **DL380[5]**, **DL380(G2)[5]**, **DL380(G3)**, DL580[5], ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML750[5]	PCI	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	HPQ: FCA2354 (LP9002)[1], FCA2355 (LP9002DC)[1]	FC-SW	N
6	Proliant: BL40p, DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[5], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	HPQ: FCA2354 (LP9002)[1], FCA2355 (LP9002DC)[1]	FC-SW	N
7	Proliant: DL580(G2)[5], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	HPQ: FCA2354 (LP9002)[1], FCA2355 (LP9002DC)[1]	FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. PowerPath is not supported.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
   Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
   Dual port PCI-X fibre channel mezzanine card option is embedded No PCI/PCI-X slots available.
7. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
8. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
9. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
10. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
11. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
12. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

IBM

IBM – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x350 (6000R), x370	PCI	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 9], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[8], LP9802DC-E[8], LP982-E[8]; IBM: 19K1246(QLA2310)[6, 7], 24P0960(QLA2340)[5, 6]; QLogic: QLA2310F-E-SP[6], QLA2340-E-SP[6], QLA2342-E-SP[6]	FC-AL, FC-SW	N
2	xSeries: x235, **x255**, **x360** x440	PCI-X	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 9], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[8], LP9802DC-E[8], LP982-E[8]; IBM: 19K1246(QLA2310)[6, 7], 24P0960(QLA2340)[5, 6]; QLogic: QLA2310F-E-SP[6], QLA2340-E-SP[6], QLA2342-E-SP[6]	FC-AL, FC-SW	N

IBM – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
3	**xSeries: x345 x445**	PCI, PCI-X	**Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]**	**Emulex: LP8000-EMC[1, 9], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[8], LP9802DC-E[8], LP982-E[8];** **IBM: 19K1246(QLA2310)[6, 7], 24P0960(QLA2340)[5, 6];** **QLogic: QLA2310F-E-SP[6], QLA2340-E-SP[6], QLA2342-E-SP[6]**	FC-AL, FC-SW	N
4	**eServer BladeCenter HS20 (Model 8678)[15]**	**PCI-X[10]**	**Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]**	**IBM HS20 FC Expansion card 48P7061[11, 12, 13, 14]**	**FC-SW**	Y

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
3. PowerPath is not supported.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server
5. This HBA is equivalent to the qLogic QLA2340
6. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. This HBA is equivalent to the qLogic QLA2310.
8. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
10. **IBM HS20 Fibre Channel Expansion Card (48P7061)**
11. **Due to the HS20's embedded FC-SW design, EMC Access Logix is required to assign LUNS to each individual blade server.**
12. **This server has a built-in FC-SW and must be direct-attached to the external storage.**
13. **IBM BIOS 1.34, EMC Approved Qlogic STORPort Driver Version 8.2.2.20. Available at http://www.qlogic.com.**
14. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"**

This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.
EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.

NCR

NCR – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Worldmark 45xx	MCA	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 5], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	Worldmark: 4500, 4700, 47XX, 4850, 48XX, 4900, 4950, 5100 Series, 5150, 5250, 52XX, 5300, 5350, 8550, S50	PCI	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 5], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
3. PowerPath is not supported.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

NEC

NEC – Microsoft Windows 2003							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Express 5800: 320La, 320La-R, 320Lb 320Lb-R, 330Ma-R, 330Mb-R, 340Ha-R**	**PCI**	**Microsoft Windows 2003: DataCenter[7, 8, 9], Enterprise Edition (Advanced Server)[7, 8, 9], Standard Edition (Server)[7, 8, 9]**	**NEC N8803-031 (QLA2310F)[3, 4, 5, 6]**	**FC-AL, FC-SW**	**N**	**See[1, 2]**

1. **Windows 2000 Professional is supported as the management workstation.**
2. **CX200 available through selected channels.**
3. **Qlogic SANSurfer/SANBlade Manager is not supported.**
4. **QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).**
5. **Qlogic SanBlade Manager is not supported.**
6. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
7. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
8. **PowerPath is not supported.**
9. **Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.**

Unisys

Unisys – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 6], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[5], QLA2340-E-SP[5], QLA2342-E-SP[5]; Unisys: FCH20111-P64 (LP8000-D1)[1], FCH20113-P64 (LP8000-EMC, LP8000-F1)[1], FCH732213-P64 (LP9002L-F2)[1]	FC-AL, FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. PowerPath is not supported.
5.

Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

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Microsoft Windows NT

DG

DG – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	AViiON AV3704	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[5, 9]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	AViiON: AV8900, AV8950, AV8950R	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[5, 9], LP9002-E (LP9002L-E)[2, 5], LP9802-E[2, 3, 4, 6], LP9802DC-E[2, 3, 4], LP982-E[2, 3, 4, 6]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
3	AViiON: AV1400, AV2300, AV2700, AV2800, AV3600, AV3700, AV3704R, AV3800, AV8700	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[5, 9], LP9002-E (LP9002L-E)[2, 5], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[3, 4]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
4	AViiON AV3704	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[2, 5], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[3, 4]	FC-AL, FC-SW	Y

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
3. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
4. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
5. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
6. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
7. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
   If using ATF/CDE, requires 2.0.9 or greater.
   The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Dell

Dell – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	PowerEdge: 1650, 4300, 4350	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP8000-EMC[1, 2]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
2	PowerEdge: 2300, 6100, 6300, 6350	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1, 6], LP9002DC-E[1, 6, 11], LP9802-E[6, 7, 8], LP9802DC-E[6, 7, 8], LP982-E[7, 8]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
3	PowerEdge: 1550, 2400, 2450, 2500, 2550[9, 10], 4400, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP8000-EMC[1, 2], LP9002DC-E[1, 6, 11]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
4	PowerEdge: 1550, 1650, 2400, 2450, 2500, 2550[9, 10], 4400, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP9002-E (LP9002L-E)[1, 6], LP9802-E[6, 7, 8], LP9802DC-E[6, 7, 8], LP982-E[7, 8]	FC-AL, FC-SW	Y
5	PowerVault: 770N, 775N	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP9002-E (LP9002L-E)[1, 6], LP9802-E[6, 7, 8], LP9802DC-E[6, 7, 8], LP982-E[7, 8]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
6	PowerEdge 1750	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP8000-EMC[1, 2]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
7	PowerEdge 2600	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1, 6], LP9802-E[6, 7, 8], LP9802DC-E[6, 7, 8], LP982-E[7, 8]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
8	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP8000-EMC[1, 2], LP9002DC-E[1, 6, 11]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
	PowerEdge 2650	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP8000-EMC[2, 13], LP9002DC-E[1, 6, 11]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
10	PowerEdge 6600	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP9002-E (LP9002L-E)[1, 6], LP9802-E[6, 7, 8], LP9802DC-E[6, 7, 8]	FC-AL, FC-SW	Y
11	PowerEdge: 1750, 2650, 4600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP9002-E (LP9002L-E)[1, 6], LP9802-E[6, 7, 8], LP9802DC-E[6, 7, 8], LP982-E[7, 8]	FC-AL, FC-SW	Y
12	PowerEdge 6600	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP982-E[6, 7, 8]	FC-AL, FC-SW[12]	Y

1. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
5. If using ATF/CDE, requires 2.0.9 or greater.
6. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
7. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
8. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
9. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
10. Dell PowerEdge supports a maximum of 2 Emulex HBAs at one time and the total power cannot exceed 20 Watts.
11. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
12. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
13. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

HPQ

HPQ – Microsoft Windows NT

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**Proliant DL380(G3)**	PCI	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex LP8000-EMC[11, 12]**, **HPQ: 176479-B21[11]**, **KGPSA-CB[11]**, **KGPSA-CY[11]**; **QLogic: QLA2310F-E-SP[5, 13]**, **QLA2340-E-SP[5]**, **QLA2342-E-SP[5]**	FC-AL, FC-SW	N
2	Netserver LH, 3, 4, II, PRO III, Netserver LXR, 8000, 8500, PRO, PRO8, Proliant: 2500[6], 3000[6], 5000[6], 5500[6, 10], 6000[6, 10], 6400R[6], 7000[6, 10], 8000[6, 10], 8500, DL320[6], DL360[6], DL360(G2)[6, 8], **DL380[6]**, **DL380(G2)[6]**, DL580[6], ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML750[9]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[11, 12], QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
3	Proliant 1850[6]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[11, 12], QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	Y
4	Proliant 8000: Pro, Xeon	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[11, 12], QLogic: QLA2310F-E-SP[5, 14], QLA2340-E-SP[5, 14], QLA2342-E-SP[5, 14]	FC-AL, FC-SW	N
5	Netserver LX PRO	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[11, 12], LP850-EMC[11]; QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
6	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LPR, LT 6000R; Proliant: 1600[6, 7], 6500[6, 10], 850[6]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[11, 12], LP9002-E (LP9002L-E)[2, 11], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[3, 4]; QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
7	Netserver LXR: 8000, 8500; Proliant: 2500[6], 6400R[6], DL320[6], DL360[6], DL360(G2)[6, 8], **DL380[6]**, **DL380(G2)[6]**, DL580[6], ML350[6], ML350(G2)[6], ML370[6], ML530[6], ML530(G2)[6], ML570[6], ML750[9]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[2, 11], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[3, 4]	FC-AL, FC-SW	Y
8	Proliant 1850[6]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[2, 11], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[3, 4]	FC-AL, FC-SW	N
9	Proliant: 8500, **DL380(G3)**, ML370(G2), ML370(G3)	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[2, 11], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[3, 4]	FC-AL, FC-SW	Y[6]
10	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[11, 12], QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
11	Proliant: DL360(G3), DL560 **DL560 (G2)**, DL740, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[2, 11], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[3, 4]	FC-AL, FC-SW	Y
12	Proliant: DL580(G2)[6], **DL580(G3)**	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[11, 12], QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
13	Proliant: DL580(G2)[6], **DL580(G3)**	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[2, 11], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[3, 4]	FC-AL, FC-SW	Y

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
3. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
4. Requires dnver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
5. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
6. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
7. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
8. Requires BIOS v4.01 rev A (5/17/2002) for use with Emulex HBAs.
9. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
10. Includes both Pentium PRO and XEON models
11. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
    The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
    If using ATF/CDE, requires 2.0.9 or greater.
14. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).

IBM

IBM – Microsoft Windows NT

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Netfinity: 5600, 7600, 8500R, xSeries: X340 (4500R)[9], X342[9], x230, x240[9], x250[9], x350 (6000R)[9], x370[9]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[10, 13], IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[3, 11]; QLogic: QLA2310F-E-SP[3, 12], QLA2340-E-SP[3], QLA2342-E-SP[3]	FC-AL, FC-SW	N
2	xSeries, X330[9], X335, x232[9]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[10, 13], QLogic: QLA2310F-E-SP[3, 12], QLA2340-E-SP[3], QLA2342-E-SP[3]	FC-AL, FC-SW	N
3	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 6000R, 7000, 7000 M10[4], 7100	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[10, 13], LP9002-E (LP9002L-E)[5, 10], LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7], LP982-E[6, 7]; IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[3, 11]; QLogic: QLA2310F-E-SP[3, 12], QLA2340-E-SP[3], QLA2342-E-SP[3]	FC-AL, FC-SW	N
4	**xSeries x255[9]**	PCI	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex: LP8000-EMC[10, 13], LP9002-E (LP9002L-E)[5, 10], LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7], LP982-E[6, 7]; QLogic: QLA2310F-E-SP[3, 12], QLA2340-E-SP[3], QLA2342-E-SP[3]**	FC-AL, FC-SW	N
5	Netfinity: 5600, 7600, 8500R; xSeries: X330[9], X335, X340 (4500R)[9], X342[9], x230, x232[9], x240[9], x250[9], x350 (6000R)[9], x370[9]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[5, 10], LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7], LP982-E[6, 7]	FC-AL, FC-SW	N
6	**xSeries x360[9]**	PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex: LP8000-EMC[10, 13], LP850-EMC[10]; IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[3, 11]; QLogic: QLA2310F-E-SP[3, 12], QLA2340-E-SP[3], QLA2342-E-SP[3]**	FC-AL, FC-SW	N

19.830

ANEXO SWITCH TIPO 03
PARTE 15/E

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IBM – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
7	xSeries x440[9]	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[10, 13], LP850-EMC[10], LP9002-E (LP9002L-E)[5, 10] LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7], LP982-E[6, 7]; IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[3, 11]; QLogic: QLA2310F-E-SP[3, 12], QLA2340-E-SP[3], QLA2342-E-SP[3]	FC-AL, FC-SW	N
8	xSeries x235[9]	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[10, 13], LP9002-E (LP9002L-E)[10, 14], LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7]; IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[3, 11]; QLogic: QLA2310F-E-SP[3, 12, 14], QLA2340-E-SP[3, 14], QLA2342-E-SP[3, 14]	FC-AL, FC-SW	N
9	**xSeries x360[9]**	PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex: LP9002-E (LP9002L-E)[5, 10], LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7], LP982-E[6, 7]**	FC-AL, FC-SW	Y
10	**xSeries x255[9]**	PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[3, 11]**	FC-AL, FC-SW	N
11	**xSeries x445**	**PCI, PCI-X**	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex: LP8000-EMC[10, 13], LP850-EMC[10], LP9002-E (LP9002L-E)[5, 10], LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7], LP982-E[6, 7];** **IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[3, 11];** **QLogic: QLA2310F-E-SP[3, 12], QLA2340-E-SP[3] QLA2342-E-SP[3]**	**FC-AL, FC-SW**	**N**
12	**xSeries x345[9]**	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex: LP8000-EMC[10, 13], LP9002-E (LP9002L-E)[10, 15];** **IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[3, 11]**	FC-AL, FC-SW	N
13	**xSeries x345[8, 9]**	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex: LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7]**	FC-AL, FC-SW	N
14	**xSeries x345**	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**QLogic: QLA2310F-E-SP[3, 14], QLA2340-E-SP[3, 14], QLA2342-E-SP[3, 14]**	FC-AL, FC-SW	N
15	xSeries x235[9]	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP982-E[5, 6, 7]	FC-AL, FC-SW[16]	N
16	**xSeries x345[8, 9]**	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex LP982-E[5, 6, 7]**	FC-AL, FC-SW[16]	N

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. This HBA is equivalent to the qLogic QLA2310.
3. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
4. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
5. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
6. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
7. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
8. It is recommended that the QLogic QLA2340 is not installed in Slot 1.
9. For IBM xSeries Servers running Windows NT and Windows 2000 with IBM ServerRaid controller 4M, the ServerRaid Driver must be 6.00 or above for use with EMC PowerPath 3.0 and above. IBM driver can be downloaded at: http://www-3.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-39723
10. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
11. This HBA is equivalent to the qLogic QLA2340.
12. If using ATF/CDE, requires 2.0.9 or greater
13. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
14. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
15. The LP9002-E now ships with the LP9002L-E low profile adapter.
16. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.

Unisys

Unisys – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	ES7000/100; ES7000/230; ES7000/500	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[7]	FC-AL, FC-SW	N
2	ES7000/200	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[7]; QLogic: QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
3	ES7000/230	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[3], LP9802-E[3, 4, 6], LP9802DC-E[3, 4], LP982-E[3, 4, 6]	FC-AL, FC-SW	Y[1]
4	ES7000/500	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[3], LP9802-E[3, 4, 6], LP9802DC-E[3, 4], LP982-E[3, 4, 6]	FC-AL, FC-SW	Y
5	ES7000/100; ES7000/200	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[3], LP9802-E[4, 6], LP9802DC-E[3, 4] LP982-E[4, 6]	FC-AL, FC-SW	Y[1]

1. CX600 only.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
4. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
5. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
6. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Novell Netware

Dell

Dell – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerEdge 1650	PCI	Novell Netware 5.00 SP6A[20, 23, 43, 44]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	N, Y[1, 2, 15]	See[21]
2	PowerEdge: 1550, 2400, 2450, 2500, 2550[42], 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.00 SP6A[20, 23, 43, 44]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	N	
3	PowerEdge: 1550, 2500, 2550[42]	PCI	Novell Netware 5.00 SP6A[20, 23, 43, 44]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 25]	
4	PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.00 SP6A[20, 23, 43, 44]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15]	
5	PowerEdge 1650	PCI	Novell Netware 5.10 SP2A[20, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17]	See[21]
6	PowerEdge: 1550, 2500	PCI	Novell Netware 5.10 SP2A[20, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
7	PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10 SP2A[20, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17]	
8	PowerEdge 8450	PCI	Novell Netware 5.10: SP2[20], SP2A[20]	QLogic QLA2200F-EMC[18, 26]	FC-AL, FC-SW	N	
9	PowerEdge 8450	PCI	Novell Netware 5.10: SP2[20], SP2A[20]; Novell Netware 6.0 SP1[20]	IBM: 00N6881 (QLA2200)[29, 31, 33], 19K1246(QLA2310)[29, 31, 32], 24P0960(QLA2340)[29, 30, 31]	FC-AL, FC-SW	N	
10	PowerEdge 8450	PCI	Novell Netware 5.10: SP2[20], SP2A[20], SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3	QLogic QLA2202F-EMC[3, 5, 16, 18, 26, 34, 37, 38, 39, 41, 47]	FC-AL, FC-SW	N	
11	PowerEdge 2550[42]	PCI	Novell Netware 5.10: SP2A[20, 23], SP5[20], SP6	QLogic QLA2340-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
12	PowerEdge 2550[42]	PCI	Novell Netware 5.10: SP2A[20, 23], SP5[20], SP6; Novell Netware 6.0: SP1[20, 23, 35], SP2[20, 23, 35], SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
13	PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP2A[20, 23], SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17]	
14	PowerEdge 2550[42]	PCI	Novell Netware 5.10: SP2A[20, 23], SP5[4, 20], SP6	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
15	PowerEdge 1650	PCI	Novell Netware 5.10: SP2A[20, 23], SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17]	See[21]
16	PowerEdge: 1550, 2500	PCI	Novell Netware 5.10: SP2A[20, 23], SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 23, 35], SP2[20, 23, 35], SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
17	PowerEdge 8450	PCI	Novell Netware 5.10: SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2340-E-SP[18, 19, 22, 28]	FC-AL, FC-SW	N	
18	PowerEdge 1650	PCI	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3	QLogic QLA2202F-EMC[3, 5, 16, 18, 26, 34, 37, 38, 39, 41, 47]	FC-AL, FC-SW	Y[5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
19	PowerEdge: 1550, 2400, 2450, 2500, 2550[42], 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3	QLogic QLA2202F-EMC[3, 5, 16, 18, 26, 34, 37, 38, 39, 41, 47]	FC-AL, FC-SW	Y[5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
20	PowerEdge: 2300, 6400	PCI	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3	QLogic QLA2202F-EMC[3, 5, 16, 18, 26, 34, 37, 38, 39, 41, 47]	FC-AL, FC-SW	N	
21	PowerEdge 8450	PCI	Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW	N	
22	PowerEdge 8450	PCI	Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3	QLogic QLA2200F-EMC[18, 26, 34, 41]	FC-AL, FC-SW	N	
23	PowerEdge 8450	PCI	Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2[20], 5.10 SP2A[20, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	N	
24	PowerEdge: 2300, 6400	PCI	Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	N	
25	PowerVault: 750N, 755N, 775N	PCI	Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 5.10 SP5[20, 21], 5.10 SP6, 6.0 SP1[20, 23, 24], 6.0 SP2[20, 23], 6.0 SP3	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	N	
26	PowerEdge: 1550, 1650, 2300, 2400, 2450, 2550[42], 4300, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 23, 24], 6.0 SP2[20, 23], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[45, 46]	FC-AL, FC-SW	N	
27	PowerEdge 1650	PCI	Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 24], 6.0 SP2[20], 6.0 SP3	QLogic QLA2300F-E-SP[18, 19]	FC-AL, FC-SW	N	See[21]
28	PowerEdge: 2300, 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6400, 6450, 8450; PowerVault: 750N, 755N, 775N	PCI	Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 24], 6.0 SP2[20], 6.0 SP3	QLogic QLA2300F-E-SP[18, 19]	FC-AL, FC-SW	N	
29	PowerEdge: 6400, 8450	PCI	Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 5.10 SP5[4, 20, 21], 5.10 SP6, 6.0 SP1[20, 23, 24, 35], 6.0 SP2[20, 23, 35], 6.0 SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	N	
30	PowerEdge 2300	PCI	Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 5.10 SP5[4, 20, 23], 5.10 SP6, 6.0 SP1[20, 23, 24, 35], 6.0 SP2[20, 23, 35], 6.0 SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	N	
31	PowerEdge 2500	PCI	Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 6.0 SP1[20, 23], 6.0 SP2[20, 23], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[46]	FC-AL, FC-SW	N	

Dell – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
32	PowerEdge: 1550, 2500, 2550[42]	PCI	Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 6.0 SP1[20], 6.0 SP2[20], 6.0 SP3	QLogic QLA2300F-E-SP[18, 19]	FC-AL, FC-SW	N	
33	PowerEdge: 1750, 4600	PCI-X	Novell Netware 5.00 SP6A[20, 23, 43, 44]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	N, Y[1, 2, 15]	See[21]
34	PowerEdge: 2600, 2650	PCI-X	Novell Netware 5.00 SP6A[20, 23, 43, 44]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 25]	
35	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Novell Netware 5.00 SP6A[20, 23, 43, 44]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	N	
36	PowerEdge: 6600, 6650	PCI-X	Novell Netware 5.00 SP6A[20, 23, 43, 44]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15]	
37	PowerEdge 2600	PCI-X	Novell Netware 5.10 SP2A[20, 23]	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
38	PowerEdge 2650	PCI-X	Novell Netware 5.10 SP2A[20, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
39	PowerEdge 6600	PCI-X	Novell Netware 5.10 SP2A[20, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17]	
40	PowerEdge: 1750, 4600	PCI-X	Novell Netware 5.10 SP2A[20, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17]	See[21]
41	PowerEdge 6650	PCI-X	Novell Netware 5.10: SP2A[20, 23], SP5[20, 21], SP6; Novell Netware 6.0: SP1[20, 23, 24], SP2[20, 23], SP3	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17]	
42	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP2A[20, 23], SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
43	PowerEdge 6600	PCI-X	Novell Netware 5.10: SP2A[20, 23], SP5[4, 20, 21], SP6, Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17]	
44	PowerEdge: 1750, 4600	PCI-X	Novell Netware 5.10: SP2A[20, 23], SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17]	See[21]
45	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP2A[20, 23], SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 23, 35], SP2[20, 23, 35], SP3	QLogic: QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
46	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP5[20, 21], SP6	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25]	
47	PowerEdge 6600	PCI-X	Novell Netware 5.10: SP5[20, 21], SP6	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
48	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP5[20, 35, 36], SP6	QLogic: QLA2200F-EMC[3, 5, 16, 26, 34, 37, 38], QLA2202F-EMC[3, 5, 16, 18, 26, 34, 37, 38, 39, 41, 47]	FC-AL, FC-SW	Y[4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17]	
49	PowerEdge 4600	PCI-X	Novell Netware 5.10: SP5[20], SP6	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	See[21]
	PowerEdge 6650	PCI-X	Novell Netware 5.10: SP5[20], SP6	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
51	PowerEdge: 4600, 6600, 6650	PCI-X	Novell Netware 5.10: SP5[20], SP6	QLogic: QLA2200F-EMC[26] QLA2202F-EMC[3, 5, 16, 18, 26, 34, 37, 38, 39, 41, 47]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
52	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 23, 35], SP2[20, 23, 35], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
53	PowerEdge 1750	PCI-X	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3	QLogic QLA2202F-EMC[3, 5, 16, 18, 26, 34, 37, 38, 39, 41, 47]	FC-AL, FC-SW	Y[5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
54	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3	QLogic QLA2202F-EMC[3, 5, 16, 18, 26, 34, 37, 38, 39, 41, 47]	FC-AL, FC-SW	N	
55	PowerEdge 6650	PCI-X	Novell Netware 6.0 SP1[20]	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
56	PowerEdge 4600	PCI-X	Novell Netware 6.0 SP1[20, 23, 24]	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	See[21]
57	PowerEdge 6600	PCI-X	Novell Netware 6.0 SP1[20, 23, 24]	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	

Dell – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
58	**PowerEdge: 4600, 6600, 6650**	PCI-X	**Novell Netware 6.0 SP1[20, 35, 36]**	**QLogic QLA2200F-EMC[3, 5, 16, 26, 34, 37, 38], QLA2202F-EMC[3, 5, 16, 18, 26, 34, 37, 38, 39, 41, 47**	FC-AL, FC-SW	Y[6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17]	
59	PowerEdge 2650	PCI-X	Novell Netware 6.0: SP1[20, 23, 24], SP2[20, 23], SP3	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25]	
60	**PowerEdge 2650**	PCI-X	**Novell Netware 6.0: SP1[20, 35, 36], SP2[20, 35, 36], SP3**	**QLogic: QLA2200F-EMC[3, 5, 16, 26, 34, 37, 38], QLA2202F-EMC[3, 5, 16, 18, 26, 34, 37, 38, 39, 41, 47**	FC-AL, FC-SW	Y[6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17]	
61	PowerEdge 4600	PCI-X	Novell Netware 6.0: SP2[20, 23], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	See[21]
62	PowerEdge 6600	PCI-X	Novell Netware 6.0: SP2[20, 23], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
63	**PowerEdge: 4600, 6600, 6650**	**PCI-X**	**Novell Netware 6.0: SP2[20], SP3**	**QLogic QLA2202F-EMC[3, 5, 16, 18, 26, 34, 37, 38, 39, 41, 47**	**FC-AL, FC-SW**	Y[5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
64	PowerEdge 6650	PCI-X	Novell Netware 6.0: SP2[20], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
65	**PowerEdge: 1750, 2600, 2650, 4600, 6600, 6650**	**PCI-X**	**Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 23, 24], 6.0 SP2[20, 23], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[45, 46**	**FC-AL, FC-SW**	**N**	
66	**PowerEdge 2650**	**PCI-X**	**Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 24], 6.0 SP2[20], 6.0 SP3**	**QLogic QLA2300F-E-SP[18, 19**	**FC-AL, FC-SW**	**N**	
67	**PowerEdge: 1750, 4600**	**PCI-X**	**Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 24], 6.0 SP2[20], 6.0 SP3**	**QLogic QLA2300F-E-SP[18, 19**	**FC-AL, FC-SW**	**N**	**See[21]**
68	**PowerEdge: 6600, 6650**	**PCI-X**	**Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20], 6.0 SP2[20], 6.0 SP3**	**QLogic QLA2300F-E-SP[18, 19**	**FC-AL, FC-SW**	**N**	
69	**PowerEdge 2600**	**PCI-X**	**Novell Netware: 5.00 SP6A[20, 23, 43, 44], 5.10 SP2A[20, 23], 6.0 SP1[20], 6.0 SP2[20], 6.0 SP3**	**QLogic QLA2300F-E-SP[18, 19**	**FC-AL, FC-SW**	**N**	
70	PowerEdge 8450	PCI	Novell Netware 5.10: SP5[4, 20, 21], SP6	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW[3]	N	
71	PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW[3]	Y[1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
72	PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2340-E-SP[18, 19, 28]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 27]	
73	PowerEdge 6400	PCI	Novell Netware 5.10: SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic: QLA2310F-E-SP[18, 19, 22], QLA2340-E-SP[18, 19, 28]	FC-AL, FC-SW[3]	N	
74	PowerEdge 2300	PCI	Novell Netware 5.10: SP5[4, 20, 23], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic: QLA2310F-E-SP[18, 19, 22], QLA2340-E-SP[18, 19, 28]	FC-AL, FC-SW[3]	N	
75	**PowerEdge 8450**	PCI	**Novell Netware 5.10: SP5[4, 20], SP6**	**QLogic QLA2200F-EMC[18, 26, 34, 39, 40, 41**	FC-AL, FC-SW[3]	N	
76	PowerEdge 2550[42]	PCI	Novell Netware 5.10: SP5[4, 20], SP6	QLogic QLA2310F-E-SP[19, 22]	FC-AL, FC-SW[3]	Y[1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25]	
77	PowerEdge 2550[42]	PCI	Novell Netware 5.10: SP5[4, 20], SP6	QLogic QLA2340-E-SP[19, 28]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25, 27]	
78	PowerEdge 1650	PCI	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW[3]	Y[1, 2, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17]	See[21]
79	PowerEdge 1650	PCI	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2340-E-SP[18, 19, 28]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 27]	See[21]
80	PowerEdge: 1550, 2500	PCI	Novell Netware 5.10: SP5[4, 20], SP6. Novell Netware 6.0: SP1[20, 23, 35], SP2[20, 23, 35], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW[3]	Y[1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25]	
81	PowerEdge 1550, 2500	PCI	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 23, 35], SP2[20, 23, 35], SP3	QLogic QLA2340-E-SP[18, 19, 28]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25, 27]	
82	**PowerEdge 1650**	PCI	**Novell Netware 5.10: SP5[4, 20], SP6;** **Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3**	**QLogic QLA2200F-EMC[26, 34**	FC-AL, FC-SW[3]	Y[5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17]	

Dell – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
83	**PowerEdge: 1550, 2400, 2450, 2500, 2550[42], 4300, 4400, 6100, 6300, 6350, 6450**	PCI	**Novell Netware 5.10: SP5[4, 20], SP6;** **Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3**	**QLogic QLA2200F-EMC[26, 34]**	FC-AL, FC-SW[3]	Y[5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
84	**PowerEdge: 2300, 6400**	PCI	**Novell Netware 5.10: SP5[4, 20], SP6;** **Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3**	**QLogic QLA2200F-EMC[26, 34]**	FC-AL, FC-SW[3]	N	
85	**PowerEdge 8450**	PCI	**Novell Netware 5.10: SP5[4, 20], SP6;** **Novell Netware 6.0: SP2[20], SP3**	**IBM: 00N6881 (QLA2200)[29, 31, 33], 19K1246(QLA2310)[29, 31, 32], 24P0960(QLA2340)[29, 30, 31]**	FC-AL, FC-SW[3]	N	
86	PowerEdge 2550[42]	PCI	Novell Netware 6.0: SP1[20, 23, 35], SP2[20, 23, 35], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW[3]	Y[1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25]	
87	PowerEdge 2550[42]	PCI	Novell Netware 6.0: SP1[20, 23, 35], SP2[20, 23, 35], SP3	QLogic QLA2340-E-SP[18, 19, 28]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25, 27]	
88	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2340-E-SP[18, 19, 28]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25, 27]	
89	PowerEdge 6600	PCI-X	Novell Netware 5.10: SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2340-E-SP[18, 19, 28]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 27]	
90	PowerEdge 6650	PCI-X	Novell Netware 5.10: SP5[4, 20], SP6	QLogic QLA2340-E-SP[18, 19, 28]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 27]	
91	PowerEdge 1750	PCI-X	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW[3]	Y[1, 2, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17]	See[21]
92	PowerEdge 1750	PCI-X	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2340-E-SP[18, 19, 28]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 27]	See[21]
93	PowerEdge 4600	PCI-X	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 23, 24, 35], SP2[20, 23, 35], SP3	QLogic QLA2340-E-SP[18, 19, 28]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 27]	See[21]
94	**PowerEdge 1750**	PCI-X	**Novell Netware 5.10: SP5[4, 20], SP6;** **Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3**	**QLogic QLA2200F-EMC[26, 34]**	FC-AL, FC-SW[3]	Y[5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
95	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP5[4, 20], SP6; Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3	QLogic: **QLA2200F-EMC[26, 34]**, QLA2310F-E-SP[19, 22], QLA2340-E-SP[19, 28]	FC-AL, FC-SW[3]	N	
96	PowerEdge 6650	PCI-X	Novell Netware 6.0: SP1[20, 35], SP2[20, 35], SP3	QLogic QLA2340-E-SP[19, 28]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 27]	
97	**PowerEdge: 4600, 6600, 6650**	PCI-X	**Novell Netware 6.0: SP2[20], SP3**	**IBM: 00N6881 (QLA2200)[29, 31, 33], 19K1246(QLA2310)[29, 31, 32], 24P0960(QLA2340)[29, 30, 31]**	FC-AL, FC-SW[3]	N	
98	**PowerEdge: 4600, 6600, 6650**	PCI-X	**Novell Netware 6.0: SP2[20], SP3**	**QLogic QLA2200F-EMC[26, 34]**	FC-AL, FC-SW[3]	Y[5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	

Edit config.sys with the following: Files=100 Buffers=99
When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditons exist where several LUNs are initially created and you perform your first install. NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.

3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. Requires NetWare patches: NWPAPT2A and NSS5J.
5. Novell Storage Services supported.
6. Powerpath & ATF supported.
7. FC-SW environments using Brocade 2800 or EMC DS-16B require switch firmware 2.5.0d or greater.
8. Remote boot not supported with PERC controllers enabled in system BIOS.
9. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
10. No MirrorView or SnapView used on boot LUNs.
11. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability
12. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
13. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
14. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
15. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT C: partition will.
16. PowerPath and ATF supported.
17. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
18. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
19. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
20. Maximum number of NWFS volumes that can be mounted is 64
21. Symmetrix 8000 Series: 66/67 support at NetWare 5.x, 5568 support at Netware 5.1.
22. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
23. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.
24. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family
25. DOS boot device maximum accessible capacity is 2GB. Netware SYS volume must be in LUN 0.
26. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
27. PowerPath supported. ATF/CDE not supported.

28. Support for CX600, CX400, CX200, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
29. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
30. This HBA is equivalent to the qLogic QLA2340.
31. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
32. This HBA is equivalent to the qLogic QLA2310.
33. (QLA2200) For IBM xSeries and Netfinity servers only.
34. Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.
35. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.
36. For ATF on Pre CX series, Multipath support or connections to the secondary port are not supported at this time. One path per SP, 2 HBAs per host.
37. Optical cables apply to CX600, CX400, CX200, FC4500 and FC4700.
38. CX200 available through selected channels.
39. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
40. Requires HBA firmware revision 1.83 and HBA driver revision 6.50v, available at http://www.qlogic.com
    Requires SP4 or higher for NetWare 5.00.
41. Requires HBA bios 1.83 and driver 6.50v.
42. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
43. NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.
44. Requires NWPA.NLM V.3.07A update from Novell website.
45. PowerPath not currently supported.
46. Requires driver version 2.02e and firmware 3.90a7.
47. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

Fujitsu Siemens

Fujitsu Siemens – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Primergy, H400, K400, N400	PCI	Novell Netware 5.00 SP6A[4, 6, 7, 8]	QLogic QLA2310F-E-SP[1, 2]	FC-AL, FC-SW	Y[10, 11, 12]	See[16]
	Primergy P250	PCI	Novell Netware 5.00 SP6A[4, 6, 7, 8]	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2] QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N, Y[10, 11, 12]	
3	Primergy: H400, K400, N400	PCI	Novell Netware 5.00 SP6A[4, 6, 7, 8]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N, Y[10, 11, 12]	
4	Primergy P250	PCI	Novell Netware 5.10 SP2A[4, 6, 7, 8]	QLogic QLA2340-E-SP[1, 2]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
5	Primergy, H400, K400, N400, P250	PCI	Novell Netware 5.10: SP2A[4, 6, 7, 8], SP5[4], SP6; Novell Netware 6.0: SP1[4, 9], SP2[4], SP3	QLogic QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
6	Primergy P250	PCI	Novell Netware 5.10: SP5[4], SP6	QLogic QLA2310F-E-SP[1]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
7	Primergy: H400, K400, N400	PCI	Novell Netware 5.10: SP5[4], SP6	QLogic: QLA2310F-E-SP[1], QLA2340-E-SP[1]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
8	Primergy P250	PCI	Novell Netware 5.10: SP5[4], SP6; Novell Netware 6.0: SP1[4, 9], SP2[4], SP3	QLogic QLA2340-E-SP[1]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
9	Primergy: B210, C200, E200, F200, L200, N200, P200, R450	PCI	Novell Netware 6.0 SP1[4, 9]	QLogic QLA2310F-E-SP[1, 2]	FC-AL, FC-SW	N	
10	Primergy 700	PCI	Novell Netware 6.0: SP1[4, 9], SP2[4], SP3	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2] QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N	
11	Primergy P250	PCI	Novell Netware: 5.10 SP2A[4, 6, 7, 8], 6.0 SP1[4, 9], 6.0 SP2[4], 6.0 SP3	QLogic QLA2310F-E-SP[1, 2]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
12	Primergy: H400, K400, N400	PCI	Novell Netware: 5.10 SP2A[4, 6, 7, 8], 6.0 SP1[4, 9], 6.0 SP2[4], 6.0 SP3	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
13	Primergy N800	PCI-X	Novell Netware 5.00 SP6A[4, 6, 7, 8]	QLogic QLA2310F-E-SP[1, 2]	FC-AL, FC-SW	Y[10, 11, 12]	See[16]
14	Primergy H250[5]	PCI-X	Novell Netware 5.00 SP6A[4, 6, 7, 8]	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2] QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N, Y[10, 11, 12]	
	Primergy N800	PCI-X	Novell Netware 5.00 SP6A[4, 6, 7, 8]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N, Y[10, 11, 12]	
16	Primergy: H250[5], N800	PCI-X	Novell Netware 5.10: SP2A[4, 6, 7, 8], SP5[4], SP6; Novell Netware 6.0: SP1[4, 9], SP2[4], SP3	QLogic QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
17	Primergy: RX200, RX300, TX200, TX300	PCI-X	Novell Netware 5.10: SP5[4], SP6	QLogic QLA2310F-E-SP[1]	FC-AL, FC-SW	N	
18	Primergy: H250[5], N800	PCI-X	Novell Netware 5.10: SP5[4], SP6	QLogic: QLA2310F-E-SP[1], QLA2340-E-SP[1]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
19	Primergy, RX200, RX300, TX200, TX300	PCI-X	Novell Netware: 5.00 SP6A[4, 6, 7, 8], 5.10 SP2A[4, 6, 7, 8], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 9], 6.0 SP2[4], 6.0 SP3	QLogic QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N	
20	Primergy F250[5]	PCI-X	Novell Netware: 5.00 SP6A[4, 6, 7, 8], 5.10 SP2A[4, 6], 5.10 SP5[4] 5.10 SP6, 6.0 SP1[4, 6, 9], 6.0 SP2[4, 6], 6.0 SP3	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2] QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N	
21	Primergy F250[5]	PCI-X	Novell Netware: 5.00 SP6A[4, 6, 7, 8], 5.10 SP2A[4, 6], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 9], 6.0 SP2[4], 6.0 SP3	QLogic QLA2300F-E-SP[1, 2]	FC-AL, FC-SW	N	
22	Primergy: RX200, RX300, TX200, TX300	PCI-X	Novell Netware: 5.00 SP6A[4, 6, 7, 8], 5.10 SP5[4], 5.10 SP6	QLogic QLA2340-E-SP[1]	FC-AL, FC-SW	N	
23	Primergy, H250[5], N800	PCI-X	Novell Netware: 5.10 SP2A[4, 6, 7, 8], 6.0 SP1[4, 9], 6.0 SP2[4], 6.0 SP3	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
24	Primergy: RX200, RX300, TX200, TX300	PCI-X	Novell Netware: 5.10 SP2A[4, 6, 7, 8], 6.0 SP1[4, 9], 6.0 SP2[4], 6.0 SP3	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2]	FC-AL, FC-SW	N	
25	Primergy F250[5]	PCI-X	Novell Netware: 5.00 SP6A[4, 6, 7, 8], 5.10 SP2A[4, 6], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 6, 9], 6.0 SP2[4, 6], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[14, 15]	FC-SW	N	

1. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
2. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
3. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
4. Maximum number of NWFS volumes that can be mounted is 64.
5. Must use standard PCI 32bit/33MHz slot for SCSI
6. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.

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7. NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.
8. Requires NWPA.NLM V.3.07A update from Novell website.
9. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
10. Edit config.sys with the following: Files=100 Buffers=99
11. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditons exist where several LUNs are initially created and you perform your first install. NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.
12. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT_C: partition will.
13. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
14. PowerPath not currently supported.
15. Requires driver version 2.02e and firmware 3.90a7.
16. Symmetrix 8000 Series: 66/67 support at NetWare 5.x, 5568 support at Netware 5.1.

HPQ

HPQ - Novell Netware							
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netserver LH: (LH Pro), 4, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], DL580(G2)[31], ML350[31], ML350(G2)[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 5.00 SP6A[20, 26, 34, 35]	QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18], QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	N, Y[1, 2, 13]	
2	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 5.00 SP6A[20, 26, 34, 35]	QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18], QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	N, Y[1, 2, 13]	See[29]
3	Netserver: LH (LH Pro), LT 6000R	PCI	Novell Netware 5.10 SP2A[20, 26]	QLogic QLA2310F-E-SP[17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
4	Netserver LH: 4, II, III; Netserver: LP 2000r, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], DL580(G2)[31], ML350[31], ML350(G2)[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 5.10 SP2A[20, 26]	QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
5	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 5.10 SP2A[20, 26]	QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	See[29]
6	Netserver LP 2000r	PCI	Novell Netware 5.10: SP2A[20, 26], SP5[19, 20, 29], SP6; Novell Netware 6.0: SP1[20, 21, 26, 30], SP2[20, 21, 26], SP3	QLogic QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
7	Proliant ML350(G2)[31]	PCI	Novell Netware 5.10: SP2A[20, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26, 30], SP2[20, 21, 26], SP3	QLogic QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
8	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 5.10: SP2A[20, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26, 30], SP2[20, 21, 26], SP3	QLogic QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	See[29]
9	Netserver LH: 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], DL580(G2)[31], ML350[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 5.10: SP2A[20, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3	QLogic QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
10	Netserver: LH (LH Pro), LT 6000R	PCI	Novell Netware 5.10: SP2A[20, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3	QLogic: QLA2340-E-SP[17, 18], QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
11	Netserver LC 2000 U3	PCI	Novell Netware 5.10: SP2A[20], SP5[20], SP6; Novell Netware 6.0: SP1[20], SP2[20], SP3	QLogic: QLA2200F-EMC[23] QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]	FC-AL, FC-SW	N	
12	Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], ML350[31], ML350(G2)[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
13	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	See[29]
14	Proliant: DL380(G3)[27], DL580(G2)[31]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2310F-E-SP[16, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
15	Proliant ML750[31]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2310F-E-SP[17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15, 27]	
16	Proliant DL380(G3)[27]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[16, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
17	Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], ML350[31], ML350(G2)[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	

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HPQ – Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
18	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	See[29]
19	Proliant 8500	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[18, 25]	FC-AL, FC-SW	Y[3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
20	Proliant DL580(G2)[31]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[18, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
21	**Proliant DL380(G3)[27]**	**PCI**	**Novell Netware 5.10: SP5[19, 20], SP6**	**QLogic QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	Y[1, 2, 13, 15]	
22	**Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL320[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3)[27], DL580[31], DL580(G2)[31], ML350[31], ML350(G2)[31], ML370[31], ML370(G2), ML370(G3), ML530[31], ML530(G2)[31], ML570[31], ML750[27]**	PCI	**Novell Netware 5.10: SP5[19, 20], SP6**	**QLogic: QLA2200F-EMC[22, 23] QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
23	Proliant 8500	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic: **QLA2200F-EMC[22, 23] QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]**, QLA2310F-E-SP[16, 18]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
24	**Netserver LH (LH Pro), LT 6000R**	**PCI**	**Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3**	**QLogic QLA2310F-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	Y[1, 2, 13, 15]	
25	**Proliant 8500**	**PCI**	**Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3**	**QLogic QLA2310F-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**N**	
26	Proliant 8000[31, 32]	PCI	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3	QLogic: QLA2310F-E-SP[16, 17, 18], QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW	N	
27	**Netserver LH: (LH Pro), 3, 3000, 6000: Netserver LT 6000R**	**PCI**	**Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3**	**QLogic QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]**	**FC-AL, FC-SW**	**N**	
28	**Netserver LH: 4, II, III; Netserver: LP 2000r, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8**	**PCI**	**Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3**	**QLogic QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]**	
29	**Proliant 8000[31, 32]**	PCI	**Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3**	**QLogic: QLA2200F-EMC[22, 23] QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]**	FC-AL, FC-SW	N	
30	**Netserver LC 2000r**	PCI	**Novell Netware 5.10: SP5[20], SP6**	**QLogic: QLA2200F-EMC[23] QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]**	FC-AL, FC-SW	N	
31	Netserver LH PRO	PCI	Novell Netware 5.10: SP5[20], SP6	QLogic: **QLA2200F-EMC[23] QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]**, QLA2310F-E-SP[17, 18]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 19]	
32	**Proliant ML750[31]**	**PCI**	**Novell Netware 5.10: SP5[20], SP6**	**QLogic: QLA2340-E-SP[17, 18] QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	Y[1, 2, 13, 15, 27]	
33	Netserver LC 2000 U3	PCI	Novell Netware 5.10: SP5[20], SP6. Novell Netware 6.0: SP1[20, 26], SP2[20, 26], SP3	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW	N	
34	Proliant ML350(G2)[31]	PCI	Novell Netware 6.0: SP1[20, 21, 26, 30], SP2[20, 21, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
35	Proliant: DL320[31] ML370(G2) ML370(G3), ML750[27]	PCI	Novell Netware 6.0: SP1[20, 21, 26, 30], SP2[20, 21, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	See[29]
36	Proliant ML350(G2)[31]	PCI	Novell Netware 6.0: SP1[20, 21, 26, 30], SP2[20, 21, 26], SP3	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
37	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 6.0: SP1[20, 21, 26, 30], SP2[20, 21, 26], SP3	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	See[29]
38	Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3)[27], DL580[31], DL580(G2)[31], ML350[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
39	**Proliant DL380(G3)[27]**	PCI	**Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3**	**QLogic QLA2340-E-SP[16, 17, 18]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	

HPQ - Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
40	Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], DL580(G2)[31], ML350[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
41	**Netserver LH PRO**	**PCI**	**Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3**	**QLogic QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]**	
42	Proliant 8500	PCI	Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3	QLogic QLA2340-E-SP[18, 25]	FC-AL, FC-SW	Y[3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
43	**Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL320[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3)[27], DL580[31], DL580(G2)[31], ML350[31], ML350(G2)[31], ML370[31], ML370(G2), ML370(G3), ML530[31], ML530(G2)[31], ML570[31], ML750[27]**	PCI	**Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3**	**QLogic: QLA2200F-EMC[22, 23] QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]**	FC-AL, FC-SW	Y[3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
44	Proliant 8500	PCI	Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3	QLogic: **QLA2200F-EMC[22, 23] QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]** QLA2310F-E-SP[16, 18]	FC-AL, FC-SW	Y[3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
45	Netserver LH PRO	PCI	Novell Netware 6.0: SP1[20], SP2[20], SP3	QLogic QLA2310F-E-SP[17, 18]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
46	**Proliant 8500**	**PCI**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26]**	**QLogic QLA2310F-E-SP[17, 18]**	**FC-AL, FC-SW**	**N**	
47	Netserver LC 2000 U3	PCI	Novell Netware: **5.00 SP6A[20, 26, 34, 35]**, 5.10 SP2A[20, 26]	QLogic QLA2340-E-SP[17, 18]	FC-AL, FC-SW	N	
	Netserver LH: 3, 3000, 6000; Proliant 8000[31, 32]	**PCI**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26]**	**QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18]**	**FC-AL, FC-SW**	**N**	
49	**Netserver LH: 3, 3000, 6000; Proliant 8000[31, 32]**	**PCI**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 5.10 SP5[19, 20], 5.10 SP6, 6.0 SP1[20, 21, 26], 6.0 SP2[20, 21, 26], 6.0 SP3**	**QLogic QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**N**	
50	**Netserver LH PRO; Proliant 8500**	**PCI**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 5.10 SP5[19, 20], 5.10 SP6, 6.0 SP1[20, 21, 26], 6.0 SP2[20, 21, 26], 6.0 SP3**	**QLogic: QLA2340-E-SP[17, 18], QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**N**	
51	Netserver LC 2000 U3	PCI	Novell Netware: **5.00 SP6A[20, 26, 34, 35]**, 5.10 SP2A[20, 26], 5.10 SP5[19, 20], 5.10 SP6, 6.0 SP1[20, 26], 6.0 SP2[20, 26], 6.0 SP3	QLogic QLA2310F-E-SP[17, 18]	FC-AL, FC-SW	N	
52	Netserver LC 2000r	PCI	Novell Netware: **5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26]**, 5.10 SP5[19, 20], 5.10 SP6, 6.0 SP1[20, 26], 6.0 SP2[20, 26], 6.0 SP3	QLogic: QLA2310F-E-SP[17, 18] **QLA2342-E-SP[16, 17, 18]**	FC-AL, FC-SW	N	
53	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[31, 33], 1850[31], 2500[31], 6400R[31], 6500[31, 32], 850[31], DL320[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], DL580(G2)[31], ML350[31], ML350(G2)[31], ML370[31], ML370(G2), ML370(G3), ML530[31], ML530(G2)[31], ML570[31], ML750[27]**	**PCI**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 26, 30], 6.0 SP2[20, 26], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[36, 37]**	**FC-AL, FC-SW**	**N**	
54	**Netserver LH PRO**	**PCI**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 26], 6.0 SP2[20, 26], 6.0 SP3**	**QLogic QLA2310F-E-SP[17, 18]**	**FC-AL, FC-SW**	**N**	
	Netserver LC 2000 U3	**PCI**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 26], 6.0 SP2[20, 26], 6.0 SP3**	**QLogic QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**N**	
56	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 8000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], DL580(G2)[31], ML350[31], ML350(G2)[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]**	**PCI**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 30], 6.0 SP2[20], 6.0 SP3**	**QLogic QLA2300F-E-SP[17, 18]**	**FC-AL, FC-SW**	**N**	
57	**Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]**	**PCI**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 30], 6.0 SP2[20], 6.0 SP3**	**QLogic QLA2300F-E-SP[17, 18]**	**FC-AL, FC-SW**	**N**	**See[29]**
58	**Proliant 8500**	**PCI**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 6.0 SP1[20, 26], 6.0 SP2[20, 26], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[37]**	**FC-AL, FC-SW**	**N**	
59	**Netserver LC 2000r**	**PCI**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 6.0 SP1[20, 26], 6.0 SP2[20, 26], 6.0 SP3**	**QLogic QLA2340-E-SP[17, 18]**	**FC-AL, FC-SW**	**N**	
60	**Netserver LH (LH Pro); Proliant: 7000[31, 32], 8500**	**PCI**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 6.0 SP1[20], 6.0 SP2[20], 6.0 SP3**	**QLogic QLA2300F-E-SP[17, 18]**	**FC-AL, FC-SW**	**N**	
61	**Proliant: DL360(G3), DL560, DL560 (G2), DL760[31], DL760 (G2), ML570(G2)**	**PCI-X**	**Novell Netware 5.00 SP6A[20, 26, 34, 35]**	**QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18], QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**N, Y[1, 2, 13]**	

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
62	Proliant. DL360(G3). DL560. DL740. DL760[31]. DL760 (G2). ML570(G2)	PCI-X	Novell Netware 5.10 SP2A[20, 26]	QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
63	Proliant. DL740 DL760[31], DL760 (G2)	PCI-X	Novell Netware 5.10: SP2A[20, 26], SP5[19, 20, 29], SP6; Novell Netware 6.0: SP1[20, 21, 26, 30], SP2[20, 21, 26], SP3	QLogic QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
64	Proliant: DL360(G3). DL560. ML570(G2)	PCI-X	Novell Netware 5.10: SP2A[20, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3	QLogic QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
65	Proliant DL560 (G2)	PCI-X	Novell Netware 5.10: SP2A[20, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[20], SP2[20], SP3	QLogic QLA2310F-E-SP[17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
66	Proliant DL740	PCI-X	Novell Netware 5.10: SP2A[20, 26], SP5[20], SP6, Novell Netware 6.0: SP1[20, 26, 30], SP2[20, 26], SP3	Emulex LP9002-E (LP9002L-E)[36, 37]	FC-AL, FC-SW	N	
67	Proliant DL560 (G2)	PCI-X	Novell Netware 5.10: SP2A[20, 26], SP5[20], SP6; Novell Netware 6.0: SP1[20], SP2[20], SP3	QLogic: QLA2340-E-SP[17, 18] QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
68	Proliant. DL740, DL760[31], DL760 (G2)	PCI-X	Novell Netware 5.10: SP5[19, 20, 29], SP6	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
69	Proliant: DL740. DL760[31], DL760 (G2)	PCI-X	Novell Netware 5.10: SP5[19, 20, 29], SP6	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
70	Proliant. DL360(G3). DL560. ML570(G2)	PCI-X	Novell Netware 5.10. SP5[19, 20], SP6	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
71	Proliant: DL360(G3), DL560, ML570(G2)	PCI-X	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
72	Proliant DL560 (G2)	PCI-X	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[18, 25]	FC-AL, FC-SW	Y[3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
73	Proliant: DL360(G3). DL560, DL740. DL760[31], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.10: SP5[19, 20], SP6	QLogic: QLA2200F-EMC[22, 23] QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
74	Proliant DL560 (G2)	PCI-X	Novell Netware 5.10: SP5[19, 20], SP6	QLogic: QLA2200F-EMC[22, 23] QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41] QLA2310F-E-SP[16, 18]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
75	Proliant DL560 (G2)	PCI-X	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
76	Proliant: DL740. DL760[31], DL760 (G2)	PCI-X	Novell Netware 6.0: SP1[20, 21, 26, 30], SP2[20, 21, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
77	Proliant. DL740. DL760[31]. DL760 (G2)	PCI-X	Novell Netware 6.0: SP1[20, 21, 26, 30], SP2[20, 21, 26], SP3	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
78	Proliant: DL360(G3). DL560, ML570(G2)	PCI-X	Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
79	Proliant: DL360(G3). DL560, ML570(G2)	PCI-X	Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26] SP3	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
80	Proliant DL560 (G2)	PCI-X	Novell Netware 6.0: SP1[20, 21], SP2[20, 21] SP3	QLogic QLA2340-E-SP[18, 25]	FC-AL, FC-SW	Y[3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
81	Proliant: DL360(G3), DL560. DL740, DL760[31]. DL760 (G2), ML570(G2)	PCI-X	Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3	QLogic: QLA2200F-EMC[22, 23] QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]	FC-AL, FC-SW	Y[3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
82	Proliant DL560 (G2)	PCI-X	Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3	QLogic: QLA2200F-EMC[22, 23] QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41] QLA2310F-E-SP[16, 18]	FC-AL, FC-SW	Y[3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
83	Proliant: DL360(G3). DL560. DL760[31]. DL760 (G2), ML570(G2)	PCI-X	Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 26, 30], 6.0 SP2[20, 26], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[36, 37]	FC-AL, FC-SW	N	

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
84	**Proliant DL560 (G2)**	**PCI-X**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 30], 6.0 SP2[20], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[36, 37]; QLogic QLA2300F-E-SP[17, 18]**	**FC-AL, FC-SW**	**N**	
85	**Proliant: DL360(G3), DL560, DL760[31], DL760 (G2), ML570(G2)**	**PCI-X**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 30], 6.0 SP2[20], 6.0 SP3**	**QLogic QLA2300F-E-SP[17, 18]**	**FC-AL, FC-SW**	**N**	
86	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.00 SP6A[20, 26, 34, 35]**	**QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18], QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**N, Y[1, 2, 13]**	
87	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.10 SP2A[20, 26]**	**QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18]**	**FC-AL, FC-SW**	**Y[1, 2, 13, 15]**	
88	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.10: SP2A[20, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3**	**QLogic QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**Y[1, 2, 13, 15]**	
89	**Proliant: DL580(G2)[31], DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[19, 20], SP6**	**QLogic QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]**	
90	**Proliant DL580(G2)[31]**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[19, 20], SP6. Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3**	**QLogic QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**Y[1, 2, 13, 15]**	
	Proliant: DL580(G2)[31], DL580(G3)	**PCI, PCI-X**	**Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3**	**QLogic QLA2202F-EMC[3, 4, 14, 17, 22, 23, 28, 38, 39, 40, 41]**	**FC-AL, FC-SW**	**Y[4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]**	
92	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 26, 30], 6.0 SP2[20, 26], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[36, 37]**	**FC-AL, FC-SW**	**N**	
93	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware: 5.00 SP6A[20, 26, 34, 35], 5.10 SP2A[20, 26], 5.10 SP5[20], 5.10 SP6, 6.0 SP1[20, 30], 6.0 SP2[20], 6.0 SP3**	**QLogic QLA2300F-E-SP[17, 18]**	**FC-AL, FC-SW**	**N**	
94	Netserver LP 2000r	PCI	Novell Netware 5.10: SP5[19, 20, 29], SP6; Novell Netware 6.0: SP1[20, 21, 26, 30], SP2[20, 21, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW[3]	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
95	Netserver LP 2000r	PCI	Novell Netware 5.10: SP5[19, 20, 29], SP6; Novell Netware 6.0: SP1[20, 21, 26, 30], SP2[20, 21, 26], SP3	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW[3]	Y[1, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
96	Netserver LC 2000r	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW[3]	N	
97	Netserver LH: 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW[3]	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
98	Netserver LH: 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW[3]	Y[1, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
99	Netserver LH: 3, 3000, 6000	PCI	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3	QLogic: QLA2310F-E-SP[16, 17, 18], QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW[3]	N	
100	**Netserver LH: 3, 3000, 6000**	PCI	**Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3**	**QLogic QLA2200F-EMC[23, 28]**	FC-AL, FC-SW[3]	N	
101	**Netserver LH: 4, II, III; Netserver: LP 2000r, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8**	PCI	**Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3**	**QLogic QLA2200F-EMC[23, 28]**	FC-AL, FC-SW[3]	Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
102	Netserver LH PRO	PCI	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3	QLogic QLA2340-E-SP[18, 25]	FC-AL, FC-SW[3]	Y[4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
103	Netserver LH (LH Pro), LT 6000R	PCI	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3	QLogic: QLA2200F-EMC[23, 28], QLA2310F-E-SP[16, 18], QLA2340-E-SP[18, 25]	FC-AL, FC-SW[3]	N	
104	**Netserver LH PRO**	PCI	**Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3**	**QLogic QLA2200F-EMC[23, 28]**	FC-AL, FC-SW[3]	Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
105	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[19, 20], SP6**	**QLogic QLA2200F-EMC[22, 23]**	**FC-AL, FC-SW[3]**	**Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]**	

HPQ – Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
106	**Proliant DL580(G2)[31]**	PCI, PCI-X	**Novell Netware 5.10: SP5[19, 20], SP6**	**QLogic QLA2200F-EMC[23]**	FC-AL, FC-SW[3]	Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
107	Proliant: DL580(G2)[31]. **DL580(G3)**	PCI, PCI-X	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW[3]	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
108	Proliant: DL580(G2)[31]. **DL580(G3)**	PCI, PCI-X	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[17, 18, 25]	FC-AL, FC-SW[3]	Y[1, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
109	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3**	**QLogic QLA2310F-E-SP[16, 17, 18]**	**FC-AL, FC-SW[3]**	Y[1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
110	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[20, 21, 26], SP2[20, 21, 26], SP3**	**QLogic QLA2340-E-SP[17, 18, 25]**	**FC-AL, FC-SW[3]**	Y[1, 2, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
111	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3**	**QLogic QLA2200F-EMC[22, 23]**	**FC-AL, FC-SW[3]**	Y[4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
112	**Proliant DL580(G2)[31]**	PCI, PCI-X	**Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3**	**QLogic QLA2200F-EMC[23]**	FC-AL, FC-SW[3]	Y[4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
113	Proliant DL580(G2)[31]	PCI, PCI-X	Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3	QLogic QLA2310F-E-SP[16, 18]	FC-AL, FC-SW[3]	Y[1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
4	Proliant DL580(G2)[31]	PCI, PCI-X	Novell Netware 6.0: SP1[20, 21], SP2[20, 21], SP3	QLogic QLA2340-E-SP[18, 25]	FC-AL, FC-SW[3]	Y[1, 2, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	

1. Edit config.sys with the following: Files=100 Buffers=99
2. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditons exist where several LUNs are initially created and you perform your first install, NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. Novell Storage Services supported.
5. Powerpath & ATF supported.
6. FC-SW environments using Brocade 2800 or EMC DS-16B require switch firmware 2.5.0d or greater.
7. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
8. No MirrorView or SnapView used on boot LUNs.
9. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
10. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
11. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
12. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
13. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT C: partition will.
14. PowerPath and ATF supported.
15. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
16. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
17. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
18. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
19. Requires NetWare patches: NWPAPT2A and NSS5J.
20. Maximum number of NWFS volumes that can be mounted is 64.
21. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.
22. **Requires HBA bios 1.83 and driver 6.50v.**
23. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.** PowerPath supported. ATF/CDE not supported.
25. Support for CX600, CX400, CX200, FC4500, FC4700, and FC5300 (FC5300 requires copper to Fibre transceiver.)
26. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.
27. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
28. **Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.**
29. Symmetrix 8000 Series: 66/67 support at NetWare 5.x 5568 support at Netware 5.1.
30. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family
31. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
32. Includes both Pentium PRO and XEON models
33. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
34. **Requires NWPA.NLM V.3.07A update from Novell website.**
35. **NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.**
36. **PowerPath not currently supported.**
37. **Requires driver version 2.02e and firmware 3.90a7.**
38. **Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.**
39. **Optical cables apply to CX600, CX400, CX200, FC4500 and FC4700.**
40. **CX200 available through selected channels.**
41. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.**

IBM

IBM – Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**Netfinity 8500: xSeries X342**	**PCI**	**Novell Netware 5.00 SP6A[5, 29, 38, 39]**	**IBM: 19K1246(QLA2310)[22, 30, 33], 24P0960(QLA2340)[2, 22, 31]**	**FC-AL, FC-SW**	N

IBM – Novell Netware						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
2	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[36], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.00 SP6A[5, 29, 38, 39]	IBM: 19K1246(QLA2310)[22, 30, 33], 24P0960(QLA2340)[2, 22, 31]	FC-AL, FC-SW	Y[25]
3	Netfinity 8500R	PCI	Novell Netware 5.00 SP6A[5, 29, 38, 39]	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	N
4	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[36], 7100, 7600, 8500R, xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.00 SP6A[5, 29, 38, 39]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 24, 25]
5	Netfinity: 5000, 5500, 5500 M10 5500 M20, 5600, 7000, 7000 M10[36], 7100, 7600; xSeries: X330, X340 (4500R) x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.00 SP6A[5, 29, 38, 39]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	N
6	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[36], 7100, 7600, 8500R xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.10 SP2A[5, 29]	IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]	FC-AL, FC-SW	Y[20, 25]
7	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R, xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.10 SP2A[5, 29]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23]	FC-AL, FC-SW	Y[18, 20, 24, 25]
	Netfinity 7000 M10[36]	PCI	Novell Netware 5.10 SP2A[5, 29]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
9	Netfinity 8500R	PCI	Novell Netware 5.10: SP2[5], SP2A[5]	IBM: 00N6881 (QLA2200)[1, 3, 4], 19K1246(QLA2310)[1, 4, 30], 24P0960(QLA2340)[1, 4, 31]; QLogic: QLA2200F-EMC[21, 22], QLA2202F-EMC[2, 7, 9, 19, 21, 22, 42, 43, 44, 45, 46]	FC-AL, FC-SW	N
10	xSeries X342	PCI	Novell Netware 5.10: SP2A[5, 29], SP5[5, 27], SP6; Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3	IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]	FC-AL, FC-SW	N
11	Netfinity 8500	PCI	Novell Netware 5.10: SP2A[5, 29], SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29, 34, 37], SP2[5, 29, 37], SP3	IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]	FC-AL, FC-SW	N
12	xSeries x255	PCI	Novell Netware 5.10: SP2A[5, 29], SP5[5, 8], SP6: Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
13	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x350 (6000R), x370	PCI	Novell Netware 5.10: SP2A[5, 29], SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
14	Netfinity 8500R	PCI	Novell Netware 5.10: SP2A[5, 29], SP5[5], SP6; Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
15	xSeries X342	PCI	Novell Netware 5.10: SP5[5, 8, 27], SP6; Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3	QLogic QLA2310F-E-SP[22, 23, 26]	FC-AL, FC-SW	N
16	Netfinity 8500	PCI	Novell Netware 5.10: SP5[5, 8], SP6	QLogic QLA2340-E-SP[22, 23]	FC-AL, FC-SW	N
17	Netfinity 7000 M10[35, 36]; xSeries X335	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
18	Netfinity 7000 M10[35]	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2202F-EMC[2, 7, 9, 19, 21, 22, 42, 43, 44, 45, 46]	FC-AL, FC-SW	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 36]
19	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250 x255, x350 (6000R), x370	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2202F-EMC[2, 7, 9, 19, 21, 22, 42, 43, 44, 45, 46]	FC-AL, FC-SW	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
20	Netfinity 8500R	PCI	Novell Netware 5.10: SP5[5], SP6	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW	Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
21	Netfinity 8500R	PCI	Novell Netware 5.10: SP5[5], SP6	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW	Y[7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28]
22	Netfinity 8500R	PCI	Novell Netware 5.10: SP5[5], SP6	QLogic: QLA2200F-EMC[21, 22], QLA2202F-EMC[2, 7, 9, 19, 21, 22, 42, 43, 44, 45, 46]	FC-AL, FC-SW	Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
23	Netfinity 7000 M10[35]	PCI	Novell Netware 6.0 SP1[5]	IBM 00N6881 (QLA2200)[1, 3, 4]	FC-AL, FC-SW	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 36]

IBM – Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
24	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R: xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 6.0 SP1[5]	IBM 00N6881 (QLA2200)[1, 3, 4]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
25	xSeries X342	PCI	Novell Netware 6.0 SP1[5]	IBM: 00N6881 (QLA2200)[1, 3, 4] 19K1246(QLA2310)[1, 4, 30], 24P0960(QLA2340)[1, 4, 31]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
26	Netfinity 7000 M10[35]	PCI	Novell Netware 6.0 SP1[5, 29, 34]	IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25, 36]
27	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R: xSeries: X330, X335, X340 (4500R), x230, x232, x240, x250 x255, x350 (6000R), x370	PCI	Novell Netware 6.0 SP1[5, 29, 34]	IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
28	Netfinity 8500R	PCI	Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW	Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
29	Netfinity 8500R	PCI	Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW	Y[7, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28]
30	Netfinity 8500R	PCI	Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic: QLA2200F-EMC[21, 22], QLA2202F-EMC[2, 7, 9, 19, 21, 22, 42, 43, 44, 45, 46]	FC-AL, FC-SW	Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
31	Netfinity 8500R	PCI	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2[5], 5.10 SP2A[5]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23]	FC-AL, FC-SW	N
32	xSeries X342	PCI	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29]	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW	N
33	xSeries X342	PCI	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5, 8, 27], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5, 29], 6.0 SP3	QLogic: QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	N
34	Netfinity 8500	PCI	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5, 8], 5.10 SP6, 6.0 SP1[5, 29, 34, 37], 6.0 SP2[5, 29, 37], 6.0 SP3	QLogic: QLA2310F-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	N
35	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[36], 7100, 7600, 8500R: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x350 (6000R), x370	PCI	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5, 29], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[40, 41]	FC-AL, FC-SW	N
36	xSeries x345	PCI	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5, 29], 6.0 SP3	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	N
37	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[36], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA2300F-E-SP[22, 23]	FC-AL, FC-SW	N
38	Netfinity 8500	PCI	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 6.0 SP1[5, 29, 34, 37], 6.0 SP2[5, 29, 37], 6.0 SP3	QLogic QLA2340-E-SP[23]	FC-AL, FC-SW	N
39	xSeries x255	PCI	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 6.0 SP1[5, 29], 6.0 SP2[5, 29], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[41]	FC-AL, FC-SW	N
40	Netfinity 8500R	PCI	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA2300F-E-SP[22, 23]	FC-AL, FC-SW	N
41	xSeries x360	PCI-X	Novell Netware 5.00 SP6A[5, 29, 38, 39]	IBM: 19K1246(QLA2310)[22, 30, 33], 24P0960(QLA2340)[2, 22, 31]	FC-AL, FC-SW	Y[25]
42	xSeries x440	PCI-X	Novell Netware 5.00 SP6A[5, 29, 38, 39]	IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[31]	FC-AL, FC-SW	Y[25]
43	xSeries: x360, x440	PCI-X	Novell Netware 5.00 SP6A[5, 29, 38, 39]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	N, Y[18, 24, 25]
44	xSeries x360	PCI-X	Novell Netware 5.10 SP2A[5, 29]	IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]	FC-AL, FC-SW	Y[20, 25]
45	xSeries x360	PCI-X	Novell Netware 5.10 SP2A[5, 29]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23]	FC-AL, FC-SW	Y[18, 20, 24, 25]
46	xSeries x440	PCI-X	Novell Netware 5.10 SP2A[5, 29, 38, 39]	IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[31]	FC-AL, FC-SW	Y[20, 25]
47	xSeries x360	PCI-X	Novell Netware 5.10: SP2A[5, 29], SP5[5, 8, 27], SP6. Novell Netware 6.0: SP1[5, 29, 34, 37], SP2[5, 29], SP3	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
48	xSeries x440	PCI-X	Novell Netware 5.10: SP2A[5, 29], SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
49	xSeries x360	PCI-X	Novell Netware 5.10: SP5[5, 27], SP6	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW	Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
50	xSeries x360	PCI-X	Novell Netware 5.10: SP5[5, 8, 27], SP6	IBM: 19K1246(QLA2310)[1, 4, 7, 22, 23, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 7, 22, 23, 31, 32]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
51	xSeries x440	PCI-X	Novell Netware 5.10: SP5[5, 8], SP6	IBM 19K1246(QLA2310)[4, 7, 23, 30]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
52	xSeries x360	PCI-X	Novell Netware 5.10: SP5[5], SP6	IBM 00N6881 (QLA2200)[1, 2, 3, 4]	FC-AL, FC-SW	Y[8, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20]

IBM – Novell Netware						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
53	xSeries x440	PCI-X	Novell Netware 5.10: SP5[5], SP6	IBM 00N6881 (QLA2200)[1, 2, 3, 4, 6]	FC-AL, FC-SW	Y[8, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
54	xSeries x440	PCI-X	Novell Netware 5.10: SP5[5], SP6	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW	Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
55	xSeries x360 x440	PCI-X	Novell Netware 5.10: SP5[5], SP6	QLogic: QLA2200F-EMC[21], QLA2202F-EMC[2, 7, 9, 19, 21, 22, 42, 43, 44, 45, 46]	FC-AL, FC-SW	Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
56	xSeries x235	PCI-X	Novell Netware 5.10: SP5[5], SP6	QLogic: QLA2200F-EMC[21], QLA2202F-EMC[2, 7, 9, 19, 21, 22, 42, 43, 44, 45, 46], QLA2310F-E-SP[22, 23], QLA2340-E-SP[6, 22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	N
57	xSeries x360, x440	PCI-X	Novell Netware 6.0 SP1[5]	IBM 00N6881 (QLA2200)[1, 3, 4]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
58	xSeries x440	PCI-X	Novell Netware 6.0 SP1[5]	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW	Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
59	xSeries x360	PCI-X	Novell Netware 6.0 SP1[5, 29, 34]	IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
60	xSeries x440	PCI-X	Novell Netware 6.0 SP1[5, 34]	IBM: 19K1246(QLA2310)[1, 4, 22, 30, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
61	xSeries x360	PCI-X	Novell Netware 6.0: SP1[5, 29, 34] SP2[5, 29], SP3	QLogic QLA2310F-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
62	xSeries x360, x440	PCI-X	Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2202F-EMC[2, 7, 9, 19, 21, 22, 42, 43, 44, 45, 46]	FC-AL, FC-SW	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
63	xSeries x440	PCI-X	Novell Netware 6.0: SP2[5], SP3	QLogic QLA2310F-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
64	xSeries x360	PCI-X	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5, 29], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[40, 41]	FC-AL, FC-SW	N
65	xSeries x440	PCI-X	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[40, 41]	FC-AL, FC-SW	N
66	xSeries x360	PCI-X	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA2300F-E-SP[22, 23]	FC-AL, FC-SW	N
67	xSeries x440	PCI-X	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2300F-E-SP[22, 23]	FC-AL, FC-SW	N
68	xSeries x440	PCI-X	Novell Netware: 5.10 SP2A[5, 29], 6.0 SP1[5, 29], 6.0 SP2[5, 29], 6.0 SP3	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23]	FC-AL, FC-SW	Y[18, 20, 24, 25]
69	xSeries x360	PCI-X	Novell Netware: 5.10[5], 5.10 SP2A[5]	IBM 00N6881 (QLA2200)[1, 2, 3, 4]	FC-AL, FC-SW	N
70	xSeries x440	PCI-X	Novell Netware: 5.10[5], 5.10 SP2A[5]	IBM 00N6881 (QLA2200)[1, 2, 3, 4, 6]	FC-AL, FC-SW	N
71	xSeries x445	PCI, PCI-X	Novell Netware 5.00 SP6A[5, 29, 38, 39]	IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[31]	FC-AL, FC-SW	Y[25]
72	xSeries x445	PCI, PCI-X	Novell Netware 5.00 SP6A[5, 29, 38, 39]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	N, Y[18, 24, 25]
73	xSeries x445	PCI, PCI-X	Novell Netware 5.10 SP2A[5, 29]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23]	FC-AL, FC-SW	Y[18, 20, 24, 25]
74	xSeries x445	PCI, PCI-X	Novell Netware 5.10 SP2A[5, 29, 38, 39]	IBM: 19K1246(QLA2310)[22, 23, 30, 33], 24P0960(QLA2340)[2, 22, 23, 31]	FC-AL, FC-SW	Y[20, 25]
75	xSeries x445	PCI, PCI-X	Novell Netware 5.10 SP6	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW	Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
76	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP2A[5, 29], SP5[5, 8] SP6; Novell Netware 6.0: SP1[5, 29, 37], SP2[5, 29], SP3	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
77	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP5[5, 8], SP6	IBM: 19K1246(QLA2310)[4, 7, 23, 30], 24P0960(QLA2340)[1, 4, 23, 31]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
78	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29, 37], SP2[5, 29], SP3	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28]
79	xSeries x345	PCI, PCI-X	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 37], SP2[5], SP3	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	N
80	xSeries x345	PCI, PCI-X	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW	N
81	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP5[5], SP6	IBM 00N6881 (QLA2200)[1, 2, 3, 4, 6]	FC-AL, FC-SW	Y[8, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
82	xSeries x345	PCI, PCI-X	Novell Netware 5.10: SP5[5], SP6	QLogic: QLA2200F-EMC[21], QLA2202F-EMC[2, 7, 9, 19, 21, 22, 42, 43, 44, 45, 46]	FC-AL, FC-SW	N
83	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP5[5], SP6	QLogic: QLA2200F-EMC[21], QLA2202F-EMC[2, 7, 9, 19, 21, 22, 42, 43, 44, 45, 46]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
84	xSeries x445	PCI, PCI-X	Novell Netware 6.0 SP1[5]	IBM 00N6881 (QLA2200)[1, 3, 4]	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]

IBM – Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
85	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[5, 34], SP2[5], SP3**	**IBM: 19K1246(QLA2310)[1, 4, 22, 30, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31]**	**FC-AL, FC-SW**	**Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]**
86	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2202F-EMC[2, 7, 9, 19, 21, 22, 42, 43, 44, 45, 46]**	**FC-AL, FC-SW**	**Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]**
87	**xSeries x445**	**PCI PCI-X**	**Novell Netware 6.0: SP2[5, 29], SP3**	**QLogic QLA2310F-E-SP[22, 23, 26]**	**FC-AL, FC-SW**	**Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]**
88	**xSeries x445**	**PCI, PCI-X**	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5, 29], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[40, 41]**	**FC-AL, FC-SW**	**N**
89	**xSeries x445**	**PCI PCI-X**	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2300F-E-SP[22, 23]**	**FC-AL, FC-SW**	**N**
90	**xSeries x445**	**PCI, PCI-X**	**Novell Netware: 5.10 SP5[5, 8], 6.0 SP1[5, 29]**	**QLogic QLA2310F-E-SP[22, 23]**	**FC-AL, FC-SW**	**Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]**
91	**xSeries x445**	**PCI, PCI-X**	**Novell Netware: 5.10[5], 5.10 SP2A[5]**	**IBM 00N6881 (QLA2200)[1, 2, 3, 4, 6]**	**FC-AL, FC-SW**	**N**
92	**Netfinity 7000 M10[35]**	**PCI**	**Novell Netware 5.10: SP5[5, 8, 27], SP6; Novell Netware 6.0: SP2[5, 29], SP3**	**IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]**	**FC-AL, FC-SW[7]**	**Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25, 36]**
93	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), x230, x232, x240, x250, x350 (6000R), x370**	**PCI**	**Novell Netware 5.10: SP5[5, 8, 27], SP6; Novell Netware 6.0: SP2[5, 29], SP3**	**IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]**	**FC-AL, FC-SW[7]**	**Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]**
94	xSeries x232	PCI	Novell Netware 5.10: SP5[5, 8], SP6	QLogic QLA2310F-E-SP[23, 26]	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
95	xSeries x232	PCI	Novell Netware 5.10: SP5[5, 8], SP6	QLogic QLA2340-E-SP[6, 23]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28]
96	**xSeries x255**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3**	**QLogic QLA2310F-E-SP[22, 23, 26]**	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
97	**xSeries x255**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3**	**QLogic QLA2340-E-SP[6, 22, 23]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28]
98	Netfinity 7000 M10[35]	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2310F-E-SP[22, 23, 26]	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 36]
99	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), x230, x240, x250, x350 (6000R), x370	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2310F-E-SP[22, 23, 26]	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
100	xSeries x370	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2340-E-SP[22, 23, 26]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28]
101	Netfinity 7000 M10[35]	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28, 36]
102	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), x230, x240, x250, x350 (6000R)	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28]
103	**Netfinity 7000 M10[35]**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2200F-EMC[2, 21]**	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 36]
104	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2200F-EMC[2, 21]**	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
105	xSeries X342	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2340-E-SP[6, 23]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 28]
106	xSeries X342	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic: **QLA2200F-EMC[2, 21]**, QLA2310F-E-SP[23, 26]	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
107	**xSeries x255**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP2[5, 29], SP3**	**IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
108	**Netfinity 7000 M10[35]**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP2[5], SP3**	**IBM 00N6881 (QLA2200)[1, 3, 4]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 36]
109	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP2[5], SP3**	**IBM 00N6881 (QLA2200)[1, 3, 4]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
110	**xSeries X342**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP2[5], SP3**	**IBM: 00N6881 (QLA2200)[1, 3, 4], 19K1246(QLA2310)[1, 4, 30], 24P0960(QLA2340)[1, 4, 31]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]

IBM – Novell Netware						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
111	**Netfinity 8500R**	PCI	**Novell Netware 5.10: SP5[5], SP6**	**IBM 00N6881 (QLA2200)[1, 3, 4]**	FC-AL, FC-SW[7]	Y[8, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
112	**Netfinity 8500R**	PCI	**Novell Netware 5.10: SP5[5], SP6**	**IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]**	FC-AL, FC-SW[7]	Y[8, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
113	xSeries x232	PCI	Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2310F-E-SP[22, 23, 26]	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
114	xSeries x232	PCI	Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28]
115	**Netfinity 8500R**	PCI	**Novell Netware 6.0: SP2[5, 29], SP3**	**IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
116	**Netfinity 8500R**	PCI	**Novell Netware 6.0: SP2[5], SP3**	**IBM 00N6881 (QLA2200)[1, 3, 4]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
117	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP5[5, 8, 27], SP6;** **Novell Netware 6.0: SP1[5, 29, 34, 37], SP2[5, 29], SP3**	**QLogic QLA2340-E-SP[6, 22, 23]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28]
118	**xSeries x440**	PCI-X	**Novell Netware 5.10: SP5[5, 8], SP6**	**IBM 24P0960(QLA2340)[1, 4, 23, 31]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
119	xSeries x440	PCI-X	Novell Netware 5.10: SP5[5, 8], SP6. Novell Netware 6.0: SP2[5], SP3	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28]
120	xSeries x440	PCI-X	Novell Netware 6.0 SP1[5, 37]	QLogic QLA2340-E-SP[6, 23]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28]
121	**xSeries: x360, x440**	PCI-X	**Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2200F-EMC[2, 21]**	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
122	**xSeries x360**	PCI-X	**Novell Netware 6.0: SP2[5, 29], SP3**	**IBM: 19K1246(QLA2310)[1, 4, 22, 30, 32, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31, 32]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
123	**xSeries: x360, x440**	PCI-X	**Novell Netware 6.0: SP2[5], SP3**	**IBM 00N6881 (QLA2200)[1, 3, 4]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
124	**xSeries x440**	PCI-X	**Novell Netware 6.0: SP2[5], SP3**	**IBM: 19K1246(QLA2310)[1, 4, 22, 30, 33], 24P0960(QLA2340)[1, 2, 4, 22, 31]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
125	**xSeries x345**	PCI, PCI-X	**Novell Netware 5.10: SP5[5, 8], SP6**	**QLogic QLA2340-E-SP[6, 22, 23]**	FC-AL, FC-SW[7]	N
126	**xSeries x345**	PCI, PCI-X	**Novell Netware 6.0: SP1[5, 37], SP2[5], SP3**	**QLogic QLA2340-E-SP[6, 23]**	FC-AL, FC-SW[7]	N
127	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2200F-EMC[2, 21]**	**FC-AL, FC-SW[7]**	**Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]**
128	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 6.0: SP2[5], SP3**	**IBM 00N6881 (QLA2200)[1, 3, 4]**	**FC-AL, FC-SW[7]**	**Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]**
129	**xSeries: x255, x345**	**PCI**	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5, 29], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[40, 41]**	**FC-SW**	**N**

1. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
2. **Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.**
3. **(QLA2200) For IBM xSeries and Netfinity servers only.**
4. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
5. Maximum number of NWFS volumes that can be mounted is 64.
6. Support for CX600, CX400, CX200, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
7. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
8. Requires NetWare patches: NWPAPT2A and NSS5J.
9. Novell Storage Services supported.
10. Powerpath & ATF supported.
11. FC-SW environments using Brocade 2800 or EMC DS-16B require switch firmware 2.5.0d or greater.
12. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
13. No MirrorView or SnapView used on boot LUNs.
14. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
15. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
16. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
17. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
18. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT C: partition will.
19. PowerPath and ATF supported.
20. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
21. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
22. Driver installation with NetWare 5.0 SP6A. Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
23. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
24. Edit config.sys with the following: Files=100 Buffers=99
25. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditions exist where several LUNs are initially created and you perform your first install, NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.
26. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
27. Symmetrix 8000 Series: 66/67 support at NetWare 5.x, 5568 support at Netware 5.1.
28. PowerPath supported. ATF/CDE not supported
29. Symmetrix 8000 Series. 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.
30. **This HBA is equivalent to the qLogic QLA2310.**
31. **This HBA is equivalent to the qLogic QLA2340.**
32. **Host must be offline for interfamily Symmetrix microcode upgrade.**

33 **Requires driver 6.50v, BIOS 1.34 available from Qlogic.**
34 PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
35. This server only supports 5 Volt HBAs. qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
36. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
37. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.
38 **NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.**
39. **Requires NWPA.NLM V.3.07A update from Novell website.**
40. **PowerPath not currently supported.**
41. **Requires driver version 2.02e and firmware 3.90a7.**
42. **Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with &lt:Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.**
43. **Optical cables apply to CX600, CX400, CX200, FC4500 and FC4700.**
44. **CX200 available through selected channels.**
45. **Requires HBA bios 1.83 and driver 6.50v.**
46. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.**

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Red Hat Linux
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DG – Red Hat Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]	Emulex LP9002-E (LP9002L-E)[13, 22]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 17]
2	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 17]
3	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]	Emulex: LP9802-E[1, 13], LP982-E[1, 13]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 17]
4	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]	QLogic QLA2200F[13, 15, 16, 18, 21]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 17, 19, 20]
5	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]	QLogic QLA2310F-E-SP[13, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 14, 17]
6	AViiON AV3704R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 26], v2.4.9-E.12[11, 26], v2.4.9-E.16[11, 26], v2.4.9-E.3[11], v2.4.9-E.9[11, 26]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 26], v2.4.9-e.16[11, 26]	QLogic QLA2200F[13, 15, 16]	FC-AL, FC-SW	N
7	AViiON: AV1400, AV2800, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 26], v2.4.9-E.12[11, 26], v2.4.9-E.9[11, 26]	QLogic QLA2200F[13, 15, 16]	FC-AL, FC-SW	N
8	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 26], v2.4.9-E.3[3, 11, 17, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 26], v2.4.9-e.16[11, 26]	QLogic QLA2200F-EMC[13, 21]	FC-AL, FC-SW	N
9	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 26], v2.4.9-E.3[3, 11, 17, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 26], v2.4.9-e.16[11, 26]; Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2342-E-SP[12]	FC-AL, FC-SW	N
10	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 26], v2.4.9-E.3[3, 11, 17, 18], v2.4.9-e.24[11, 28]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 26], v2.4.9-e.16[11, 26], v2.4.9-e.24[11, 28]; Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2202F-EMC[13, 15, 16, 18, 21, 24, 25, 27, 31]	FC-AL, FC-SW	N
11	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 26], ES v2.4.9-e.12[11, 26], ES v2.4.9-e.16[11, 26]	Emulex LP9002-E (LP9002L-E)[13, 22]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
12	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 26], ES v2.4.9-e.12[11, 26], ES v2.4.9-e.16[11, 26]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
13	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 26], ES v2.4.9-e.12[11, 26], ES v2.4.9-e.16[11, 26]	Emulex: LP9802-E[1, 13], LP982-E[1, 13]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
14	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 26], ES v2.4.9-e.12[11, 26], ES v2.4.9-e.16[11, 26]	QLogic QLA2200F[13, 15, 16, 18, 21]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 19, 20]
15	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 26], ES v2.4.9-e.12[11, 26], ES v2.4.9-e.16[11, 26]	QLogic QLA2310F-E-SP[13, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 14]
16	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]	Emulex LP9002-E (LP9002L-E)[13, 16, 22, 24, 25]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
17	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]	Emulex LP9802DC-E[1, 13, 16, 24, 25]	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
18	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]	Emulex: LP9802-E[1, 13, 16, 24, 25], LP982-E[1, 13, 16, 24, 25]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
19	AViiON AV3704R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]	QLogic QLA2200F[13, 16, 24, 25, 27, 29]	FC-AL, FC-SW	N
20	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]	QLogic QLA2200F[13, 16, 24, 25, 27, 29]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 19, 20]
21	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]	QLogic QLA2310F-E-SP[13, 16, 24, 25, 30]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 14]
22	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]	QLogic: QLA2200F-EMC[13, 16, 24, 25, 27], QLA2342-E-SP[16, 24, 25, 29, 30]	FC-AL, FC-SW	N

DG – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
23	AViiON: AV1400, AV2800, AV3704 AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]
24	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
25	AViiON: AV1400, AV2800, AV3704 AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]
26	**AViiON: AV1400, AV2800, AV3704 AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2200F-EMC[13]**	FC-AL, FC-SW	N
27	**AViiON: AV1400, AV2800, AV3704, AV3800 AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic: QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 14]
28	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27 7.x rpm[3, 11]	QLogic QLA2200F	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 19, 20]
29	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950 AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**QLogic QLA2340-E-SP[13, 23]**	FC-AL, FC-SW[24, 25]	Y[4, 5, 6, 7, 8, 9, 10, 14, 17]
30	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 26], ES v2.4.9-e.12[11, 26], ES v2.4.9-e.16[11, 26]**	**QLogic QLA2340-E-SP[13, 23]**	FC-AL, FC-SW[24, 25]	Y[4, 5, 6, 7, 8, 9, 10, 14]
31	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**QLogic QLA2340-E-SP[13, 16, 30]**	FC-AL, FC-SW[24, 25]	Y[4, 5, 6, 7, 8, 9, 10, 14]

1. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
2. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
3. Requires v6.2.1 or higher Navisphere host agent/CLI.
4. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
5. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
6. No MirrorView or SnapView used on boot LUNs.
7. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability
8. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
9. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
10. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
11. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
12. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
13. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
14. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
15. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
16. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
17. This kernel is limited to 110 devices, not 128.
18. **Supported with QLogic driver v6.04.02 or v6.05.00.**
19. Requires QLogic driver 4.47.18 and BIOS 1.83.
20. Install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.
21. Requires v6.0.5 or higher Navisphere host Agent/CLI.
22. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
23. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
24. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
25. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
26. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
27. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
28. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
29. **Single HBA zoning is required regardless of the switch being utilized.**
30. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
31. **Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC-approved driver after installation.**

Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[11, 16, 19, 30]	QLogic QLA2200F-EMC[17, 18]	FC-AL, FC-SW	N
2	PowerEdge: 1550, 2300, 2450, 2500, 4400, 6100, 6300, 6350, 6400, 6450 8450	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[11, 19]	QLogic QLA2200F[14, 15, 17]	FC-AL, FC-SW	N
3	PowerEdge 2550[21]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[11]	QLogic QLA2200F[14, 15, 17]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 18, 24, 27, 28]
4	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 24]
5	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 24]
6	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20] 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	Emulex: LP9802-E[1, 17], LP982-E[1, 17]	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10, 24]
7	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 24, 27, 28]

Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
8	PowerEdge 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[3, 11, 18, 24]	QLogic QLA2310F–E–SP[17, 23]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 13, 24]
9	PowerEdge 1550[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.9[11, 19]	Emulex: LP9802–E[1, 17], LP982–E[1, 17]	FC–AL, FC–SW	N
10	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 16, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 18, 24] v2.4.9–E.9[11, 19]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11]	Emulex LP9802DC–E	FC–AL, FC–SW	N
11	PowerEdge 1550[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 16, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 18, 24], v2.4.9–E.9[11, 19]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2342–E–SP[12]	FC–AL, FC–SW	N
12	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 16, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 18, 24], v2.4.9–E.9[11, 19]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic: QLA2310F–E–SP[17, 23] QLA2342–E–SP[12]	FC–AL, FC–SW	N
13	PowerEdge 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 16, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 18, 24], v2.4.9–E.9[11, 19], v2.4.9–e.24[11, 34]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19], v2.4.9–e.24[11, 34]; Red Hat Linux 7.3: (v2.4.18–3)[11], updated w/ v2.4.18–27.7.x rpm[3, 11]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2202F–EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]	FC–AL, FC–SW	N
14	PowerEdge 1550[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 16, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]; Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11]	Emulex LP9802DC–E	FC–AL, FC–SW	N
15	PowerEdge 1550[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 16, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2310F–E–SP[17, 23]	FC–AL, FC–SW	N
16	PowerEdge 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 16, 19, 30], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 18, 24]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2342–E–SP[12]	FC–AL, FC–SW	N
17	PowerEdge 4300	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 16, 19], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[11, 18], v2.4.9–E.9[11, 19], v2.4.9–e.24[11, 34]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19], v2.4.9–e.24[11, 34]; Red Hat Linux 7.3: (v2.4.18–3)[11], updated w/ v2.4.18–27.7.x rpm[3, 11]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2202F–EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]	FC–AL, FC–SW	N
18	PowerEdge 2400	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 16, 19], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 18, 24], v2.4.9–E.9[11, 19], v2.4.9–e.24[11, 34]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19], v2.4.9–e.24[11, 34]; Red Hat Linux 7.3: (v2.4.18–3)[11], updated w/ v2.4.18–27.7.x rpm[3, 11]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2202F–EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]	FC–AL, FC–SW	N
19	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 18, 24], v2.4.9–E.9[11, 19]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]	Emulex LP9002–E (LP9002L–E)[17, 25]	FC–AL, FC–SW	N
20	PowerEdge 1550[20], 2300[20], 2450[20], 2500[20], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]	Emulex LP9002–E (LP9002L–E)[17, 25]	FC–AL, FC–SW	N
21	PowerEdge 2550[20, 21]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]	Emulex LP9002–E (LP9002L–E)[17, 25]; QLogic QLA2200F[14, 15, 17]	FC–AL, FC–SW	N
22	PowerEdge: 1650[20] 2400, 2550[21]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]	QLogic QLA2200F[14, 15, 17]	FC–AL, FC–SW	N

Dell – Red Hat Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
23	PowerEdge 1550[20], 2300[20], 2450[20] 2500[20], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.9[11, 19]	QLogic QLA2200F[14, 15, 17]	FC–AL, FC–SW	N
24	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2200F–EMC[16, 17, 18]	FC–AL, FC–SW	N
25	PowerEdge: 1650[20], 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]	QLogic QLA2340–E–SP[12, 17, 23]	FC–AL, FC–SW	N
26	PowerEdge: 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[11, 19] v2.4.9–E.9[11, 19]; Red Hat Linux 7.3 (v2.4.18–3)[11]	QLogic QLA2342–E–SP[12]	FC–AL, FC–SW	N
27	PowerEdge 4300	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 19], v2.4.9–E.3[11, 18]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux: 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11], 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC–AL, FC–SW	N
28	PowerEdge 2400	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 18, 24]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux 7.3 (v2.4.18–3)[11]	QLogic QLA2342–E–SP[12]	FC–AL, FC–SW	N
	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 18, 24]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux: 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11], 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC–AL, FC–SW	N
30	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 18, 24], v2.4.9–E.9[11, 19]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]	Emulex: LP9802–E[1, 17], LP982–E[1, 17]	FC–AL, FC–SW	N
31	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.3[3, 11, 18, 24], v2.4.9–E.9[11, 19]	QLogic QLA2200F–EMC[16, 17]	FC–AL, FC–SW	N
32	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 19], ES v2.4.9–e.12[11, 19], ES v2.4.9–e.16[11, 19]	Emulex LP9002–E (LP9002L–E)[17, 25]	FC–AL, FC–SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
33	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 19], ES v2.4.9–e.12[11, 19], ES v2.4.9–e.16[11, 19]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
34	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 19], ES v2.4.9–e.12[11, 19], ES v2.4.9–e.16[11, 19]	Emulex: LP9802–E[1, 17], LP982–E[1, 17]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10]
35	PowerEdge 2550[21]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 19], ES v2.4.9–e.12[11, 19], ES v2.4.9–e.16[11, 19]	QLogic QLA2200F[14, 15, 17]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
36	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 19], ES v2.4.9–e.12[11, 19], ES v2.4.9–e.16[11, 19]	QLogic QLA2310F–E–SP[17, 23]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
37	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 19], ES v2.4.9–e.12[11, 19], ES v2.4.9–e.16[11, 19]; Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
38	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[11, 34], ES v2.4.9–e.24[11, 34]	Emulex LP9002–E (LP9002L–E)[15, 17, 22, 25, 26]	FC–AL, FC–SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
39	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[11, 34], ES v2.4.9–e.24[11, 34]	Emulex LP9802DC–E[1, 15, 17, 22, 26]	FC–AL, FC–SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
40	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[11, 34], ES v2.4.9–e.24[11, 34]	Emulex: LP9002–E (LP9002L–E)[15, 17, 22, 25, 26], LP9802–E[1, 15, 17, 22, 26], LP9802DC–E[1, 15, 17, 22, 26], LP982–E[1, 15, 17, 22, 26]; QLogic: QLA2200F[15, 17, 22, 26, 33, 36], QLA2200F–EMC[15, 17, 22, 26, 36], QLA2310F–E–SP[15, 17, 22, 26, 35], QLA2342–E–SP[15, 22, 26, 33, 35]	FC–AL, FC–SW	N
41	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[11, 34], ES v2.4.9–e.24[11, 34]	Emulex: LP9802–E[1, 15, 17, 22, 26], LP982–E[1, 15, 17, 22, 26]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10]
42	PowerEdge 4300	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[11, 34], ES v2.4.9–e.24[11, 34]	QLogic QLA2200F[15, 17, 22, 26, 33, 36]	FC–AL, FC–SW	
43	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[11, 34], ES v2.4.9–e.24[11, 34]	QLogic QLA2200F[15, 17, 22, 26, 33, 36]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]

Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
44	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2310F-E-SP[15, 17, 22, 26, 35]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
45	PowerEdge 2400	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2342-E-SP[15, 22, 26, 33, 35]	FC-AL, FC-SW	N
46	PowerEdge: 1550[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic: QLA2200F-EMC[15, 17, 22, 26, 36], QLA2342-E-SP[15, 22, 26, 33, 35]	FC-AL, FC-SW	N
47	PowerEdge, 1550, 2300, 2400, 2450, 2500, 2550[21], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]
48	PowerEdge, 1550, 2300, 2400, 2450 2500, 2550[21], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
49	PowerEdge 1650	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15], QLA2342-E-SP[12]	FC-AL, FC-SW	N
50	PowerEdge, 1550, 2300, 2400, 2450, 2500, 2550[21], 4400, 6100, 6300, 6350 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex, LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]
51	PowerEdge, 1550, 2300, 2450, 2500 2550[21], 4400, 6100, 6300, 6350, 6400	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2342-E-SP[12]	FC-AL, FC-SW	N
52	PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[21], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 13]
53	PowerEdge 2550[21]	PCI	Red Hat Linux 7.3 updated w/ v2 4.18-27.7 x rpm[3, 11]	QLogic QLA2200F	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
54	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic: QLA2310F-E-SP[17], QLA2342-E-SP[12, 15, 17, 32, 33]	FC-AL, FC-SW	N
55	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 7.3: (v2.4.18-3)[11], updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F-EMC[17]	FC-AL, FC-SW	N
56	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	N
57	PowerEdge: 1750, 2600[20], 2650[20] 4600[20], 6600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[11, 16, 19, 30]	QLogic QLA2200F-EMC[17, 18]	FC-AL, FC-SW	N
58	PowerEdge: 2600, 6600	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[11, 19]	QLogic QLA2200F[14, 15, 17]	FC-AL, FC-SW	N
59	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[11, 19]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
60	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[11, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
61	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[11, 19]	QLogic QLA2200F-EMC[16, 17, 18]	FC-AL, FC-SW	N
62	PowerEdge: 2650, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[11, 18]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 24, 27, 28]
63	PowerEdge: 2600[20], 2650, 6600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 24]
64	PowerEdge: 2600[20], 2650, 6600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 24]
65	PowerEdge: 2600[20], 2650, 6600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	Emulex: LP9802-E[1, 17], LP982-E[1, 17]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 24]
66	PowerEdge: 2650, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	QLogic QLA2200F-EMC[16, 17]	FC-AL, FC-SW	N
67	PowerEdge: 2600[20], 6600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 24, 27, 28]
68	PowerEdge: 2600[20], 6600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	QLogic QLA2310F-E-SP[17, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13, 24]
69	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	QLogic QLA2340-E-SP[17, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
70	PowerEdge 2600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[11, 19]	Emulex: LP9802-E[1, 17], LP982-E[1, 17]	FC-AL, FC-SW	N
71	PowerEdge 2650[20]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[11, 19]	Emulex: LP9802-E[1, 17], LP982-E[1, 17]; QLogic QLA2200F-EMC[16, 17]	FC-AL, FC-SW	N
72	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[11, 19]	QLogic QLA2200F-EMC[16]	FC-AL, FC-SW	N
73	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24] v2.4.9-E.9[11, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]; Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2342-E-SP[12]	FC-AL, FC-SW	N

Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
74	**PowerEdge 4600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24], v2.4.9-E.9[11, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	N
75	PowerEdge 1750	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24], v2.4.9-E.9[11, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]; Red Hat Linux 7.3: (v2.4.18-3)[11], updated w/ v2.4.18-27.7.x rpm[3, 11]	Emulex LP9802DC-E	FC-AL, FC-SW	N
76	**PowerEdge: 1750, 4600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24], v2.4.9-E.9[11, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2310F-E-SP[17, 23]**	FC-AL, FC-SW	N
77	**PowerEdge 6600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24], v2.4.9-E.9[11, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2342-E-SP[12]**	FC-AL, FC-SW	N
78	**PowerEdge: 1750, 2600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24], v2.4.9-E.9[11, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux: 7.3 (v2.4.18-3)[11], 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2342-E-SP[12]**	FC-AL, FC-SW	N
79	**PowerEdge: 1750, 4600[20], 6600[20]**	**PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24], v2.4.9-E.9[11, 19], v2.4.9-e.24[11, 34];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19], v2.4.9-e.24[11, 34];** **Red Hat Linux 7.3: (v2.4.18-3)[11], updated w/ v2.4.18-27.7.x rpm[3, 11];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2202F-EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]**	**FC-AL, FC-SW**	**N**
80	**PowerEdge 2650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]**	**QLogic: QLA2310F-E-SP[12, 15, 17, 23], QLA2340-E-SP[12, 17, 23]**	FC-AL, FC-SW	N
81	**PowerEdge 2650[20]**	**PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux 7.3: (v2.4.18-3)[11], updated w/ v2.4.18-27.7.x rpm[3, 11];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2202F-EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]**	**FC-AL, FC-SW**	**N**
82	**PowerEdge: 2600[20], 2650[20], 6600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	N
83	**PowerEdge: 2600[20], 6600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2310F-E-SP[17, 23]**	FC-AL, FC-SW	N
84	**PowerEdge 4600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2342-E-SP[12]**	FC-AL, FC-SW	N
85	**PowerEdge 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19], v2.4.9-E.12[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2200F-EMC[16, 18]**	FC-AL, FC-SW	N

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Dell – Red Hat Linux

No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
86	**PowerEdge 2650**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.10[11, 16, 19], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[11, 18], v2.4.9-E.9[11, 19], v2.4.9-e.24[11, 34]; **Red Hat Linux 2.1 ES:** v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19], v2.4.9-e.24[11, 34]; **Red Hat Linux 7.3:** (v2.4.18-3)[11], updated w/ v2.4.18-27.7.x rpm[3, 11]; **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2202F-EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]**	**FC-AL, FC-SW**	**N**
87	**PowerEdge: 2600[20], 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.10[11, 16, 19], v2.4.9-E.12[11, 19] v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24] v2.4.9-E.9[11, 19], v2.4.9-e.24[11, 34]; **Red Hat Linux 2.1 ES:** v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19], v2.4.9-e.24[11, 34]; **Red Hat Linux 7.3:** (v2.4.18-3)[11], updated w/ v2.4.18-27.7.x rpm[3, 11]; **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2202F-EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]**	**FC-AL, FC-SW**	**N**
88	PowerEdge: 1750, **4600[20]**	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 19], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24], v2.4.9-E.9[11, 19]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[11, 19]**, v2.4.9-e.16[11, 19]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	N
89	**PowerEdge 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.10[11, 19], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24], v2.4.9-E.9[11, 19]; **Red Hat Linux 2.1 ES:** v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]; **Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2342-E-SP[12]**	FC-AL, FC-SW	N
90	**PowerEdge: 2650[20], 6600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.10[11, 19], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]	**Emulex LP9002-E (LP9002L-E)[17, 25]**	FC-AL, FC-SW	N
91	**PowerEdge 2600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.10[11, 19], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]	**Emulex LP9002-E (LP9002L-E)[17, 25]; QLogic: QLA2200F[14, 15, 17], QLA2310F-E-SP[12, 15, 17], QLA2340-E-SP[12, 17]**	FC-AL, FC-SW	N
92	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 19], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]	Emulex: LP9002-E (LP9002L-E)[17, 25], LP9802-E[1, 17], LP9802DC-E, LP982-E[1, 17]; QLogic: **QLA2200F[14, 15, 17]**, QLA2310F-E-SP, **QLA2340-E-SP[12, 17]**	FC-AL, FC-SW	N
93	**PowerEdge: 1750, 2650, 4600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.10[11, 19], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]	**QLogic QLA2200F[14, 15, 17]**	FC-AL, FC-SW	N
94	**PowerEdge 6600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.10[11, 19], v2.4.9-E.9[11, 19]	**QLogic QLA2200F[14, 15, 17]**	FC-AL, FC-SW	N
95	**PowerEdge: 1750, 2600[20], 4600[20], 6600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19]; **Red Hat Linux 2.1 ES:** v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]; **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2200F-EMC[16, 17, 18]**	FC-AL, FC-SW	N
96	**PowerEdge 6600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]	**Emulex: LP9802-E[1, 17], LP982-E[1, 17]; QLogic QLA2340-E-SP[17, 23]**	FC-AL, FC-SW	N
97	**PowerEdge: 1750, 2600, 4600**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]	**QLogic QLA2340-E-SP[12, 17, 23]**	FC-AL, FC-SW	N
	PowerEdge: 2600, 4600	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]; **Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2342-E-SP[12]**	FC-AL, FC-SW	N
99	**PowerEdge 2650**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24, 29]	**QLogic QLA2310F-E-SP[12, 15, 17, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
100	**PowerEdge 2600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24, 29]; **Red Hat Linux 2.1 ES:** v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	**QLogic QLA2310F-E-SP[12, 15, 17, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
101	**PowerEdge: 2600[20], 2650**	PCI-X	**Red Hat Linux 2.1 Advanced Server:** v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24, 29]; **Red Hat Linux 2.1 ES:** v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]; **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]**	**QLogic QLA2200F[14, 15, 16, 17, 18]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
102	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[11, 19]**, v2.4.9-e.16[11, 19]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
103	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[11, 19]** v2.4.9-e.16[11, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
104	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[11, 19]**, v2.4.9-e.16[11, 19]	Emulex: LP9802-E[1, 17], LP982-E[1, 17]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]

Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
105	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24] Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	QLogic QLA2310F-E-SP[17, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
106	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24] Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19] Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
107	PowerEdge: 1750, 4600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24] Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19] Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	N
108	PowerEdge: 1750, 4600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24], v2.4.9-E.9[11, 19] Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	Emulex: LP9802-E[1, 17], LP982-E[1, 17]	FC-AL, FC-SW	N
109	PowerEdge: 1750, 2600[20], 4600[20], 6600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[3, 11, 18, 24], v2.4.9-E.9[11, 19]	QLogic QLA2200F-EMC[16, 17]	FC-AL, FC-SW	N
110	PowerEdge 2650[20]	PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
111	PowerEdge 2650[20]	PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
112	PowerEdge 2650[20]	PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	QLogic QLA2310F-E-SP[12, 15, 17, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
113	PowerEdge 2650[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.12[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19] Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[16, 17, 18]	FC-AL, FC-SW	N
114	PowerEdge: 2600[20], 6600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
115	PowerEdge: 2600[20], 6600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
116	PowerEdge: 2600[20], 2650, 6600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	Emulex: LP9802-E[1, 17], LP982-E[1, 17]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
117	PowerEdge 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2200F-EMC[16, 17, 18]	FC-AL, FC-SW	N
118	PowerEdge 2600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2310F-E-SP[17, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
119	PowerEdge 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[12, 17, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
120	PowerEdge 6600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic: QLA2310F-E-SP[17, 23], QLA2340-E-SP[17, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
121	PowerEdge 6600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19] Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
122	PowerEdge: 2600[20], 2650, 6600[20], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	Emulex LP9002-E (LP9002L-E)[15, 17, 22, 25, 26]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
123	PowerEdge: 2600[20], 2650, 6600[20], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	Emulex LP9802DC-E[1, 15, 17, 22, 26]	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
124	PowerEdge: 1750, 4600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	Emulex: LP9002-E (LP9002L-E)[15, 17, 22, 25, 26], LP9802-E[1, 15, 17, 22, 26], LP9802DC-E[1, 15, 17, 22, 26], LP982-E[1, 15, 17, 22, 26] QLogic: QLA2200F[15, 17, 22, 26, 33, 36], QLA2200F-EMC[15, 17, 22, 26, 36], QLA2310F-E-SP[15, 17, 22, 26, 35], QLA2342-E-SP[15, 22, 26, 33, 35]	FC-AL, FC-SW	N
125	PowerEdge: 2600[20], 2650, 6600[20], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	Emulex: LP9802-E[1, 15, 17, 22, 26], LP982-E[1, 15, 17, 22, 26]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
126	PowerEdge: 2600[20], 2650, 6600[20], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2200F[15, 17, 22, 26, 33, 36]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
127	PowerEdge: 2600[20], 2650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2310F-E-SP[15, 17, 22, 26, 35]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
128	PowerEdge: 2600[20], 2650, 6600[20], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic: QLA2200F-EMC[15, 17, 22, 26, 36], QLA2342-E-SP[15, 22, 26, 33, 35]	FC-AL, FC-SW	N
129	PowerEdge: 6600[20], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic: QLA2310F-E-SP[15, 17, 22, 26, 35], QLA2340-E-SP[15, 17, 35]	FC-AL, FC-SW	Y[4, 5, 6, 13]
130	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
131	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
132	PowerEdge 4600	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15]	FC-AL, FC-SW	N
133	PowerEdge 1750	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E; QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15]	FC-AL, FC-SW	N
134	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]
135	PowerEdge 6600	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2342-E-SP[12]	FC-AL, FC-SW	N
136	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 13]
137	PowerEdge 2650	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
138	PowerEdge: 1750, 2600[20], 2650[20], 4600[20], 6600[20]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic: QLA2310F-E-SP[17], QLA2342-E-SP[12, 15, 17, 32, 33]	FC-AL, FC-SW	N
139	PowerEdge: 1750, 2600[20], 2650[20], 4600[20], 6600[20]	PCI-X	Red Hat Linux 7.3: (v2.4.18-3)[11], updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F-EMC[17]	FC-AL, FC-SW	N
140	PowerEdge: 2600[20], 2650, 6600[20] 6650	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	N
141	PowerEdge 2650[20]	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic: QLA2200F[14, 15, 16, 17, 18], QLA2310F-E-SP[17, 23], QLA2342-E-SP[12]	FC-AL, FC-SW	N
142	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	Emulex LP9802-E[1, 17]	FC-AL, FC-SW[1, 17, 22, 31]	N
143	PowerEdge: 1750, 2600[20], 2650[20], 4600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	Emulex LP9802-E[1, 17]	FC-AL, FC-SW[1, 17, 22, 31]	N
144	PowerEdge 6600[20]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[11, 16, 19, 30] 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	Emulex LP9802-E[1, 17]	FC-AL, FC-SW[1, 17, 22, 31]	N
145	PowerEdge: 2400, 4300	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[11, 19]	QLogic QLA2200F-EMC[16]	FC-AL, FC-SW[22]	N
146	PowerEdge 2400	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19], v2.4.9-E.12[11, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[16, 18]	FC-AL, FC-SW[22]	N
147	PowerEdge 4300	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[11, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[16, 18]	FC-AL, FC-SW[22]	N
148	PowerEdge 2400	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 18, 24]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	QLogic QLA2200F-EMC[16, 17, 18]	FC-AL, FC-SW[22]	N
149	PowerEdge 2400	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2200F-EMC[15, 17, 22, 26, 36]	FC-AL, FC-SW[22]	N
150	PowerEdge 4300	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2200F-EMC[15, 22, 26, 36]	FC-AL, FC-SW[22]	N
151	PowerEdge: 2400, 4300	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2200F-EMC[14, 17]	FC-AL, FC-SW[22]	N
152	PowerEdge: 2400, 4300	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F-EMC	FC-AL, FC-SW[22]	N
153	PowerEdge: 2600[20], 2650, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[11, 19]	QLogic QLA2200F-EMC[16]	FC-AL, FC-SW[22]	N
154	PowerEdge 2600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19], v2.4.9-E.12[11, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[16, 18]	FC-AL, FC-SW[22]	N
155	PowerEdge: 2650, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[11, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[16, 18]	FC-AL, FC-SW[22]	N
156	PowerEdge 2600[20]	PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	QLogic QLA2200F-EMC[16, 17, 18]	FC-AL, FC-SW[22]	N
157	PowerEdge: 2650, 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2200F-EMC[15, 22, 26, 36]	FC-AL, FC-SW[22]	N
158	PowerEdge: 2600[20], 2650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2200F-EMC[14, 17]	FC-AL, FC-SW[22]	N
159	PowerEdge: 2600[20], 2650	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F-EMC	FC-AL, FC-SW[22]	N
160	PowerEdge 6650	PCI-X	Red Hat Linux 7.3: (v2.4.18-3)[11], updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F-EMC	FC-AL, FC-SW[22]	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
161	PowerEdge: 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[11, 16, 19, 30]	QLogic QLA2340-E-SP[12, 17, 23]	FC-AL, FC-SW[22, 26]	N
162	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	QLogic QLA2340-E-SP[17, 23]	FC-AL, FC-SW[22, 26]	Y[4, 5, 6, 7, 8, 9, 10, 13, 24]
163	PowerEdge. 1550[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[17, 23]	FC-AL, FC-SW[22, 26]	N
164	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1 Advanced Server, v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.16[11, 19]; Red Hat Linux 2.1 ES v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[12, 17, 23]	FC-AL, FC-SW[22, 26]	N
165	PowerEdge 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[12, 17, 23]	FC-AL, FC-SW[22, 26]	Y[4, 5, 6, 7, 8, 9, 10, 13]
166	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[17, 23]	FC-AL, FC-SW[22, 26]	Y[4, 5, 6, 7, 8, 9, 10, 13]
167	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2340-E-SP[15, 17, 35]	FC-AL, FC-SW[22, 26]	N
168	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2340-E-SP[15, 17, 35]	FC-AL, FC-SW[22, 26]	Y[4, 5, 6, 7, 8, 9, 10, 13]
169	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2340-E-SP[17]	FC-AL, FC-SW[22, 26]	N
170	PowerEdge: 6450[20], 8450[20]	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[17, 23]	FC-AL, FC-SW[22, 26]	N
171	PowerEdge 1650[20]	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[17, 23]	FC-AL, FC-SW[22, 26]	N
172	PowerEdge 2600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[11, 16, 19, 30]	QLogic QLA2340-E-SP[12, 17, 23]	FC-AL, FC-SW[22, 26]	N
173	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[11, 19]	QLogic QLA2340-E-SP[12, 17, 23]	FC-AL, FC-SW[22, 26]	Y[4, 5, 6, 7, 8, 9, 10, 13]
174	PowerEdge: 2600[20], 2650, 6600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24]	QLogic QLA2340-E-SP[17, 23]	FC-AL, FC-SW[22, 26]	Y[4, 5, 6, 7, 8, 9, 10, 13, 24]
175	PowerEdge. 1750, 4600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.16[11, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[12, 17, 23]	FC-AL, FC-SW[22, 26]	N
176	PowerEdge 2650[20]	PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[12, 17, 23]	FC-AL, FC-SW[22, 26]	Y[4, 5, 6, 7, 8, 9, 10, 13]
177	PowerEdge 2600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[12, 17, 23]	FC-AL, FC-SW[22, 26]	Y[4, 5, 6, 7, 8, 9, 10, 13]
178	PowerEdge: 1750, 4600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2340-E-SP[15, 17, 35]	FC-AL, FC-SW[22, 26]	N
179	PowerEdge. 2600[20], 2650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2340-E-SP[15, 17, 35]	FC-AL, FC-SW[22, 26]	Y[4, 5, 6, 7, 8, 9, 10, 13]
180	PowerEdge. 1750, 2600[20], 2650[20], 4600[20], 6600[20]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2340-E-SP[17]	FC-AL, FC-SW[22, 26]	N
181	PowerEdge: 2600[20], 2650[20]	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[17, 23]	FC-AL, FC-SW[22, 26]	N
182	PowerEdge 6600[20]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[11, 16, 19, 30], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[17, 23]	FC-AL, FC-SW[22, 26]	N
183	PowerEdge: 1750, 4600[20]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 11, 18, 24], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[17, 23]	FC-AL, FC-SW[22, 26]	N
184	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19]. Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	Emulex LP982-E[1, 17]	FC-AL, FC-SW[22, 31]	N
185	PowerEdge. 1750, 2600[20], 2650[20], 4600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 16, 19, 30], v2.4.9-E.12[11, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27 7.x rpm[3, 11]	Emulex LP982-E[1, 17]	FC-AL, FC-SW[22, 31]	N
186	PowerEdge 6600[20]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[11, 16, 19, 30], 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	Emulex LP982-E[1, 17]	FC-AL, FC-SW[22, 31]	N

1. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
2. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
3. Requires v6.2.1 or higher Navisphere host agent/CLI.
4. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
5. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
6. No MirrorView or SnapView used on boot LUNs.
7.

EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability

8 Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.

9 Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation

10 For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.

11. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ

12. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

13 Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65

14. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

15. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**

16. Requires v6.0.5 or higher Navisphere host Agent/CLI.

17 Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.

18 Supported with QLogic driver v6.04.02 or v6.05.00.

19. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath

20 **An RPM from Dell may be used to install the QLogic v6.04.02 or v6.05.00 drivers and may be obtained from the QLogic website at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

21 PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.

22. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300 FC5300 with FC-SW available from selected channels.

23. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

24 This kernel is limited to 110 devices, not 128

25. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com

26. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.

27 Requires QLogic driver 4.47.18 and BIOS 1.83.

28 Install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.

29. **Requires v6.05 or higher Navisphere host agent/CLI.**

30 This system is supported with Red Hat 2.1 Advanced Server v2.4.9-E.3 and updated with v2.4.9-E.9, E.10, and E.12 RPMs.

31. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.

32. **Host must be offline for interfamily Symmetrix microcode upgrade.**

33. **Single HBA zoning is required regardless of the switch being utilized.**

34 **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**

35. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

36. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

37. **Install with driver provided by Red Hat 7.2 installer and upgrade to the EMC-approved driver after installation.**

HPQ

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 22, 30]**	**QLogic QLA2200F-EMC[15, 23]**	FC-AL, FC-SW	N
2	**Netserver LH (LH Pro)**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[12, 23]**	**QLogic QLA2200F[15, 16, 17, 22, 23]**	FC-AL, FC-SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 26, 31, 32]**
3	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**Emulex LP9002-E (LP9002L-E)[15, 27]**	FC-AL, FC-SW	**Y[2, 4, 5, 6, 7, 8, 9, 10, 26]**
4	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	**Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 26]**
5	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**Emulex: LP9802-E[1, 15], LP982-E[1, 15]**	FC-AL, FC-SW	**Y[4, 5, 6, 7, 8, 9, 10, 26]**
6	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**QLogic QLA2200F[15, 16, 17, 22, 23]**	FC-AL, FC-SW	**Y[4, 5, 6, 7, 8, 9, 10, 26, 31, 32]**
7	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**QLogic QLA2310F-E-SP[15, 25]**	FC-AL, FC-SW	**Y[4, 5, 6, 7, 8, 9, 10, 18, 26]**
8	Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	N
9	**Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], ML350[13]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW	

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
10	Proliant: DL580(G2)[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19] v2.4.9-E.16[12, 19] v2.4.9-E.3[3, 12, 23, 26] v2.4.9-E.9[12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19] v2.4.9-e.16[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[14]	FC-AL, FC-SW	N
11	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver LT 6000R, LX PRO LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19] v2.4.9-E.16[12, 19] v2.4.9-E.3[3, 12, 23, 26] v2.4.9-E.9[12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]; Red Hat Linux: 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[14]	FC-AL, FC-SW	N
12	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8, Proliant: 1600[13, 21] 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13] 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13] DL380(G3), DL580[13] DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19] v2.4.9-E.16[12, 19] v2.4.9-E.3[3, 12, 23, 26], v2.4.9-E.9[12, 19] v2.4.9-e.24[12, 49]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19] v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 7.3, (v2.4.18-3)[12] updated w/ v2.4.18-27.7.x rpm[3, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2202F-EMC[15, 16, 17, 22, 23, 24, 28, 35, 51]	FC-AL, FC-SW	N
13	Proliant: 1600[13, 21] 1850[13], 2500[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 800, 8000[13, 20], 850[13]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19] v2.4.9-E.16[12, 19] v2.4.9-E.3[3, 12, 23, 26], v2.4.9-E.9[3, 12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]; Red Hat Linux: 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[14]	FC-AL, FC-SW	N
14	Proliant: 3000[13], 6500[13, 20], 7000[13, 20], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19] v2.4.9-E.16[12, 19], v2.4.9-E.9[3, 12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2342-E-SP[14], 15	FC-AL, FC-SW	N
15	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	N
16	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21] 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13] DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2310F-E-SP[15, 25]	FC-AL, FC-SW	N
17	Proliant DL380(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2200F-EMC[15, 22, 23]	FC-AL, FC-SW	N
18	Netserver LH (LH Pro)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22] v2.4.9-E.12[12, 19] v2.4.9-E.16[12, 19] v2.4.9-E.3[12, 23] v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19] v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 7.3: (v2.4.18-3)[12] updated w/ v2.4.18-27.7.x rpm[3, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2202F-EMC[15, 16, 17, 22, 23, 24, 28, 35, 51]	FC-AL, FC-SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
19	**Netserver LP 2000r**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 23, 26], v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2202F-EMC[15, 16, 17, 22, 23, 24, 28, 35, 51]**	**FC-AL, FC-SW**	**N**
20	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 23, 26], v2.4.9-E.9[12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19];** **Red Hat Linux: 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
21	**Proliant ML750[13]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.9[3, 12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]**	**QLogic QLA2342-E-SP[14, 15]**	FC-AL, FC-SW	N
22	Netserver LC: 2000 U3, 2000r. Netserver LH: 3000, 6000; Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13] 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13]**, **DL380(G2)[13]**, DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	Emulex LP9002-E (LP9002L-E)[15, 27]; **QLogic QLA2200F[15, 16, 17]**	FC-AL, FC-SW	N
23	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]**	**Emulex: LP9002-E (LP9002L-E)[15, 27], LP9802-E[1, 15], LP982-E[1, 15];** **QLogic QLA2200F[15, 16, 17]**	FC-AL, FC-SW	N
24	**Netserver LH: (LH Pro), 3, 4, II, PRO, III;** **Netserver: LP 2000r, LX PRO, LXR PRO, LXR PRO8;** **Proliant: 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 7000[13, 20], 8000[13, 20]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]**	**QLogic QLA2200F[15, 16, 17]**	FC-AL, FC-SW	N
25	**Proliant ML750[13]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[3, 12, 19]**	**QLogic QLA2340-E-SP[14, 15]**	FC-AL, FC-SW	N
26	**Proliant 800**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]**	**QLogic QLA2200F-EMC[15, 22, 23]**	FC-AL, FC-SW	N
27	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3, 3000, 4, 6000, II, PRO, III;** **Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[15, 22, 23]**	FC-AL, FC-SW	N
28	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Proliant: 6500[13, 20], DL580(G2)[13], ML370(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	N
29	**Proliant: ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.9[3, 12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW	N
30	**Netserver LP 2000r**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 23, 26];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19];** **Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
31	**Netserver LH PRO,** **Proliant ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 23, 26];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12, 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F[15, 16, 17, 22, 23]**	FC-AL, FC-SW	N
32	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3, 3000, 4, 6000, II, PRO, III;** **Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[3, 12, 23, 26], v2.4.9-E.9[12, 19]**	**QLogic QLA2200F-EMC[15, 22]**	FC-AL, FC-SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
33	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 8500[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13] ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES **v2.4.9-e.12[12, 19]**, ES v2.4.9-e.16[12, 19]	Emulex LP9002-E (LP9002L-E)[15, 27]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
34	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 8500[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES **v2.4.9-e.12[12, 19]**, ES v2.4.9-e.16[12, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
35	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 8500[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES **v2.4.9-e.12[12, 19]**, ES v2.4.9-e.16[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
36	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3, 3000, 4, 6000, II, PRO, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES** **v2.4.9-e.12[12, 19], ES** **v2.4.9-e.16[12, 19]**	**QLogic QLA2310F-E-SP[15, 25]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18]
37	**Proliant ML750[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES** **v2.4.9-e.12[12, 19], ES** **v2.4.9-e.16[12, 19]**	**QLogic QLA2340-E-SP[14, 15]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 11, 18]
38	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES** **v2.4.9-e.12[12, 19], ES** **v2.4.9-e.16[12, 19]**	**QLogic QLA2310F-E-SP[15, 25], QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18]
39	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES** **v2.4.9-e.12[12, 19], ES** **v2.4.9-e.16[12, 19];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**QLogic QLA2200F[15, 16, 17, 22, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
40	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3000, 6000;** **Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 8500[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES** **v2.4.9-e.24[12, 49]**	**Emulex LP9002-E (LP9002L-E)[15, 17, 24, 27, 28]**	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
41	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3000, 6000;** **Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 8500[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES** **v2.4.9-e.24[12, 49]**	**Emulex LP9802DC-E[1, 15, 17, 24, 28]**	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
42	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3000, 6000;** **Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 8500[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES** **v2.4.9-e.24[12, 49]**	**Emulex: LP9802-E[1, 15, 17, 24, 28], LP982-E[1, 15, 17, 24, 28]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
43	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES** **v2.4.9-e.24[12, 49]**	**QLogic QLA2200F[15, 17, 24, 28, 34, 51]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
44	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3, 3000, 4, 6000, II, PRO, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES** **v2.4.9-e.24[12, 49]**	**QLogic QLA2310F-E-SP[15, 17, 24, 28, 50]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18]
45	**Proliant ML750[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES** **v2.4.9-e.24[12, 49]**	**QLogic QLA2340-E-SP[15, 17, 50]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 11, 18]
46	**Proliant ML750[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES** **v2.4.9-e.24[12, 49]**	**QLogic QLA2342-E-SP[15, 17, 24, 28, 34, 50]**	FC-AL, FC-SW	N
47	**Netserver LP 2000r**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES** **v2.4.9-e.24[12, 49]**	**QLogic QLA2342-E-SP[17, 24, 28, 34, 50]**	FC-AL, FC-SW	N
48	**Proliant: 3000[13], 6500[13, 20], 7000[13, 20], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES** **v2.4.9-e.24[12, 49]**	**QLogic: QLA2200F-EMC[15, 17, 24, 28, 51]** **QLA2342-E-SP[15, 17, 24, 28, 34, 50]**	FC-AL, FC-SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
49	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, III, Netserver, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 800, 8000[13, 20], 850[13], DL580(G2)[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic: QLA2200F-EMC[15, 17, 24, 28, 51], QLA2342-E-SP[17, 24, 28, 34, 50]**	**FC-AL, FC-SW**	**N**
50	**Netserver LH PRO; Proliant ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic: QLA2200F[15, 17, 24, 28, 34, 51], QLA2200F-EMC[15, 17, 24, 28, 51], QLA2342-E-SP[17, 24, 28, 34, 50]**	**FC-AL, FC-SW**	**N**
51	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic: QLA2310F-E-SP[15, 17, 24, 28, 50], QLA2340-E-SP[15, 17, 50]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 18]**
52	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]
53	Proliant ML750[13]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11]
54	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
55	Proliant ML750[13]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]
56	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13] DL380(G3)**, DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]
57	Proliant ML750[13]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10, 11]
58	**Proliant ML370(G3)**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic QLA2200F-EMC[15, 16]**	FC-AL, FC-SW	N
59	**Proliant ML750[13]**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2200F-EMC[15], QLA2202F-EMC[15, 16, 17, 22, 23, 24, 28, 35, 51], QLA2342-E-SP[14]**	FC-AL, FC-SW	N
60	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17]**	FC-AL, FC-SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 18]**
61	**Proliant ML750[13]**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17]**	FC-AL, FC-SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 18]**
62	**Netserver LH (LH Pro)**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17], QLA2342-E-SP[14]**	FC-AL, FC-SW	N
63	Proliant ML750[13]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F	FC-AL, FC-SW	N
64	Proliant ML370(G3)	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic: QLA2200F-EMC[15], QLA2310F-E-SP[15] **QLA2342-E-SP[14, 15, 17, 33, 34]**	FC-AL, FC-SW	N
65	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic: QLA2310F-E-SP[15], **QLA2342-E-SP[14, 15, 17, 33, 34]**	FC-AL, FC-SW	N
66	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 7.3: **(v2.4.18-3)[12]** updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F-EMC[15]	FC-AL, FC-SW	N
67	**Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F[15, 16, 17, 22, 23]**	FC-AL, FC-SW	N
68	**Proliant 800**	PCI	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic: QLA2200F[15, 16, 17, 22, 23], QLA2200F-EMC[15, 22, 23, 35]**	FC-AL, FC-SW	N

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
69	Proliant: 3000[13], 6500[13, 20], 7000[13, 20], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26], 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[14]	FC-AL, FC-SW	N
70	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 22, 30]	QLogic QLA2200F-EMC[15, 23]	FC-AL, FC-SW	N
71	Proliant: DL360(G3), DL560, DL560 (G2), DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]	Emulex LP9002-E (LP9002L-E)[15, 27]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 26]
72	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]	Emulex LP9002-E (LP9002L-E)[15, 27]; IBM: 00N6881 (QLA2200)[16, 17, 44], 19K1246(QLA2310)[16, 17, 42]; QLogic QLA2200F[15, 16, 17, 22, 23]	FC-AL, FC-SW	N
73	Proliant: DL360(G3), DL560, DL560 (G2), DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 26]
74	Proliant: DL360(G3), DL560, DL560 (G2), DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 26]
75	Proliant: DL360(G3), DL560, DL560 (G2), DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]	QLogic QLA2200F[15, 16, 17, 22, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 31, 32]
76	Proliant: DL360(G3), DL560, DL560 (G2), DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]	QLogic QLA2310F-E-SP[15, 25]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18, 26]
77	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26, 36]	QLogic: QLA2200F-EMC[15, 16, 17, 22], QLA2310F-E-SP[15, 16, 17, 25], QLA2342-E-SP[14]	FC-AL, FC-SW	N
78	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26, 36, 40]	QLogic QLA2200F[14, 15, 16, 17, 22, 23, 37]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 31, 32]
79	Proliant: DL360(G3), DL560, DL560 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	N
80	Proliant: DL760[13], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 19]	QLogic QLA2200F-EMC[22]	FC-AL, FC-SW	N
81	Proliant: DL360(G3), DL560, DL560 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 12, 19]	QLogic QLA2340-E-SP[14, 15, 25]	FC-AL, FC-SW	N
82	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 23, 26], v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2202F-EMC[15, 16, 17, 22, 23, 24, 28, 35, 51]	FC-AL, FC-SW	N
83	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.9[3, 12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2342-E-SP[14, 15]	FC-AL, FC-SW	N
84	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	N
85	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2310F-E-SP[15, 25]	FC-AL, FC-SW	N
86	Proliant: DL760[13], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22], v2.4.9-E.12[12, 19]	QLogic QLA2200F-EMC[22, 23]	FC-AL, FC-SW	N
87	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2200F-EMC[22, 23]	FC-AL, FC-SW	N
88	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2202F-EMC[15, 16, 17, 22, 23, 24, 28, 35, 51]	FC-AL, FC-SW	N

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
89	**Proliant. DL760[13], DL760 (G2)**	**PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 23, 26], v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2202F-EMC[15, 16, 17, 22, 23, 24, 28, 35, 51]**	**FC-AL, FC-SW**	**N**
90	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19]**	**QLogic: QLA2200F[15, 16, 17], QLA2340-E-SP[14, 15]**	FC-AL, FC-SW	N
91	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]**	**QLogic QLA2342-E-SP[14, 15]**	FC-AL, FC-SW	N
92	**Proliant. DL760[13], DL760 (G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.9[3, 12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]**	**QLogic QLA2342-E-SP[14, 15]**	FC-AL, FC-SW	N
93	Proliant. DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	Emulex LP9002-E (LP9002L-E)[15, 27] **QLogic QLA2200F[15, 16, 17]**	FC-AL, FC-SW	N
94	**Proliant: DL760[13], DL760 (G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]**	**QLogic QLA2200F[15, 16, 17]**	FC-AL, FC-SW	N
95	**Proliant: DL760[13], DL760 (G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[3, 12, 19]**	**QLogic QLA2340-E-SP[14, 15]**	FC-AL, FC-SW	N
96	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[15, 22, 23]**	FC-AL, FC-SW	N
97	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-e.24[12]**	**QLogic QLA2200F[14, 15, 16, 17, 37]**	FC-AL, FC-SW	N
98	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-e.24[12];** **Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[12], v2.4.20-18.8[12]**	**Emulex LP9002-E (LP9002L-E)[15, 17, 27];** **IBM: 00N6881 (QLA2200)[16, 17, 43, 44];** **19K1246(QLA2310)[15, 16, 17, 42];** **QLogic: QLA2200F-EMC[15, 16, 17, 22, 23];** **QLA2310F-E-SP[14, 15, 16, 17, 25], QLA2340-E-SP[14, 15, 16, 17, 25], QLA2342-E-SP[14, 15]**	FC-AL, FC-SW	N
99	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], **v2.4.9-E.3[3, 12, 23, 26, 36], v2.4.9-e.24[12];** Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[12], **v2.4.20-18.8[12]**	Emulex LP9802DC-E; **QLogic QLA2202F-EMC[15, 16, 17, 22, 23, 24, 28, 35, 51]**	FC-AL, FC-SW	N
100	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.3[3, 12, 23, 26], v2.4.9-e.24[12];** **Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[12], v2.4.20-18.8[12]**	**IBM 24P0960(QLA2340)[16, 17, 41]**	FC-AL, FC-SW	N
101	Proliant ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	N
102	**Proliant ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.9[3, 12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW	N
103	**Proliant. DL760[13], DL760 (G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 23, 26];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]**	**QLogic QLA2200F-EMC[15, 22, 23]**	FC-AL, FC-SW	N
104	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[3, 12, 23, 26], v2.4.9-E.9[12, 19]**	**QLogic QLA2200F-EMC[15, 22]**	FC-AL, FC-SW	N
105	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1. Advanced Server v2.4.9-E.16[12, 19], **ES v2.4.9-e.12[12, 19]**, ES v2.4.9-e.16[12, 19]	Emulex LP9002-E (LP9002L-E)[15, 27]	FC-AL, FC-SW	N **[2, 4, 5, 6, 7, 8, 9, 10]**

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
106	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
107	Proliant: DL560, **DL560 (G2)**, DL740, DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
108	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2200F-EMC[15, 22, 23]**	FC-AL, FC-SW	N
109	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2200F[15, 16, 17]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
110	**Proliant DL360(G3)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2200F[15, 16, 17, 22, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
111	**Proliant**, DL360(G3), DL560, **DL560 (G2)**, **DL760 (G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2310F-E-SP[15, 25]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18]
112	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic: QLA2310F-E-SP[15, 25], QLA2340-E-SP[14, 15]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18]
113	**Proliant: DL760[13], ML570(G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic: QLA2310F-E-SP[15, 25], QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18]
114	**Proliant: DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**QLogic QLA2200F[15, 16, 17, 22, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
115	**Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex LP9002-E (LP9002L-E)[15, 17, 24, 27, 28]**	**FC-AL, FC-SW**	Y[2, 4, 5, 6, 7, 8, 9, 10]
116	**Proliant, DL360(G3), DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex LP9802DC-E[1, 15, 17, 24, 28]**	**FC-AL, FC-SW**	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
117	**Proliant: DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex: LP9802-E[1, 15, 17, 24, 28], LP982-E[1, 15, 17, 24, 28]**	**FC-AL, FC-SW**	Y[4, 5, 6, 7, 8, 9, 10]
118	**Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2200F[15, 17, 24, 28, 34, 51]**	**FC-AL, FC-SW**	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
119	**Proliant: DL360(G3), DL560, DL560 (G2), DL760 (G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2310F-E-SP[15, 17, 24, 28, 50]**	**FC-AL, FC-SW**	Y[4, 5, 6, 7, 8, 9, 10, 18]
120	**Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic: QLA2200F-EMC[15, 17, 24, 28, 51], QLA2342-E-SP[15, 17, 24, 28, 34, 50]**	**FC-AL, FC-SW**	**N**
121	**Proliant: DL740, DL760[13], ML570(G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic: QLA2310F-E-SP[15, 17, 24, 28, 50], QLA2340-E-SP[15, 17, 50]**	**FC-AL, FC-SW**	Y[4, 5, 6, 7, 8, 9, 10, 18]
122	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]
123	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
124	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]
125	**Proliant: DL760[13], DL760 (G2)**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic QLA2200F-EMC[15, 16]**	FC-AL, FC-SW	N
126	**Proliant DL740**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2200F-EMC[15, 16], QLA2342-E-SP[14]**	FC-AL, FC-SW	N
127	**Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 18]
128	Proliant DL360(G3)	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
129	**Proliant: DL740, DL760[13], DL760 (G2)**	PCI-X	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**QLogic QLA2200F-EMC[16, 17]**	FC-AL, FC-SW	N
130	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic: QLA2310F-E-SP[15], **QLA2342-E-SP[14, 15, 17, 33, 34]**	FC-AL, FC-SW	N
131	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 7.3, **(v2.4.18-3)[12]** updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F-EMC[15]	FC-AL FC-SW	N
132	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F[15, 16, 17, 22, 23]**	FC-AL, FC-SW	N
133	**Proliant: DL760[13], DL760 (G2)**	PCI-X	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic: QLA2200F[15, 16, 17, 22, 23], QLA2200F-EMC[16, 17, 22, 23]**	FC-AL, FC-SW	N
134	**Proliant BL40p**	PCI-X	**Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[12], v2.4.20-18.8[12]**	**QLogic QLA2200F[14, 15, 16, 17, 22, 23, 37]**	FC-AL, FC-SW	N, Y[3, 4, 5, 6, 7, 8, 9, 10, 26, 31, 32]

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
135	**Proliant BL40p**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26, 36] 8.0 updated to v2.4.18-19.8.0[12], 8.0 updated to v2.4.20-18.8[12]**	**Emulex: LP9802-E[1, 15, 17], LP982-E[1, 15, 17]**	FC-AL, FC-SW	N
136	**Proliant BL40p**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26, 40] 8.0 updated to v2.4.18-19.8.0[12], 8.0 updated to v2.4.20-18.8[12]**	**QLogic QLA2310F-E-SP[14], 15, 17, 25**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18, 26, 38, 39]
137	**Proliant: DL760[13], DL760 (G2)**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26], 7.3 (v2.4.18-3)[12]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
138	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26], 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
139	Proliant BL40p	PCI-X	Red Hat Linux: **2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26], 8.0** updated to v2.4.18-19.8.0[12], **8.0 updated to v2.4.20-18.8[12]**	Emulex LP9002-E (LP9002L-E)[15, 27]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 26, 38, 39]
140	Proliant BL40p	PCI-X	Red Hat Linux: **2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26], 8.0** updated to v2.4.18-19.8.0[12], **8.0 updated to v2.4.20-18.8[12]**	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 26, 38, 39]
141	Proliant BL40p	PCI-X	Red Hat Linux: **2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26], 8.0** updated to v2.4.18-19.8.0[12], **8.0 updated to v2.4.20-18.8[12]**	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 38, 39]
142	**Proliant BL40p**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26], 8.0 updated to v2.4.18-19.8.0[12], 8.0 updated to v2.4.20-18.8[12]**	**IBM: 00N6881 (QLA2200)[16, 17, 43, 44] 19K1246(QLA2310)[16, 17, 42] 24P0960(QLA2340)[16, 17, 41]**	FC-AL, FC-SW	Y[5, 6, 7, 8, 9, 10, 26, 38]
43	Proliant BL20p (G2)[46, 47]	PCI-X[45]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E 12[12, 19, 46], v2.4.9-E.3[12, 46]	HPQ Dual-port mezzanine controller card[48]	FC-AL, FC-SW	N
144	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 22, 30]**	**QLogic QLA2200F-EMC[15, 23]**	FC-AL, FC-SW	N
145	**Proliant DL580(G2)[13]**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[12, 23]**	**QLogic QLA2200F[15, 16, 17, 22, 23]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 26, 31, 32]
146	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[12, 23, 26]**	**QLogic QLA2200F[15, 16, 17, 22, 23]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 26, 31, 32]
147	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**Emulex LP9002-E (LP9002L-E)[15, 27]**	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 26]
148	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 26]
149	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**Emulex: LP9802-E[1, 15], LP982-E[1, 15]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 26]
150	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**QLogic QLA2200F-EMC[15, 22]**	FC-AL, FC-SW	N
151	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**QLogic QLA2310F-E-SP[15, 25]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18, 26]
152	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW	N
153	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 23, 26], v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2202F-EMC[15, 16, 17, 22, 23, 24, 28, 35, 51]**	FC-AL, FC-SW	N
154	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.9[3, 12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]**	**QLogic QLA2342-E-SP[14, 15]**	FC-AL, FC-SW	N
155	**Proliant DL580(G3)**	PCI PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	N
156	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30] v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2310F-E-SP[15, 25]**	FC-AL, FC-SW	N

HPQ - Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
157	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[12, 23], v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2202F-EMC[15, 16, 17, 22, 23, 24, 28, 35, 51]	FC-AL, FC-SW	N
158	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.9[3, 12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2342-E-SP[14, 15]	FC-AL, FC-SW	N
159	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	Emulex LP9002-E (LP9002L-E)[15, 27]; QLogic QLA2200F[15, 16, 17]	FC-AL, FC-SW	N
160	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	QLogic QLA2200F[15, 16, 17]	FC-AL, FC-SW	N
161	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[3, 12, 19]	QLogic QLA2340-E-SP[14, 15]	FC-AL, FC-SW	N
162	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	N
163	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2340-E-SP[14, 15, 25]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18]
164	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]	Emulex LP9002-E (LP9002L-E)[15, 27]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
165	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
166	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
167	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]	QLogic QLA2200F-EMC[15, 22, 23]	FC-AL, FC-SW	N
168	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]	QLogic QLA2310F-E-SP[15, 25]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18]
169	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]	QLogic QLA2340-E-SP[14, 15]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18]
170	Proliant: DL580(G2)[13], DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F[15, 16, 17, 22, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
171	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	Emulex LP9002-E (LP9002L-E)[15, 17, 24, 27, 28]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
172	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	Emulex LP9802DC-E[1, 15, 17, 24, 28]	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
173	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	Emulex: LP9802-E[1, 15, 17, 24, 28], LP982-E[1, 15, 17, 24, 28]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
174	Proliant: DL580(G2)[13], DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	QLogic QLA2200F[15, 17, 24, 28, 34, 51]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
175	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	QLogic QLA2310F-E-SP[15, 17, 24, 28, 50]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18]
176	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	QLogic QLA2340-E-SP[15, 17, 50]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 18]
177	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	QLogic QLA2342-E-SP[15, 17, 24, 28, 34, 50]	FC-AL, FC-SW	N
178	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	QLogic: QLA2200F-EMC[15, 17, 24, 28, 51]; QLA2342-E-SP[15, 17, 24, 28, 34, 50]	FC-AL, FC-SW	
179	Proliant: DL580(G2)[13] DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
180	Proliant: DL580(G2)[13], **DL580(G3)**	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
181	Proliant: DL580(G2)[13], **DL580(G3)**	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]
182	**Proliant DL580(G2)[13]**	PCI, PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
183	**Proliant: DL580(G2)[13], DL580(G3)**	PCI, PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 18]
184	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**QLogic: QLA2200F-EMC[15], QLA2310F-E-SP[15], QLA2342-E-SP[14, 15, 17, 33, 34]**	**FC-AL, FC-SW**	**N**
185	**Proliant: DL580(G2)[13], DL580(G3)**	PCI, PCI-X	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F[15, 16, 17, 22, 23]**	FC-AL, FC-SW	N
186	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26], 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2342-E-SP[14]**	**FC-AL, FC-SW**	**N**
187	Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13]**, DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30], v2.4.9-E.12[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP9802-E[1, 15]	FC-AL, FC-SW[1, 15, 24, 29]	N
188	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Proliant: 6500[13, 20], **DL380(G3)**, DL580(G2)[13], ML370(G3)	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 22, 30] 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP9802-E[1, 15]	FC-AL, FC-SW[1, 15, 24, 29]	N
189	Proliant: DL360(G3), DL560, **DL560 (G2)**	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30], v2.4.9-E.12[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP9802-E[1, 15]	FC-AL, FC-SW[1, 15, 24, 29]	N
190	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-e.24[12]**	**Emulex LP9802-E[1, 15, 17]**	FC-AL, FC-SW[1, 15, 24, 29]	N
191	Proliant DL360(G3)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], **ES v2.4.9-e.12[12, 19]**, ES v2.4.9-e.16[12, 19]	Emulex LP9802-E[1, 15]	FC-AL, FC-SW[1, 15, 24, 29]	Y[4, 5, 6, 7, 8, 9, 10]
192	**Proliant DL360(G3)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex LP9802-E[1, 15, 17, 24, 28]**	**FC-AL, FC-SW[1, 15, 24, 29]**	Y[4, 5, 6, 7, 8, 9, 10]
193	Proliant ML570(G2)	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 22, 30] 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP9802-E[1, 15]	FC-AL, FC-SW[1, 15, 24, 29]	N
194	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 22, 30], 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**Emulex LP9802-E[1, 15]**	**FC-AL, FC-SW[1, 15, 24, 29]**	**N**
195	Netserver: LH (LH Pro), LP 2000r	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 19]	QLogic QLA2200F-EMC[22]	FC-AL, FC-SW[24]	N
196	**Netserver LP 2000r**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22], v2.4.9-E.12[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[22, 23]**	FC-AL, FC-SW[24]	N
197	**Netserver LH (LH Pro)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[12, 23]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[22, 23]**	FC-AL, FC-SW[24]	N
198	**Netserver LP 2000r**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 23, 26]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]**	**QLogic QLA2200F-EMC[15, 22, 23]**	FC-AL, FC-SW[24]	N
199	**Netserver LP 2000r**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2200F-EMC[15, 17, 24, 28, 51]**	**FC-AL, FC-SW[24]**	**N**
200	**Netserver LH (LH Pro)**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2200F-EMC[17, 24, 28, 51]**	**FC-AL, FC-SW[24]**	**N**
201	**Netserver: LH (LH Pro), LP 2000r**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic QLA2200F-EMC[15, 16]**	FC-AL, FC-SW[24]	N
202	Netserver: LH (LH Pro), LP 2000r	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F-EMC	FC-AL, FC-SW[24]	N
203	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 19]**	**QLogic QLA2200F-EMC[15, 22]**	**FC-AL, FC-SW[24]**	**N**
204	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 19]	QLogic QLA2200F-EMC[22]	FC-AL, FC-SW[24]	N

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
205	**Proliant DL580(G2)[13]**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[12, 23];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[22, 23]**	FC-AL, FC-SW[24]	N
206	**Proliant DL580(G2)[13]**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2200F-EMC[17, 24, 28, 51]**	**FC-AL, FC-SW[24]**	**N**
207	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic QLA2200F-EMC**	**FC-AL, FC-SW[24]**	**N**
208	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 7.3: (v2.4.18-3)[12] updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F-EMC	FC-AL, FC-SW[24]	N
209	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.12[12, 19], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[15, 22, 23]**	**FC-AL, FC-SW[24]**	**N**
210	**Proliant: ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 22, 30]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW[24], 28	N
211	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3, 3000, 4, 6000, II, PRO, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**QLogic QLA2340-E-SP[15, 25]**	FC-AL, FC-SW[24], 28	**Y[4, 5, 6, 7, 8, 9, 10, 18, 26]**
212	**Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], ML350[13]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30], v2.4.9-E.12[12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW[24], 28	N
213	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3, 3000, 4, 6000, II, PRO, III,** **Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: DL580(G2)[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2340-E-SP[15, 25]**	FC-AL, FC-SW[24], 28	N
214	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2340-E-SP[15, 25]**	FC-AL, FC-SW[24], 28	N
215	**Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW[24], 28	**Y[4, 5, 6, 7, 8, 9, 10, 18]**
216	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3, 3000, 4, 6000, II, PRO, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: DL380(G3), DL580(G2)[13], ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2340-E-SP[15, 25]**	FC-AL, FC-SW[24], 28	**Y[4, 5, 6, 7, 8, 9, 10, 18]**
217	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3, 3000, 4, 6000, II, PRO, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2340-E-SP[15, 17, 50]**	**FC-AL, FC-SW[24], 28**	**Y[4, 5, 6, 7, 8, 9, 10, 18]**
218	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2340-E-SP[15]	FC-AL, FC-SW[24], 28	N
219	**Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2340-E-SP[15, 25]**	FC-AL, FC-SW[24], 28	N
220	**Proliant ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 22, 30]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW[24], 28	N
221	**Proliant: DL360(G3), DL560, DL560 (G2), DL760[13], DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**QLogic QLA2340-E-SP[15, 25]**	FC-AL, FC-SW[24], 28	**Y[4, 5, 6, 7, 8, 9, 10, 18, 26]**
222	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26, 36]**	**QLogic QLA2340-E-SP[15, 16, 17, 25]**	FC-AL, FC-SW[24], 28	N
223	**Proliant: DL360(G3), DL560, DL560 (G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30], v2.4.9-E.12[12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW[24], 28	N
224	**Proliant: DL360(G3), DL560, DL560 (G2), DL760 (G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW[24], 28	**Y[4, 5, 6, 7, 8, 9, 10, 18]**
225	**Proliant: DL360(G3), DL560, DL560 (G2), DL760 (G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2340-E-SP[15, 17, 50]**	FC-AL, FC-SW[24], 28	**Y[4, 5, 6, 7, 8, 9, 10, 18]**

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
226	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2340-E-SP[15]	FC-AL, FC-SW[24, 28]	N
227	**Proliant, DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2340-E-SP[15, 25]**	FC-AL, FC-SW[24, 28]	N
228	**Proliant BL40p**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26], 8.0 updated to v2.4.18-19.8.0[12], 8.0 updated to v2.4.20-18.8[12]**	**QLogic QLA2340-E-SP[15, 25]**	FC-AL, FC-SW[24, 28]	Y[4, 5, 6, 7, 8, 9, 10, 18, 26, 38, 39]
229	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	**FC-AL, FC-SW[24, 28]**	Y[4, 5, 6, 7, 8, 9, 10, 18]
230	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 23, 26]**	**QLogic QLA2340-E-SP[15, 25]**	**FC-AL, FC-SW[24, 28]**	Y[4, 5, 6, 7, 8, 9, 10, 18, 26]
231	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30], v2.4.9-E.12[12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	**FC-AL, FC-SW[24, 28]**	N
232	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2340-E-SP[15, 17, 50]**	**FC-AL, FC-SW[24, 28]**	Y[4, 5, 6, 7, 8, 9, 10, 18]
233	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**QLogic QLA2340-E-SP[15]**	**FC-AL, FC-SW[24, 28]**	N
234	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2340-E-SP[15, 25]**	**FC-AL, FC-SW[24, 28]**	N
235	Netserver: LT 6000R, LXR 8000, LXR 8500, Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13]**, DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30], v2.4.9-E.12[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP982-E[1, 15]	FC-AL, FC-SW[24, 29]	N
236	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000. Proliant: 6500[13, 20], **DL380(G3)**, DL580(G2)[13], ML370(G3)	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 22, 30] 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP982-E[1, 15]	FC-AL, FC-SW[24, 29]	N
237	Proliant: DL360(G3), DL560, **DL560 (G2)**	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 22, 30], v2.4.9-E.12[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP982-E[1, 15]	FC-AL, FC-SW[24, 29]	N
238	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-e.24[12]**	**Emulex LP982-E[1, 15, 17]**	FC-AL, FC-SW[24, 29]	N
239	Proliant DL360(G3)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES **v2.4.9-e.12[12, 19]**, ES v2.4.9-e.16[12, 19]	Emulex LP982-E[1, 15]	FC-AL, FC-SW[24, 29]	Y[4, 5, 6, 7, 8, 9, 10]
240	**Proliant DL360(G3)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex LP982-E[1, 15, 17, 24, 28]**	**FC-AL, FC-SW[24, 29]**	Y[4, 5, 6, 7, 8, 9, 10]
241	Proliant ML570(G2)	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 22, 30] 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP982-E[1, 15]	FC-AL, FC-SW[24, 29]	N
242	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 22, 30], 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**Emulex LP982-E[1, 15]**	**FC-AL, FC-SW[24, 29]**	**N**

1. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
2. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
3. Requires v6.2.1 or higher Navisphere host agent/CLI.
   Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
   Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
6. No MirrorView or SnapView used on boot LUNs
7. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
8. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation
9. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
10. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
11. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
12. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
13. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
14. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
15. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
16. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
17. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
18. Requires QLogic driver 4.47 18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
19. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath.
    Booting from EMC storage arrays is NOT supported with PowerPath.
20. Includes both Pentium PRO and XEON models
21. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
22. Requires v6.0.5 or higher Navisphere host Agent/CLI.
23. **Supported with QLogic driver v6.04.02 or v6.05.00.**
24. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
25. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
26. This kernel is limited to 110 devices, not 128.
27. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
28. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
29. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.
30. This system is supported with Red Hat 2.1 Advanced Server v2.4.9-E.3 and updated with v2.4.9-E.9, E.10, and E.12 RPMs.
31. Requires QLogic driver 4.47.18 and BIOS 1.83.
32. Install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation
33. **Host must be offline for interfamily Symmetrix microcode upgrade.**
34. **Single HBA zoning is required regardless of the switch being utilized.**

35 **Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC-approved driver after installation.**
36. **The kernel version listed is included in the corresponding standard distributed release.**
37. **For fabric boot support, install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.**
38. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable)
39. PowerPath v3.02 not supported on this system.
40 **Requires v6.05 or higher Navisphere host agent/CLI.**
41. **This HBA is equivalent to the qLogic QLA2340.**
42. **This HBA is equivalent to the qLogic QLA2310.**
43. **Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.**
44. **(QLA2200) For IBM xSeries and Netfinity servers only.**
45 Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.
46. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
47. BIOS must be obtained from HP at http://h18000 www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
48. Requires QLogic driver v6 04 02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
49 **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
50 **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
51 **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

IBM

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 18, 19, 20, 23]	QLogic QLA2200F-EMC[9, 10, 17]	FC-AL, FC-SW	N
2	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500 xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 18, 19, 23]	QLogic QLA2200F-EMC[17, 20]	FC-AL, FC-SW	N
3	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 26, 28, 29]
4	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 28, 29]
5	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29]
6	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 26, 27, 28, 29]
7	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 27, 28, 29]
8	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 26, 29]
9	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29]
10	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	IBM: 00N6881 (QLA2200)[9, 10, 11, 34], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26]
11	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	IBM: 00N6881 (QLA2200)[9, 10, 11], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 26]
12	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	IBM: 00N6881 (QLA2200)[9, 10, 11], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26]
13	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	IBM: 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]; QLogic QLA2200F	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26]
14	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	QLogic QLA2200F-EMC[17, 19, 20]	FC-AL, FC-SW	N
15	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15, 21], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	QLogic QLA2200F[9, 10, 17, 19, 20]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 38, 39]
16	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 26, 29, 31]
17	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 31]
18	Netfinity 6000R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[12]	QLogic QLA2200F[9, 10, 17]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 20, 26, 29, 38, 39]
19	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[1, 12, 18]	QLogic QLA2310F-E-SP[10, 17]	FC-AL, FC-SW	N
20	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[1, 12, 18]	QLogic QLA2340-E-SP[17, 24, 30]	FC-AL, FC-SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
21	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 18]	Emulex: LP9802-E[17, 27], LP982-E[17, 27] QLogic QLA2200F-EMC[17, 19]	FC-AL, FC-SW	N
22	**Netfinity 8500R**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 20, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26], v2.4.9-E.9[12, 18], v2.4.9-e.24[12, 43];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18], v2.4.9-e.24[12, 43];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2202F-EMC[9, 10, 17, 19, 20, 32, 33, 41, 42]**	**FC-AL, FC-SW**	**N**
23	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]**	**QLogic QLA2310F-E-SP[10, 17, 24]**	FC-AL, FC-SW	N
24	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	N
25	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2342-E-SP[30]**	FC-AL, FC-SW	N
26	**xSeries X335**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26], v2.4.9-E.9[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]**	**QLogic QLA2342-E-SP[30]**	FC-AL, FC-SW	N
27	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26], v2.4.9-E.9[12, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	N
28	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26], v2.4.9-E.9[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2342-E-SP[30]**	FC-AL, FC-SW	N
29	**Netfinity 8500**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26], v2.4.9-E.9[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic: QLA2310F-E-SP[17, 24], QLA2342-E-SP[30]**	FC-AL, FC-SW	N
30	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26], v2.4.9-E.9[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18];** **Red Hat Linux: 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2342-E-SP[30]**	FC-AL, FC-SW	N
31	**Netfinity 8500**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26], v2.4.9-E.9[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**IBM: 00N6881 (QLA2200)[9, 10, 11], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]**	FC-AL, FC-SW	N
32	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26], v2.4.9-E.9[12, 18], v2.4.9-e.24[12, 43];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18], v2.4.9-e.24[12, 43];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2202F-EMC[9, 10, 17, 19, 20, 32, 33, 41, 42]**	**FC-AL, FC-SW**	**N**
33	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[12, 20], v2.4.9-E.9[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[17]**	FC-AL, FC-SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
34	**xSeries x345**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[12, 20], v2.4.9-E.9[12, 18], v2.4.9-e.24[12, 43];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18], v2.4.9-e.24[12, 43];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2202F-EMC[9, 10, 17, 19, 20, 32, 33, 41, 42]**	**FC-AL, FC-SW**	**N**
35	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.9[1, 12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]**	**QLogic QLA2342-E-SP[17, 30]**	FC-AL, FC-SW	N
36	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]	**IBM: 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13];** QLogic: QLA2200F, **QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	N
37	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	N
38	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**IBM 00N6881 (QLA2200)[9, 10, 11, 34];** **QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	N
39	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600;** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**IBM 00N6881 (QLA2200)[9, 10, 11];** **QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	N
40	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500R,** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**IBM: 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]**	FC-AL, FC-SW	N
41	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], **v2.4.9-E.3[1, 12, 20, 26]**, v2.4.9-E.9[12, 18]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[12, 18]**, v2.4.9-e.16[12, 18]	**Emulex LP9002-E (LP9002L-E)[17, 25]**	FC-AL, FC-SW	N
42	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.9[1, 12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]**	**IBM 19K1246(QLA2310)[10, 16, 17]**	FC-AL, FC-SW	N
43	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.9[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]**	**Emulex LP9002-E (LP9002L-E)[17, 25]**	FC-AL, FC-SW	N
44	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	N
45	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]	Emulex LP9002-E (LP9002L-E)[17, 25]; **QLogic QLA2200F[9, 10, 17]**	FC-AL, FC-SW	N
46	**Netfinity: 6000R, 7000 M10[15, 21], 8500**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]**	**QLogic QLA2200F[9, 10, 17]**	FC-AL, FC-SW	N
47	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500;** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[17, 19, 20]**	FC-AL, FC-SW	N
48	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[9, 10, 17, 19, 20]**	FC-AL, FC-SW	N
49	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], **v2.4.9-E.3[1, 12, 20, 26]**, v2.4.9-E.9[12, 18]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[12, 18]**, v2.4.9-e.16[12, 18]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	N
50	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW	N
51	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
52	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 18], v2.4.9-E.3[12, 20];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F[9, 10, 17, 19, 20]**	FC-AL, FC-SW	N
53	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500:** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 12, 20, 26], v2.4.9-E.9[12, 18]**	**QLogic QLA2200F-EMC[17, 19]**	FC-AL, FC-SW	N
54	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], **ES v2.4.9-e.12[12, 18]**, ES v2.4.9-e.16[12, 18]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 28, 29]
55	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], **ES v2.4.9-e.12[12, 18]**, ES v2.4.9-e.16[12, 18]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]
56	xSeries X335	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], **ES v2.4.9-e.12[12, 18]**, ES v2.4.9-e.16[12, 18]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
57	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], **ES v2.4.9-e.12[12, 18]**, ES v2.4.9-e.16[12, 18]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 27, 28, 29]
58	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], **ES v2.4.9-e.12[12, 18]**, ES v2.4.9-e.16[12, 18]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 27, 28, 29]
59	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], **ES v2.4.9-e.12[12, 18]**, ES v2.4.9-e.16[12, 18]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 29]
60	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], **ES v2.4.9-e.12[12, 18]**, ES v2.4.9-e.16[12, 18]	Emulex. LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
61	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**IBM: 00N6881 (QLA2200)[9, 10, 11, 34], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
62	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**IBM: 00N6881 (QLA2200)[9, 10, 11], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15]
63	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600:** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**IBM: 00N6881 (QLA2200)[9, 10, 11], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
64	xSeries X335	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], **ES v2.4.9-e.12[12, 18]**, ES v2.4.9-e.16[12, 18]	**IBM: 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13];** QLogic QLA2200F	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
65	**Netfinity 6000R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**QLogic QLA2200F[9, 10, 17]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
66	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 29, 31]
67	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
68	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**QLogic: QLA2310F-E-SP[17, 24], QLA2340-E-SP[17, 24, 30]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
69	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15, 21], 7100, 7600, 8500, 8500R:** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**QLogic QLA2200F[9, 10, 17, 19, 20]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
70	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9002-E (LP9002L-E)[9, 17, 25, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 28, 29]
71	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600 8500R,** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9002-E (LP9002L-E)[9, 17, 25, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]
72	**xSeries X335**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9802-E[9, 17, 27, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
73	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9802DC-E[9, 17, 27, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 27, 28, 29]
74	**Netfinity: 5000, 5500, 5500 M10 5500 M20, 5600, 7000, 7100, 7600, 8500R:** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9802DC-E[9, 17, 27, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
75	**Netfinity 8500**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**Emulex: LP9002–E (LP9002L–E)[9, 17, 25, 32, 33], LP9802–E[9, 17, 27, 32, 33], LP9802DC–E[9, 17, 27, 32, 33], LP982–E[9, 17, 27, 32, 33];** **IBM: 00N6881 (QLA2200)[9, 11, 17, 32, 33, 40, 42, 45], 19K1246(QLA2310)[9, 16, 32, 33, 40, 44], 24P0960(QLA2340)[9, 13, 17, 32, 33, 40, 44];** **QLogic: QLA2200F–EMC[9, 17, 32, 33, 42], QLA2310F–E–SP[9, 17, 32, 33, 44], QLA2342–E–SP[9, 32, 33, 40, 44]**	FC–AL, FC–SW	N
76	**xSeries x345**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**Emulex: LP9002–E (LP9002L–E)[9, 17, 25, 32, 33], LP9802DC–E[9, 17, 27, 32, 33];** **IBM 19K1246(QLA2310)[9, 16, 17, 32, 33, 40, 44], QLogic: QLA2200F[9, 17, 32, 33, 40, 42], QLA2200F–EMC[9, 17, 32, 33, 42], QLA2310F–E–SP[9, 17, 32, 33, 44], QLA2342–E–SP[9, 32, 33, 40, 44]**	FC–AL, FC–SW	N
77	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**Emulex: LP9802–E[9, 17, 27, 32, 33], LP982–E[9, 17, 27, 32, 33]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 15, 29]
78	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**Emulex: LP9802–E[9, 17, 27, 32, 33], LP982–E[9, 17, 27, 32, 33]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 29]
79	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**IBM: 00N6881 (QLA2200)[9, 11, 17, 32, 33, 40, 42, 45], 19K1246(QLA2310)[9, 16, 32, 33, 40, 44], 24P0960(QLA2340)[9, 13, 17, 32, 33, 40, 44]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 15]
80	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**IBM: 00N6881 (QLA2200)[9, 11, 17, 32, 33, 40, 42, 45], 19K1246(QLA2310)[9, 16, 32, 33, 40, 44], 24P0960(QLA2340)[9, 13, 17, 32, 33, 40, 44]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7]
81	**xSeries X335**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**IBM: 19K1246(QLA2310)[9, 16, 32, 33, 40, 44], 24P0960(QLA2340)[9, 13, 17, 32, 33, 40, 44];** **QLogic QLA2200F[9, 32, 33, 40, 42]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7]
82	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 6000R, 7000, 7000 M10[15, 21], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic QLA2200F[9, 17, 32, 33, 40, 42]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
83	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic QLA2310F–E–SP[9, 17, 32, 33, 44]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 15, 29, 31]
84	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic QLA2310F–E–SP[9, 17, 32, 33, 44]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
85	**xSeries X335**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic QLA2342–E–SP[9, 32, 33, 40, 44]**	FC–AL, FC–SW	N
86	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic: QLA2200F–EMC[9, 17, 32, 33, 42], QLA2342–E–SP[9, 17, 32, 33, 40, 44]**	FC–AL, FC–SW	N
87	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic: QLA2200F–EMC[9, 17, 32, 33, 42], QLA2342–E–SP[9, 32, 33, 40, 44]**	FC–AL, FC–SW	N
88	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic: QLA2310F–E–SP[9, 17, 32, 33, 44], QLA2340–E–SP[9, 17, 44]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
89	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18–3)[12]	Emulex LP9002–E (LP9002L–E)	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7, 28, 29]
90	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18–3)[12]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7, 27, 28, 29]
91	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15] 7100, 7600, 8500R, xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18–3)[12]	Emulex: LP9802–E, LP982–E	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7, 27, 29]
92	**xSeries x232**	PCI	**Red Hat Linux 7.3 (v2.4.18–3)[12]**	**IBM: 00N6881 (QLA2200)[11, 17], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]**	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7]
93	**Netfinity 8500R**	PCI	**Red Hat Linux 7.3 (v2.4.18–3)[12]**	**IBM: 00N6881 (QLA2200)[8, 9, 10, 11, 34], 19K1246(QLA2310)[8, 9, 10, 16], 24P0960(QLA2340)[8, 9, 10, 13]**	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7]
94	**Netfinity 8500**	PCI	**Red Hat Linux 7.3 (v2.4.18–3)[12]**	**IBM: 00N6881 (QLA2200)[8, 9, 10, 11], 19K1246(QLA2310)[8, 9, 10, 16], 24P0960(QLA2340)[8, 9, 10, 13]**	FC–AL, FC–SW	N
95	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x240, x250, x350 (6000R), x370**	PCI	**Red Hat Linux 7.3 (v2.4.18–3)[12]**	**IBM: 00N6881 (QLA2200)[8, 9, 10, 11], 19K1246(QLA2310)[8, 9, 10, 16], 24P0960(QLA2340)[8, 9, 10, 13]**	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7]

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
96	xSeries x255[14]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	IBM: 00N6881 (QLA2200)[9, 10, 11, 17]; 19K1246(QLA2310)[9, 10, 16, 17]; 24P0960(QLA2340)[9, 10, 13, 17]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7]
97	Netfinity 8500R	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	QLogic QLA2200F-EMC[17]	FC-AL, FC-SW	N
98	Netfinity 7000 M10[15]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	QLogic QLA2342-E-SP[30]	FC-AL, FC-SW	N
99	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 29, 31]
100	Netfinity 7000 M10[21]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	IBM 00N6881 (QLA2200)[9, 10, 11]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 38, 41]
101	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	IBM 00N6881 (QLA2200)[9, 10, 11]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 38, 41]
102	Netfinity 8500R	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	IBM 00N6881 (QLA2200)[9, 10, 11, 34]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 38, 41]
103	Netfinity 6000R	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic QLA2200F	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
104	Netfinity 8500R	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic: QLA2200F-EMC[10, 17], QLA2310F-E-SP[17], QLA2342-E-SP[8, 9, 17, 30, 40]	FC-AL, FC-SW	N
105	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x345, x350 (6000R), x370	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic: QLA2310F-E-SP[17], QLA2342-E-SP[8, 9, 17, 30, 40]	FC-AL, FC-SW	N
106	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 7.3, (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic QLA2200F-EMC[17]	FC-AL, FC-SW	N
107	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2200F[9, 10, 17, 19, 20]	FC-AL, FC-SW	N
108	xSeries x345	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	N
109	Netfinity 8500R	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26], 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[30]	FC-AL, FC-SW	N
110	xSeries: x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 18, 19, 23]	QLogic QLA2200F-EMC[17, 20]	FC-AL, FC-SW	N
111	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 28, 29]
112	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 27, 28, 29]
113	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]; QLogic QLA2200F[9, 17, 19, 20, 30, 35]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29]
114	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20]	IBM: 00N6881 (QLA2200)[9, 10, 11], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26]
115	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 31]
116	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	N
117	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 26, 28, 29]
118	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 28, 29]
119	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 26, 27, 28, 29]
120	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 27, 28, 29]
121	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 26, 29]
122	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29]
123	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	IBM: 00N6881 (QLA2200)[9, 10, 11], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26]
124	xSeries: x255[14], x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	QLogic QLA2200F[9, 10, 17, 19, 20]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 38, 39]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
125	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 26, 29, 31]
126	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 31]
127	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20, 26, 37]	QLogic QLA2200F[9, 10, 17, 19, 20]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 38, 39]
128	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[12]	QLogic QLA2200F[9, 17, 30, 35]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 20, 26, 29]
129	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 18]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	N
130	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26, 37], v2.4.9-E.9[12, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	N
131	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26, 37], v2.4.9-E.9[12, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[30]	FC-AL, FC-SW	N
132	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26, 37], v2.4.9-E.9[12, 18], v2.4.9-e.24[12, 43]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18], v2.4.9-e.24[12, 43]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2202F-EMC[9, 10, 17, 19, 20, 32, 33, 41, 42]	FC-AL, FC-SW	N
133	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26], v2.4.9-E.9[12, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]; Red Hat Linux: 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[30]	FC-AL, FC-SW	N
134	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26], v2.4.9-E.9[12, 18], v2.4.9-e.24[12, 43]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18], v2.4.9-e.24[12, 43]; Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2202F-EMC[9, 10, 17, 19, 20, 32, 33, 41, 42]	FC-AL, FC-SW	N
135	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20], v2.4.9-E.9[12, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]	QLogic QLA2342-E-SP[30]	FC-AL, FC-SW	N
136	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20], v2.4.9-E.9[12, 18], v2.4.9-e.24[12, 43]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18], v2.4.9-e.24[12, 43]	QLogic QLA2202F-EMC[9, 10, 17, 19, 20, 32, 33, 41, 42]	FC-AL, FC-SW	N
137	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]	Emulex LP9802DC-E: IBM: 00N6881 (QLA2200)[9, 10, 11], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]; QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	N
138	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	N
139	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex: LP9802-E[9, 27], LP982-E[9, 27]	FC-AL, FC-SW	N
140	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]; Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2310F-E-SP[9, 10]	FC-AL, FC-SW	N
141	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	IBM 00N6881 (QLA2200)[9, 10, 11], QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	N
142	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]	IBM: 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]	FC-AL, FC-SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
143	**xSeries x235**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic: QLA2200F-EMC[9, 10], QLA2340-E-SP[9, 10]**	FC-AL, FC-SW	N
144	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18], v2.4.9-E 12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.9[12, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]	IBM 19K1246(QLA2310)[16]	FC-AL, FC-SW	N
145	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18], v2.4.9-E.12[12, 18], v2.4.9-E 9[12, 18]	Emulex LP9002-E (LP9002L-E)[17, 25]; QLogic QLA2200F[9, 17, 30, 35]	FC-AL, FC-SW	N
146	**xSeries x360[14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]**	**Emulex LP9002-E (LP9002L-E)[17, 25]; QLogic QLA2200F[9, 10, 17]**	FC-AL, FC-SW	N
147	**xSeries: x235, x255[14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]**	**QLogic QLA2200F[9, 10, 17]**	FC-AL, FC-SW	N
148	**xSeries x440[22, 23]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]**	**QLogic QLA2200F-EMC[17, 19, 20]**	FC-AL, FC-SW	N
149	**xSeries x360[14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[17, 19, 20]**	FC-AL, FC-SW	N
150	**xSeries x360[14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]**	**Emulex: LP9802-E[17, 27], LP982-E[17, 27]**	FC-AL, FC-SW	N
151	**xSeries x235**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26, 37]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]**	**Emulex: LP9802-E[9, 17, 27], LP982-E[9, 17, 27]; QLogic: QLA2200F-EMC[9, 10, 17, 19], QLA2310F-E-SP[9, 10, 17, 24], QLA2340-E-SP[9, 10, 17, 24]**	FC-AL, FC-SW	N
152	**xSeries x255**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]**	**QLogic: QLA2200F-EMC[17, 19], QLA2342-E-SP[30]**	FC-AL, FC-SW	N
153	**xSeries x255**	**PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20, 26], v2.4.9-e.24[12, 43]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18], v2.4.9-e.24[12, 43]**	**QLogic QLA2202F-EMC[9, 10, 17, 19, 20, 32, 33, 41, 42]**	**FC-AL, FC-SW**	**N**
154	**xSeries x360[14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 12, 20, 26], v2.4.9-E.9[12, 18]**	**QLogic QLA2200F-EMC[17, 19]**	FC-AL, FC-SW	N
155	**xSeries x440[22, 23]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 12, 20], v2.4.9-E.9[12, 18]**	**QLogic QLA2200F-EMC[17, 19]**	FC-AL, FC-SW	N
156	**xSeries x255**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**Emulex LP9002-E (LP9002L-E)[17, 25]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 28, 29]
157	xSeries: **x360[14]**, x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], **ES v2.4.9-e.12[12, 18]**, ES v2.4.9-e.16[12, 18]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]
158	**xSeries x235**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**Emulex LP9002-E (LP9002L-E)[9, 17, 25]**	FC-AL, FC-SW	N
159	**xSeries x255**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 27, 28, 29]
160	xSeries: **x360[14]**, x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], **ES v2.4.9-e.12[12, 18]**, ES v2.4.9-e.16[12, 18]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 27, 28, 29]
161	**xSeries x255**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**Emulex: LP9802-E[17, 27], LP982-E[17, 27]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 29]
162	**xSeries x360[14]**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**Emulex: LP9802-E[17, 27], LP982-E[17, 27]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
163	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], **ES v2.4.9-e.12[12, 18]**, ES v2.4.9-e.16[12, 18]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]; QLogic QLA2200F[9, 17, 30, 35]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
164	**xSeries: x360[14], x440[22, 23]**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**IBM: 00N6881 (QLA2200)[9, 10, 11], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
165	**xSeries x255[14]**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**QLogic QLA2200F[9, 10, 17, 19, 20]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
166	**xSeries x255**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 29, 31]
167	**xSeries: x360[14], x440[22, 23]**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
168	**xSeries: x235, x360[14]**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**QLogic QLA2200F[9, 10, 17, 19, 20]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
169	**xSeries x255**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9002-E (LP9002L-E)[9, 17, 25, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 28, 29]
170	**xSeries: x360[14], x440[22, 23]**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9002-E (LP9002L-E)[9, 17, 25, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]
171	**xSeries x255**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9802DC-E[9, 17, 27, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 27, 28, 29]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
172	xSeries, x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex LP9802DC-E[9, 17, 27, 32, 33]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 27, 28, 29]
173	xSeries x235	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex: LP9002-E (LP9002L-E)[9, 17, 25, 32, 33], LP9802-E[9, 17, 27, 32, 33], LP9802DC-E[9, 17, 27, 32, 33], LP982-E[9, 17, 27, 32, 33]; IBM 19K1246(QLA2310)[9, 16, 32, 33, 40, 44]; QLogic: QLA2200F-EMC[9, 17, 32, 33, 42], QLA2310F-E-SP[9, 17, 32, 33, 44], QLA2340-E-SP[9, 17, 44], QLA2342-E-SP[9, 32, 33, 40, 44]	FC-AL, FC-SW	N
174	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex: LP9802-E[9, 17, 27, 32, 33], LP982-E[9, 17, 27, 32, 33]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 29]
175	xSeries x360[14]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex: LP9802-E[9, 17, 27, 32, 33], LP982-E[9, 17, 27, 32, 33]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
176	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex: LP9802-E[9, 17, 27, 32, 33], LP982-E[9, 17, 27, 32, 33]; QLogic QLA2200F[9, 17, 32, 33, 40, 42]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
177	xSeries, x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	IBM: 00N6881 (QLA2200)[9, 11, 17, 32, 33, 40, 42, 45], 19K1246(QLA2310)[9, 16, 32, 33, 40, 44], 24P0960(QLA2340)[9, 13, 17, 32, 33, 40, 44]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
178	xSeries, x235, x255[14], x360[14]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic QLA2200F[9, 17, 32, 33, 40, 42]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
179	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic QLA2310F-E-SP[9, 17, 32, 33, 44]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 29, 31]
180	xSeries, x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic QLA2310F-E-SP[9, 17, 32, 33, 44]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
181	xSeries, x255, x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic: QLA2200F-EMC[9, 17, 32, 33, 42], QLA2342-E-SP[9, 32, 33, 40, 44]	FC-AL, FC-SW	N
182	xSeries x360[14]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 28, 29]
183	xSeries x360[14]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 27, 28, 29]
184	xSeries x360[14]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 27, 29]
185	xSeries x360	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	IBM: 00N6881 (QLA2200)[8, 9, 10, 11, 17], 19K1246(QLA2310)[8, 9, 10, 16, 17], 24P0960(QLA2340)[8, 9, 10, 13, 17]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 14]
186	xSeries x255	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	IBM: 00N6881 (QLA2200)[8, 9, 10, 11], 19K1246(QLA2310)[8, 9, 10, 16], 24P0960(QLA2340)[8, 9, 10, 13]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 14]
187	xSeries x360[14]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 29, 31]
188	xSeries x360[14]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	IBM 00N6881 (QLA2200)[9, 10, 11]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 38, 41]
189	xSeries x255	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic QLA2200F	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 29, 38, 39]
190	xSeries x235	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic QLA2342-E-SP[8, 9, 17, 30, 40]	FC-AL, FC-SW	N
191	xSeries x360[14]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic: QLA2310F-E-SP[17], QLA2342-E-SP[8, 9, 17, 30, 40]	FC-AL, FC-SW	N
192	xSeries x360[14]	PCI-X	Red Hat Linux 7.3, (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic QLA2200F-EMC[17]	FC-AL, FC-SW	N
193	xSeries, x235, x360[14]	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2200F[9, 10, 17, 19, 20]	FC-AL, FC-SW	N
194	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 18, 19, 23]	QLogic QLA2200F-EMC[17, 20]	FC-AL, FC-SW	N
195	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 28, 29]
196	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 27, 28, 29]
197	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]; QLogic QLA2200F[9, 17, 19, 20, 30, 35]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29]
198	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20]	IBM: 00N6881 (QLA2200)[9, 10, 11], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26]
199	xSeries x445	PCI PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 31]
200	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 18]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	N
201	xSeries x345	PCI PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex: LP9002-E (LP9002L-E)[17, 25], LP9802DC-E	FC-AL, FC-SW	N

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
202	**xSeries x345**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	N
203	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20], v2.4.9-E.9[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]**	**QLogic QLA2342-E-SP[30]**	FC-AL, FC-SW	N
204	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18], v2.4.9-E.3[1, 12, 20], v2.4.9-E.9[12, 18], v2.4.9-e.24[12, 43];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18], v2.4.9-e.24[12, 43]**	**QLogic QLA2202F-EMC[9, 10, 17, 19, 20, 32, 33, 41, 42]**	FC-AL, FC-SW	N
205	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]**	**Emulex LP9802DC-E;** **IBM: 00N6881 (QLA2200)[9, 10, 11], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13];** **QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	N
206	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18], v2.4.9-E.12[12, 18], v2.4.9-E.9[12, 18]**	**Emulex LP9002-E (LP9002L-E)[17, 25];** **QLogic QLA2200F[9, 17, 30, 35]**	FC-AL, FC-SW	N
207	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server. v2.4.9-E.12[12, 18] v2.4.9-E.16[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18]**	**QLogic QLA2200F-EMC[17, 19, 20]**	FC-AL, FC-SW	N
208	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 12, 20], v2.4.9-E.9[12, 18]**	**QLogic QLA2200F-EMC[17, 19]**	FC-AL, FC-SW	N
209	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**Emulex LP9002-E (LP9002L-E)[17, 25]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]
210	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 27, 28, 29]
211	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**Emulex: LP9802-E[17, 27], LP982-E[17, 27];** **QLogic QLA2200F[9, 17, 19, 20, 30, 35]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
212	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**IBM: 00N6881 (QLA2200)[9, 10, 11], 19K1246(QLA2310)[9, 10, 16], 24P0960(QLA2340)[9, 10, 13]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
213	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
214	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9002-E (LP9002L-E)[9, 17, 25, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]
215	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9802DC-E[9, 17, 27, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 27, 28, 29]
216	**xSeries x345**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex: LP9002-E (LP9002L-E)[9, 17, 25, 32, 33], LP9802DC-E[9, 17, 27, 32, 33];** **QLogic QLA2310F-E-SP[9, 17, 32, 33, 44]**	FC-AL, FC-SW	N
217	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex: LP9802-E[9, 17, 27, 32, 33], LP982-E[9, 17, 27, 32, 33];** **QLogic QLA2200F[9, 17, 32, 33, 40, 42]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
218	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**IBM: 00N6881 (QLA2200)[9, 11, 17, 32, 33, 40, 42, 45], 19K1246(QLA2310)[9, 16, 32, 33, 40, 44], 24P0960(QLA2340)[9, 13, 17, 32, 33, 40, 44]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
219	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**QLogic QLA2310F-E-SP[9, 17, 32, 33, 44]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
220	**xSeries x445**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**QLogic: QLA2200F-EMC[9, 17, 32, 33, 42], QLA2342-E-SP[9, 32, 33, 40, 44]**	FC-AL, FC-SW	N
221	**xSeries x345**	PCI, PCI-X	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**QLogic QLA2310F-E-SP[17]**	FC-AL, FC-SW	N
222	**xSeries x345**	PCI, PCI-X	**Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F[9, 10, 17, 19, 20]**	FC-AL, FC-SW	N
223	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 18, 19, 23]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	N
224	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	N
225	Netfinity 8500R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	Y[2, 3, 4, 5, 6, 7, 29]
226	**Netfinity 8500R**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9802-E[9, 17, 27, 32, 33]**	FC-AL, FC-SW[17, 27, 33, 36]	Y[2, 3, 4, 5, 6, 7, 29]
227	Netfinity 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 18, 19, 23], 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	N
228	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	N

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
253	**xSeries: x360[14], x440[22, 23]**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**QLogic QLA2340-E-SP[17, 24]**	FC-AL, FC-SW[32, 33]	Y[2, 3, 4, 5, 6, 7, 29, 31]
254	**xSeries x255**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**QLogic QLA2340-E-SP[9, 17, 44]**	**FC-AL, FC-SW[32, 33]**	**Y[2, 3, 4, 5, 6, 7, 14, 29, 31]**
255	**xSeries: x360[14], x440[22, 23]**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**QLogic QLA2340-E-SP[9, 17, 44]**	**FC-AL, FC-SW[32, 33]**	**Y[2, 3, 4, 5, 6, 7, 29, 31]**
256	**xSeries x360[14]**	PCI-X	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**QLogic QLA2340-E-SP[17]**	FC-AL, FC-SW[32, 33]	N
257	**xSeries x445**	**PCI PCI-X**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 20]**	**QLogic QLA2340-E-SP[17, 24]**	**FC-AL, FC-SW[32, 33]**	**Y[2, 3, 4, 5, 6, 7, 26, 29, 31]**
258	**xSeries x445**	**PCI PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18] v2.4.9-E.9[12, 18]**	**QLogic QLA2340-E-SP[17, 24]**	**FC-AL, FC-SW[32, 33]**	**N**
259	**xSeries x445**	**PCI, PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]**	**QLogic QLA2340-E-SP[17, 24]**	**FC-AL, FC-SW[32, 33]**	**Y[2, 3, 4, 5, 6, 7, 29, 31]**
260	**xSeries x445**	**PCI, PCI-X**	**Red Hat Linux 2.1, Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**QLogic QLA2340-E-SP[9, 17, 44]**	**FC-AL, FC-SW[32, 33]**	**Y[2, 3, 4, 5, 6, 7, 29, 31]**
261	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP982-E[17, 27]	FC-AL, FC-SW[33, 36]	N
262	Netfinity 8500R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 18], ES v2.4.9-e.12[12, 18], ES v2.4.9-e.16[12, 18]	Emulex LP982-E[17, 27]	FC-AL, FC-SW[33, 36]	Y[2, 3, 4, 5, 6, 7, 29
263	**Netfinity 8500R**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP982-E[9, 17, 27, 32, 33]**	**FC-AL, FC-SW[33, 36]**	**Y[2, 3, 4, 5, 6, 7, 29**
264	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500 xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]** x350 (6000R), x370	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 18, 19, 23], 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP982-E[17, 27]	FC-AL, FC-SW[33, 36]	N
265	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18]	Emulex LP982-E[17, 27]	FC-AL, FC-SW[33, 36]	N
266	**xSeries x360[14]**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 18, 19, 23], 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**Emulex LP982-E[17, 27]**	FC-AL, FC-SW[33, 36]	N
267	**xSeries x445**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18]**	**Emulex LP982-E[17, 27]**	**FC-AL, FC-SW[33, 36]**	**N**
268	**xSeries x345**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18], v2.4.9-E.16[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 18], v2.4.9-e.16[12, 18];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**Emulex LP982-E[17, 27]**	FC-AL, FC-SW[33, 36]	N
269	**xSeries x345**	**PCI, PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP982-E[9, 17, 27, 32, 33]**	**FC-AL, FC-SW[33, 36]**	**N**
270	**xSeries x235**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 23], v2.4.9-E.12[12, 18];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12]**	**Emulex LP9002-E (LP9002L-E)[9, 25]**	FC-AL, FC-SW[40]	N

1. Requires v6.2.1 or higher Navisphere host agent/CLI
2. Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
3. No MirrorView or SnapView used on boot LUNs.
4. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
5. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
6. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
7. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
8. **Host must be offline for interfamily Symmetrix microcode upgrade.**
9. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
10. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
11. (QLA2200) For IBM xSeries and Netfinity servers only
12. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
13. **This HBA is equivalent to the qLogic QLA2340.**
14. PowerPath v3.02 not supported on this system.
15. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
16. This HBA is equivalent to the qLogic QLA2310.
17. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
18. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
19. Requires v6.0.5 or higher Navisphere host Agent/CLI.
20. Supported with QLogic driver v6.04.02 or v6.05.00.
21. This server only supports 5 Volt HBAs. qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
22. PowerPath v3.0.2 b069 is not supported on this system.
23. This system is supported with Red Hat 2.1 Advanced Server v2.4.9-E.3 and updated with v2.4.9-E.9, E.10, and E.12 RPMs.
24. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
25. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
26. This kernel is limited to 110 devices, not 128.
27. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
28. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
29. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
30. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
31. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65

32. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
33. FC-SW applies only to CX600, CX400 CX200, FC4500, FC4700 and FC5300 FC5300 with FC-SW available from selected channels.
34. **Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.**
35. **For fabric boot support, install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.**
36. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.
37. **The kernel version listed is included in the corresponding standard distributed release.**
38. Requires QLogic driver 4.47.18 and BIOS 1.83.
39. Install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.
40. Single HBA zoning is required regardless of the switch being utilized.
41. Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC-approved driver after installation.
42. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
43. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
44. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
45. **This HBA is equivalent to the QLogic QLA2200.**

NEC

NEC - Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**Emulex LP9002-E (LP9002L-E)[13, 19]**	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 17]
2	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 17]
3	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**Emulex: LP9802-E[1, 13], LP982-E[1, 13]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 17]
4	**Express 5800: 120Rd-1, 120Rf-2 140Hd, 140Rc-4, 180Rc-4**	**PCI**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**NEC N8190-105[27]**	**FC-AL, FC-SW**	**Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 14, 17, 25, 26]**
5	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**QLogic QLA2200F[13, 15, 16, 18, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 17, 25, 26]
6	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**QLogic QLA2310F-E-SP[13, 20]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 14, 17]
7	**Express 5800: 120Rd-1, 120Rf-2 140Hd, 140Rc-4, 180Rc-4**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 24], v2.4.9-E.12[11, 24], v2.4.9-E.16[11, 24], v2.4.9-E.3[3, 11, 17, 18], v2.4.9-E.9[11, 24], v2.4.9-e.24[11, 28];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 24], v2.4.9-e.16[11, 24], v2.4.9-e.24[11, 28];** **Red Hat Linux 7.3 (v2.4.18-3)[11]**	**NEC N8190-105[27]**	**FC-AL, FC-SW**	**N**
8	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 24], v2.4.9-E.12[11, 24], v2.4.9-E.9[11, 24]**	**QLogic QLA2200F[13, 15, 16]**	FC-AL, FC-SW	N
9	**Express 5800: 120Rd-1, 120Rf-2 140Hd, 140Rc-4, 180Rc-4**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 24], v2.4.9-e.24[11, 28];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 24], v2.4.9-e.16[11, 24], v2.4.9-e.24[11, 28]**	**NEC N8190-105[27]**	**FC-AL, FC-SW**	**Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 14, 25, 26]**
10	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 24], v2.4.9-E.3[3, 11, 17, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 24], v2.4.9-e.16[11, 24]**	**QLogic QLA2200F-EMC[13, 23]**	FC-AL, FC-SW	N
11	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 24], v2.4.9-E.3[3, 11, 17, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 24], v2.4.9-e.16[11, 24];** **Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2342-E-SP[12]**	FC-AL, FC-SW	N
12	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 24], v2.4.9-E.3[3, 11, 17, 18], v2.4.9-e.24[11, 28];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 24], v2.4.9-e.16[11, 24], v2.4.9-e.24[11, 28];** **Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2202F-EMC[13, 15, 16, 18, 21, 22, 23, 30, 32]**	**FC-AL, FC-SW**	**N**
13	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 24], ES v2.4.9-e.12[11, 24], ES v2.4.9-e.16[11, 24]	Emulex LP9002-E (LP9002L-E)[13, 19]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
14	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 24], ES v2.4.9-e.12[11, 24], ES v2.4.9-e.16[11, 24]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
15	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 24], ES v2.4.9-e.12[11, 24], ES v2.4.9-e.16[11, 24]	Emulex: LP9802-E[1, 13], LP982-E[1, 13]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
16	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 24], ES v2.4.9-e.12[11, 24], ES v2.4.9-e.16[11, 24]**	**QLogic QLA2200F[13, 15, 16, 18, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 25, 26]
17	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 24], ES v2.4.9-e.12[11, 24], ES v2.4.9-e.16[11, 24]**	**QLogic QLA2310F-E-SP[13, 20]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 14]
18	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**Emulex LP9002-E (LP9002L-E)[13, 16, 19, 21, 22]**	**FC-AL, FC-SW**	**Y[2, 4, 5, 6, 7, 8, 9, 10]**
19	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**Emulex LP9802DC-E[1, 13, 16, 21, 22]**	**FC-AL, FC-SW**	**Y[1, 2, 4, 5, 6, 7, 8, 9, 10]**
20	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**Emulex: LP9802-E[1, 13, 16, 21, 22], LP982-E[1, 13, 16, 21, 22]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10]**
21	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**QLogic QLA2200F[13, 16, 21, 22, 29, 30]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 25, 26]**
22	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**QLogic QLA2310F-E-SP[13, 16, 21, 22, 31]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 14]**
23	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**QLogic: QLA2200F-EMC[13, 16, 21, 22, 30], QLA2342-E-SP[16, 21, 22, 29, 31]**	**FC-AL, FC-SW**	**N**
24	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]
25	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
26	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]

NEC – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
27	**Express 5800: 120Rd–1, 120Rf–2, 140Hd, 140Rc–4, 180Rc–4**	**PCI**	**Red Hat Linux 7.3 (v2.4.18–3)[11]**	**NEC N8190–105[27]**	**FC–AL, FC–SW**	**Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14]**
28	**Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 7.3 (v2.4.18–3)[11]**	**QLogic QLA2200F–EMC[13]**	FC–AL, FC–SW	N
29	**Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 7.3 (v2.4.18–3)[11]**	**QLogic: QLA2310F–E–SP[15, 16], QLA2340–E–SP[15, 16]**	FC–AL, FC–SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 14]**
30	**Express 5800: 120Rd–1, 120Rf–2, 140Hd, 140Rc–4, 180Rc–4**	**PCI**	**Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11]**	**NEC N8190–105[27]**	**FC–AL, FC–SW**	**Y[4, 5, 6, 7, 8, 9, 10, 25, 26]**
31	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11]	QLogic QLA2200F	FC–AL, FC–SW	**Y[4, 5, 6, 7, 8, 9, 10, 25, 26]**
32	**Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[3, 11, 17, 18]**	**QLogic QLA2340–E–SP[13, 20]**	FC–AL, FC–SW[21, 22]	**Y[4, 5, 6, 7, 8, 9, 10, 14, 17]**
33	**Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 24], ES v2.4.9–e.12[11, 24], ES v2.4.9–e.16[11, 24]**	**QLogic QLA2340–E–SP[13, 20]**	FC–AL, FC–SW[21, 22]	**Y[4, 5, 6, 7, 8, 9, 10, 14]**
34	**Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[11, 28], ES v2.4.9–e.24[11, 28]**	**QLogic QLA2340–E–SP[13, 16, 31]**	**FC–AL, FC–SW[21, 22]**	**Y[4, 5, 6, 7, 8, 9, 10, 14]**

1. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
2. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
3. Requires v6.2.1 or higher Navisphere host agent/CLI.
4. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
5. Access Logic required, direct connect or fabric, (no booting through switch inter–switch links)
6. No MirrorView or SnapView used on boot LUNs.
7. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
8. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
10. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
11. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
12. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340–E–SP, and QLA2342–E–SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
13. Host must be offline for CLARiiON–licensed (Flare) upgrade and Storage Processor replacement.
14. Requires QLogic driver 4.47.18 driver disk, dd.img–i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
15. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340–E–SP, and QLA2342–E–SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
16. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
17. This kernel is limited to 110 devices, not 128.
18. **Supported with QLogic driver v6.04.02 or v6.05.00.**
19. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
20. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
21. FC–AL and FC–SW topologies can co–exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
22. FC–SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC–SW available from selected channels.
23. Requires v6.0.5 or higher Navisphere host Agent/CLI.
24. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
25. Requires QLogic driver 4.47.18 and BIOS 1.83.
26. Install with driver provided by RedHat Installer and upgrade to the EMC–approved driver after installation.
27. **Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.**
28. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
29. **Single HBA zoning is required regardless of the switch being utilized.**
30. **Requires QLogic driver v6.04.01 (included in 2.4.9–e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
31. **Requires QLogic driver v6.04.01 (included in 2.4.9–e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
32. **Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC–approved driver after installation.**

SuSE Linux

Dell

Dell – SuSE Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[1, 2]**	**QLogic QLA2310F–E–SP[3, 12]**	FC–AL, FC–SW	N
2	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	PCI	**SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[1, 2]**	**QLogic QLA2200F–EMC[3]**	FC–AL, FC–SW	N
3	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	**PCI**	**SuSE Linux SLES 8 SP2a (v2.4.19–SuSE.304)[20, 21]**	**QLogic: QLA2200F–EMC[3, 18, 19], QLA2310F–E–SP[3, 18, 22]**	**FC–AL, FC–SW**	**N**
4	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	PCI	**SuSE Linux SLES 8 v2.4.19–SuSE.175[13, 14, 15]**	**QLogic: QLA2200F–EMC[3, 17], QLA2310F–E–SP[3, 16]**	FC–AL, FC–SW	N
5	**PowerEdge: 1750, 2600[4], 4600[4], 6600[4]**	PCI–X	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[1, 2]**	**QLogic QLA2310F–E–SP[3, 12]**	FC–AL, FC–SW	N
6	PowerEdge 6650	PCI–X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[1, 2]	QLogic QLA2200F–EMC	FC–AL, FC–SW	N
7	**PowerEdge: 1750, 2600[4], 4600[4], 6600[4]**	PCI–X	**SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[1, 2]**	**QLogic QLA2200F–EMC[3]**	FC–AL, FC–SW	N
8	**PowerEdge 6650**	**PCI–X**	**SuSE Linux SLES 8 SP2a (v2.4.19–SuSE.304)[20, 21]**	**QLogic QLA2200F–EMC[18, 19]**	**FC–AL, FC–SW**	**N**
9	**PowerEdge: 1750, 2600[4], 4600[4], 6600[4]**	**PCI–X**	**SuSE Linux SLES 8 SP2a (v2.4.19–SuSE.304)[20, 21]**	**QLogic: QLA2200F–EMC[3, 18, 19], QLA2310F–E–SP[3, 18, 22]**	**FC–AL, FC–SW**	**N**
10	PowerEdge 6650	PCI–X	SuSE Linux SLES 8 v2.4.19–SuSE.175[13, 14, 15]	QLogic QLA2200F–EMC[17]	FC–AL, FC–SW	N
11	PowerEdge: 1750, **2600[4], 4600[4], 6600[4]**	PCI–X	SuSE Linux SLES 8 v2.4.19–SuSE.175[13, 14, 15]	QLogic: QLA2200F–EMC[3, 17], QLA2310F–E–SP[3, 16]	FC–AL, FC–SW	N
12	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[1, 2]**	**QLogic QLA2340–E–SP[3, 12]**	FC–AL, FC–SW[10, 11]	N
13	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	**PCI**	**SuSE Linux SLES 8 SP2a (v2.4.19–SuSE.304)[20, 21]**	**QLogic QLA2340–E–SP[3, 18, 22]**	**FC–AL, FC–SW[10, 11]**	**N**

Dell – SuSE Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
14	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	PCI	**SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]**	**QLogic QLA2340-E-SP[3, 16]**	FC-AL, FC-SW[10, 11]	N
15	**PowerEdge: 1750, 2600[4], 4600[4], 6600[4]**	PCI-X	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[1, 2]**	**QLogic QLA2340-E-SP[3, 12]**	FC-AL FC-SW[10, 11]	N
16	**PowerEdge: 1750, 2600[4], 4600[4], 6600[4]**	PCI-X	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[20, 21]**	**QLogic QLA2340-E-SP[3, 18, 22]**	**FC-AL, FC-SW[10, 11]**	**N**
17	PowerEdge: 1750, **2600[4], 4600[4], 6600[4]**	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic QLA2340-E-SP[3, 16]	FC-AL, FC-SW[10, 11]	N

1. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
2. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
3. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
4. **An RPM from Dell may be used to install the QLogic v6.04.02 or v6.05.00 drivers and may be obtained from the QLogic website at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
5. Requires v6.2.1 or higher Navisphere host agent/CLI.
6. Requires rev1_sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
7. Supported with QLogic driver v6.04.02.
8. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
9. **PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.**
10. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
11. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
12. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
13. Requires QLogic v6.04.02 driver.
14. Requires QLogic driver v6.04.00 or above.
15. Requires rev3_sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
16. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
17. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
18. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
19. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
20. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
21. **Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
22. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

HPQ

HPQ – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Proliant 6500[4, 5]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]	Emulex: **LP9802DC-E[16, 17, 18]**, LP982-E	FC-AL, FC-SW	N	See[1]
2	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[4, 15], 1850[4], 2500[4], 3000[4], 5000[4], 5500[4, 5], 6000[4, 5], 6400R[4], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[4], 8500, DL320[4], DL360[4], DL360(G2)[4], DL380[4], DL380(G2)[4], DL380(G3), DL580[4], DL580(G2)[4], ML350[4], ML350(G2)[4], ML370[4], ML370(G2), ML370(G3), ML530[4], ML530(G2)[4], ML570[4], ML750[14]**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2310F-E-SP[10, 11]**	FC-AL, FC-SW	N	
3	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[4, 15], 1850[4], 2500[4], 3000[4], 5000[4], 5500[4, 5], 6000[4, 5], 6400R[4], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[4], 8500, DL320[4], DL360[4], DL360(G2)[4], DL380[4], DL380(G2)[4], DL380(G3), DL580[4], DL580(G2)[4], ML350[4], ML350(G2)[4], ML370[4], ML370(G2), ML370(G3), ML530[4], ML530(G2)[4], ML570[4], ML750[14]**	PCI	**SuSE Linux SLES 7: (v2.4.7)[6, 7, 8, 9] updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2200F-EMC[10]**	FC-AL, FC-SW	N	
4	Proliant 6500[4, 5]	PCI	SuSE Linux SLES 7: (v2.4.7)[6, 7, 8], updated with SuSE v2.4.18 rpm[2, 3]	Emulex LP9802-E	FC-AL, FC-SW	N	See[1]
5	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[4, 15], 1850[4], 2500[4], 3000[4], 5000[4], 5500[4, 5], 6000[4, 5], 6400R[4], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[4], 8500, DL320[4], DL360[4], DL360(G2)[4], DL380[4], DL380(G2)[4], DL380(G3), DL580[4], DL580(G2)[4], ML350[4], ML350(G2)[4], ML370[4], ML370(G2), ML370(G3), ML530[4], ML530(G2)[4], ML570[4], ML750[14]**	**PCI**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[25, 26]**	**QLogic: QLA2200F-EMC[10, 16, 27], QLA2310F-E-SP[10, 16, 24]**	**FC-AL, FC-SW**	**N**	
6	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[4, 15], 1850[4], 2500[4], 3000[4], 5000[4], 5500[4, 5], 6000[4, 5], 6400R[4], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[4], 8500, DL320[4], DL360[4], DL360(G2)[4], **DL380[4], DL380(G2)[4], DL380(G3)**, DL580[4], DL580(G2)[4], ML350[4], ML350(G2)[4], ML370[4], ML370(G2), ML370(G3), ML530[4], ML530(G2)[4], ML570[4], ML750[14]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic: QLA2200F-EMC[10, 23], QLA2310F-E-SP[10, 19]	FC-AL, FC-SW	N	
7	**Proliant: DL560, DL560 (G2), ML570(G2)**	PCI-X	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2310F-E-SP[10, 11]**	FC-AL, FC-SW	N	
8	**Proliant: DL560, DL560 (G2), ML570(G2)**	PCI-X	**SuSE Linux SLES 7: (v2.4.7)[6, 7, 8, 9] updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2200F-EMC[10]**	FC-AL, FC-SW	N	
9	**Proliant: DL560, DL560 (G2), ML570(G2)**	**PCI-X**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[25, 26]**	**QLogic: QLA2200F-EMC[10, 16, 27], QLA2310F-E-SP[10, 16, 24]**	**FC-AL, FC-SW**	**N**	
10	Proliant: DL560, **DL560 (G2)**, ML570(G2)	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic: QLA2200F-EMC[10, 23], QLA2310F-E-SP[10, 19]	FC-AL, FC-SW	N	
11	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2310F-E-SP[10, 11]**	**FC-AL, FC-SW**	**N**	

HPQ – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
12	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 7: (v2.4.7)[6, 7, 8, 9] updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2200F-EMC[10]**	**FC-AL, FC-SW**	**N**	
13	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[25, 26]**	**QLogic: QLA2200F-EMC[10, 16, 27] QLA2310F-E-SP[10, 16, 24]**	**FC-AL, FC-SW**	**N**	
14	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]**	**QLogic: QLA2200F-EMC[10, 23] QLA2310F-E-SP[10, 19]**	**FC-AL, FC-SW**	**N**	
15	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[4, 15], 1850[4], 2500[4], 3000[4], 5000[4], 5500[4, 5], 6000[4, 5], 6400R[4], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[4], 8500, DL320[4], DL360[4], DL360(G2)[4], DL380[4], DL380(G2)[4], DL380(G3), DL580[4], DL580(G2)[4], ML350[4], ML350(G2)[4], ML370[4], ML370(G2), ML370(G3), ML530[4], ML530(G2)[4], ML570[4], ML750[14]**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2340-E-SP[10, 11]**	FC-AL, FC-SW[12, 13]	N	
16	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[4, 15], 1850[4], 2500[4], 3000[4], 5000[4], 5500[4, 5], 6000[4, 5], 6400R[4], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[4], 8500, DL320[4], DL360[4], DL360(G2)[4], DL380[4], DL380(G2)[4], DL380(G3), DL580[4], DL580(G2)[4], ML350[4], ML350(G2)[4], ML370[4], ML370(G2), ML370(G3), ML530[4], ML530(G2)[4], ML570[4], ML750[14]**	PCI	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[25, 26]**	**QLogic QLA2340-E-SP[10, 16, 24]**	**FC-AL, FC-SW[12, 13]**	**N**	
17	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[4, 15], 1850[4], 2500[4], 3000[4], 5000[4], 5500[4, 5], 6000[4, 5], 6400R[4], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[4], 8500, DL320[4], DL360[4], DL360(G2)[4], **DL380[4], DL380(G2)[4], DL380(G3)**, DL580[4], DL580(G2)[4], ML350[4], ML350(G2)[4], ML370[4], ML370(G2), ML370(G3), ML530[4], ML530(G2)[4], ML570[4], ML750[14]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE 175[20, 21, 22]	QLogic QLA2340-E-SP[10, 19]	FC-AL, FC-SW[12, 13]	N	
18	**Proliant: DL560, DL560 (G2), ML570(G2)**	PCI-X	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2340-E-SP[10, 11]**	FC-AL, FC-SW[12, 13]	N	
19	**Proliant: DL560, DL560 (G2), ML570(G2)**	**PCI-X**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[25, 26]**	**QLogic QLA2340-E-SP[10, 16, 24]**	**FC-AL, FC-SW[12, 13]**	**N**	
20	Proliant: DL560, **DL560 (G2)**, ML570(G2)	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic QLA2340-E-SP[10, 19]	FC-AL, FC-SW[12, 13]	N	
21	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2340-E-SP[10, 11]**	**FC-AL, FC-SW[12, 13]**	**N**	
22	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[25, 26]**	**QLogic QLA2340-E-SP[10, 16, 24]**	**FC-AL, FC-SW[12, 13]**	**N**	
23	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]**	**QLogic QLA2340-E-SP[10, 19]**	**FC-AL, FC-SW[12, 13]**	**N**	

1. Linux v2.4.x Kernels support a maximum of 128 devices per system.
2. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
3. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
4. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
5. Includes both Pentium PRO and XEON models
6. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
7. Supported with QLogic driver v6.04.02.
8. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
9. Requires v6.2.1 or higher Navisphere host agent/CLI.
10. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
11. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
    FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
    FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
14. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
15. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
16. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
17. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
18. **Host must be offline for interfamily Symmetrix microcode upgrade.**
19. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
20. Requires QLogic v6.04.02 driver.
21. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
22. Requires QLogic driver v6.04.00 or above
23. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
24. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
25. **Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
26. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
27. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

IBM

IBM – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]**	**QLogic QLA2310F-E-SP[14, 18]**	FC-AL, FC-SW	N	

IBM – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
2	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2200F-EMC[14]	FC-AL, FC-SW	N	
3	Netfinity 8500R	PCI	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]; SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23]	IBM 00N6881 (QLA2200)[9, 13]	FC-AL, FC-SW	N	
4	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]; SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23]	IBM: 00N6881 (QLA2200)[5, 6, 9], 19K1246(QLA2310)[5, 6, 8], 24P0960(QLA2340)[5, 6, 7]	FC-AL, FC-SW	N	
5	Netfinity 8500R	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[27, 28]	QLogic QLA2200F-EMC[6, 14, 30]	FC-AL, FC-SW	N	
6	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[27, 28]	QLogic: QLA2200F-EMC[6, 14, 30], QLA2310F-E-SP[6, 14, 29]	FC-AL, FC-SW	N	
7	xSeries x345	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 24]	QLogic: QLA2200F-EMC[14, 26], QLA2310F-E-SP[14, 25], QLA2342-E-SP	FC-AL, FC-SW	N	
8	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 24]	QLogic: QLA2200F-EMC[6, 14, 21, 26], QLA2310F-E-SP[6, 14, 21, 25], QLA2342-E-SP[6, 14, 21, 25]	FC-AL, FC-SW	N	
9	Netfinity 8500R	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 24]	QLogic: QLA2200F-EMC[6, 14, 21, 26], QLA2310F-E-SP[6, 21, 25], QLA2340-E-SP[6, 21, 25], QLA2342-E-SP[6, 14, 21, 25]	FC-AL, FC-SW	N	
10	xSeries x235	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	Emulex LP9002-E (LP9002L-E)[6]	FC-AL, FC-SW	N	See[16]
11	xSeries x235	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	Emulex: LP9802DC-E[6, 17, 21], LP982-E[6, 17]	FC-AL, FC-SW	N	
12	xSeries x440	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2310F-E-SP[14, 18]	FC-AL, FC-SW	N	
13	xSeries x440	PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2200F-EMC[14]	FC-AL, FC-SW	N	
14	xSeries x440	PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]; SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23]	IBM: 00N6881 (QLA2200)[5, 6, 9], 19K1246(QLA2310)[5, 6, 8], 24P0960(QLA2340)[5, 6, 7]	FC-AL, FC-SW	N	
15	xSeries x235	PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 3, 4, 15], updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2200F-EMC[5, 6]	FC-AL, FC-SW	N	
16	xSeries x235	PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 3, 4, 15], updated with SuSE v2.4.18 rpm[11, 12]	QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 6], QLA2342-E-SP[5, 6]	FC-AL, FC-SW	N	See[16]
17	xSeries x235	PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]	Emulex LP9802-E[6, 17]	FC-AL, FC-SW	N	
18	xSeries x235	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[27, 28]	QLogic QLA2200F-EMC[6, 30]	FC-AL, FC-SW	N	
	xSeries x440	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[27, 28]	QLogic: QLA2200F-EMC[6, 14, 30], QLA2310F-E-SP[6, 14, 29]	FC-AL, FC-SW	N	
20	xSeries x235	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[27, 28]	QLogic: QLA2310F-E-SP[6, 29], QLA2340-E-SP[6, 29], QLA2342-E-SP[6, 14, 29, 31]	FC-AL, FC-SW	N	See[16]
21	xSeries x235	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 24]	QLogic QLA2200F-EMC[6, 26]	FC-AL, FC-SW	N	
22	xSeries x440	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 24]	QLogic: QLA2200F-EMC[6, 14, 21, 26], QLA2310F-E-SP[6, 14, 21, 25], QLA2342-E-SP[6, 14, 21, 25]	FC-AL, FC-SW	N	
23	xSeries x235	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 24]	QLogic: QLA2310F-E-SP[6, 25], QLA2340-E-SP[6, 25], QLA2342-E-SP[6, 14, 25]	FC-AL, FC-SW	N	See[16]
24	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2310F-E-SP[14, 18]	FC-AL, FC-SW	N	
25	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2200F-EMC[14]	FC-AL, FC-SW	N	
26	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]; SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23]	IBM: 00N6881 (QLA2200)[5, 6, 9], 19K1246(QLA2310)[5, 6, 8], 24P0960(QLA2340)[5, 6, 7]	FC-AL, FC-SW	N	
27	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[27, 28]	QLogic: QLA2200F-EMC[6, 14, 30], QLA2310F-E-SP[6, 14, 29]	FC-AL, FC-SW	N	
28	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 24]	QLogic: QLA2200F-EMC[6, 14, 21, 26], QLA2310F-E-SP[6, 14, 21, 25], QLA2342-E-SP[6, 14, 21, 25]	FC-AL, FC-SW	N	
29	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2340-E-SP[14, 18]	FC-AL, FC-SW[19, 20]	N	

IBM – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
30	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[27, 28]	QLogic QLA2340-E-SP[6, 14, 29]	FC-AL, FC-SW[19, 20]	N	
31	xSeries x345	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 24]	QLogic QLA2340-E-SP[14, 25]	FC-AL, FC-SW[19, 20]	N	
32	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 24]	QLogic QLA2340-E-SP[6, 14, 21, 25]	FC-AL, FC-SW[19, 20]	N	
33	xSeries x440	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2340-E-SP[14, 18]	FC-AL, FC-SW[19, 20]	N	
34	xSeries x440	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[27, 28]	QLogic QLA2340-E-SP[6, 14, 29]	FC-AL, FC-SW[19, 20]	N	
35	xSeries x440	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 24]	QLogic QLA2340-E-SP[6, 14, 21, 25]	FC-AL, FC-SW[19, 20]	N	
36	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2340-E-SP[14, 18]	FC-AL, FC-SW[19, 20]	N	
37	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[27, 28]	QLogic QLA2340-E-SP[6, 14, 29]	FC-AL, FC-SW[19, 20]	N	
38	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 24]	QLogic QLA2340-E-SP[6, 14, 21, 25]	FC-AL, FC-SW[19, 20]	N	

1. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
2. Requires v6.2.1 or higher Navisphere host agent/CLI.
3. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
4. Supported with QLogic driver v6.04.02.
5. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
6. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
7. **This HBA is equivalent to the qLogic QLA2340.**
8. **This HBA is equivalent to the qLogic QLA2310.**
9. (QLA2200) For IBM xSeries and Netfinity servers only.
10. This server only supports 5 Volt HBAs. qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
11. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
12. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
13. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
14. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
15. **The kernel version listed is included in the corresponding standard distributed release.**
16. Linux v2.4.x Kernels support a maximum of 128 devices per system.
17. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
18. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
19. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
20. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
21. **Host must be offline for interfamily Symmetrix microcode upgrade.**
22. Requires QLogic v6.04.02 driver.
23. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
24. Requires QLogic driver v6.04.00 or above.
25. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
26. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
27. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
28. **Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
29. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
30. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
31. **Single HBA zoning is required regardless of the switch being utilized.**

Clustered Host

Microsoft Windows 2000

Bull

Bull – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Express 5800 180Rb7	Microsoft Windows 2000: Advanced Server SP3[6], Datacenter SP2[6, 7], Datacenter SP3[6], Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 4	Emulex LP8000-EMC[1, 2, 3, 4]	FC-AL, FC-SW

1. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
2. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
3. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
6. EMC strongly recommends that HBAs of different vendors not be used in the same host server
7. PowerPath not supported. ATF is supported.

DG

DG – Microsoft Windows 2000						
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	AViiON: AV1400, AV2800 AV3700, AV3704, AV3800	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[7]	HA: 2	Emulex LP8000-EMC[2, 3, 5, 9]; QLogic: QLA2310F-E-SP[2, 3, 5, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
2	AViiON: AV2300, AV3704R, AV8950	Microsoft Windows 2000 Advanced Server, SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[2, 3, 5, 9], LP9002-E (LP9002L-E)[2, 5], LP9002DC-E[2, 5], LP9802-E[2, 3, 4, 5], LP9802DC-E[2, 3, 4, 5], LP982-E[2, 3, 4, 5]; QLogic: QLA2310F-E-SP[2, 3, 5, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
3	AViiON: AV1400, AV2800, AV3700, AV3704, AV3800	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[6]	HA: 4	Emulex LP8000-EMC[2, 3, 5, 9]; QLogic: QLA2310F-E-SP[2, 3, 5, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
4	AViiON: AV2300, AV3704R, AV8950	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base), Veritas Cluster Server (VCS) 2.0[6]	HA: 4	Emulex: LP8000-EMC[2, 3, 5, 9], LP9002-E (LP9002L-E)[2, 5], LP9002DC-E[2, 5], LP9802-E[2, 3, 4, 5], LP9802DC-E[2, 3, 4, 5], LP982-E[2, 3, 4, 5]; QLogic: QLA2310F-E-SP[2, 3, 5, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
3. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
4. PowerPath supported. ATF/CDE not supported
5. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
6. GAB disks (membership and service group heartbeat disks) are not supported.
7. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
8. If using ATF/CDE, requires 2.1.6 or greater..
   The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Dell

Dell – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650**	**Microsoft Windows 2000 Datacenter: SP2[2], SP3[2]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[16], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
2	**PowerEdge 8450**	**Microsoft Windows 2000 Datacenter: SP2[2], SP3[2]**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2342-E-SP**	
3	PowerEdge: 1650, 1750, 2600, 2650, 4600, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server SP2[2]	Oracle 9i RAC 9.2.0.1.0[10, 11]	RAC: 8	QLogic QLA2310F-E-SP[4, 8, 9]	FC-AL, FC-SW
4	**PowerEdge 8450[17]**	**Microsoft Windows 2000 Advanced Server SP4**	**Oracle 9i RAC 9.2.0.1.0**	RAC: 8	**QLogic QLA2340-E-SP[12, 13]**	FC-AL, FC-SW
5	PowerEdge 8450	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	QLogic: QLA2310F-E-SP, QLA2342-E-SP	FC-AL, FC-SW
6	PowerEdge: 1650, 1750, 2600, 2650, 4600, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0[10, 11]	RAC: 8	QLogic QLA2310F-E-SP[4, 8, 9, 12, 13]	FC-AL, FC-SW
7	**PowerEdge 8450**	**Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2], SP4;** **Microsoft Windows 2000 Datacenter: SP2[2], SP3[2], SP4;** **Microsoft Windows 2000 Server: SP2[2], SP3[2], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[16], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP**	FC-AL, FC-SW
8	**PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650**	**Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[2], Server SP3[2], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[16], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
9	**PowerEdge 8450**	**Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[2], Server SP3[2], Server SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2342-E-SP**	FC-AL, FC-SW
10	PowerEdge 8450[10]	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1]		Emulex: LP8000-EMC[4, 8, 9, 16], LP9002-E (LP9002L-E)[4, 9], LP9002DC-E[4, 9], LP9802-E[4, 6, 8, 9], LP9802DC-E[4, 6, 8, 9], LP982-E[4, 6, 8, 9]; QLogic: QLA2310F-E-SP[4, 7, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[6, 8, 9]	FC-AL, FC-SW
11	PowerEdge: 2300, 6100	Microsoft Windows 2000 Advanced Server, SP2[2], SP3[2], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1]	HA: 2	Emulex LP8000-EMC[4, 8, 9, 16]; QLogic: QLA2310F-E-SP[4, 7, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[6, 8, 9]	FC-AL, FC-SW
12	PowerEdge: 1550, 1650, 1750, 2400, 2450, 2500, 2550[15], 2600, 4400, 4600 6300, 6350, 6400, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1]	HA: 2	Emulex: LP8000-EMC[4, 8, 9, 16], LP9002-E (LP9002L-E)[4, 9], LP9002DC-E[4, 9], LP9802-E[4, 6, 8, 9], LP9802DC-E[4, 6, 8, 9], LP982-E[4, 6, 8, 9]; QLogic: QLA2310F-E-SP[4, 7, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[6, 8, 9]	FC-AL, FC-SW
13	PowerEdge 2650; PowerVault: 750N, 755N, 770N, 775N	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1]	HA: 2	Emulex: LP9002-E (LP9002L-E)[4, 9], LP9002DC-E[4, 9], LP9802-E[4, 6, 8, 9], LP9802DC-E[4, 6, 8, 9], LP982-E[4, 6, 8, 9]; QLogic: QLA2310F-E-SP[4, 7, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[6, 8, 9]	FC-AL, FC-SW

Dell – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
14	PowerEdge: 2300, 6100	Microsoft Windows 2000 Advanced Server: SP2[2], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[14]	HA: 4	Emulex LP8000-EMC[4, 8, 9, 16]. QLogic: QLA2310F-E-SP[4, 7, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[6, 8, 9]	FC-AL, FC-SW
15	PowerEdge: 1550, 1650, 1750, 2400, 2450, 2500, 2550[15], 2600, 4400, 4600, 6300, 6350, 6400, 6450, 6600, 6650, 8450	Microsoft Windows 2000 Advanced Server, SP2[2], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[14]	HA: 4	Emulex: LP8000-EMC[4, 8, 9, 16], LP9002-E (LP9002L-E)[4, 9], LP9002DC-E[4, 9], LP9802-E[4, 6, 8, 9], LP9802DC-E[4, 6, 8, 9], LP982-E[4, 6, 8, 9]; QLogic: QLA2310F-E-SP[4, 7, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[6, 8, 9]	FC-AL, FC-SW
16	PowerEdge 2650; PowerVault: 750N, 755N, 770N, 775N	Microsoft Windows 2000 Advanced Server: SP2[2], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[14]	HA: 4	Emulex: LP9002-E (LP9002L-E)[4, 9], LP9002DC-E[4, 9], LP9802-E[4, 6, 8, 9], LP9802DC-E[4, 6, 8, 9], LP982-E[4, 6, 8, 9]; QLogic: QLA2310F-E-SP[4, 7, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[6, 8, 9]	FC-AL, FC-SW
17	PowerEdge 8450	Microsoft Windows 2000 Advanced Server: SP2[2], SP4	Oracle 9i RAC 9.2.0.1.0[10, 11]	RAC: 8	Emulex LP982-E	FC-AL, FC-SW
18	PowerEdge: 1650, 1750, 2600, 2650, 4600, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server: SP2[2], SP4	Oracle 9i RAC 9.2.0.1.0[10, 11]	RAC: 8	Emulex: LP9002-E (LP9002L-E)[4, 9], LP9002DC-E[4, 9], LP9802-E, LP9802DC-E[4, 6, 8, 9], LP982-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
19	PowerEdge 8450[10]	Microsoft Windows 2000: Advanced Server SP3[2], Datacenter SP2[2, 3], Datacenter SP3[2], Datacenter SP4, Server SP4	Microsoft MSCS[1]	HA: 4	Emulex: LP9002-E (LP9002L-E)[4, 9], LP9002DC-E[4, 9]; QLogic: QLA2310F-E-SP[4, 8, 9], QLA2340-E-SP[4, 5, 6, 7, 8, 9]	FC-AL, FC-SW

1. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
   PowerPath not supported. ATF is supported.
   FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
5. For CX200 direct-connect only, boot from array for clusters not supported.
6. PowerPath supported. ATF/CDE not supported.
7. If using ATF/CDE, requires 2.1.6 or greater..
8. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
9. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
10. Supported on CX600, CX400, CX200 and FC4700-2 only.
11. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0.
    VxVM not supported.
    PowerPath 3.0 supported.
12. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
13. Driver v6.04.00 or above must be used with Qlogic HBAs for direct attach configurations.
14. GAB disks (membership and service group heartbeat disks) are not supported.
15. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
16. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
17. **An RPM from Dell may be used to install the QLogic v6.04.02 or v6.05.00 drivers and may be obtained from the QLogic website at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**Primergy: B210, C200, E200, N200**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
	Primergy N800	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP**	
3	**Primergy: F200, H200, H250[10], H400, K400, L200, N400, P200, P250, R450**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
4	**Primergy N800**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	
5	**Primergy: F200, F250[10], H200, H250[10], H400, H450, K400, L200, N400, P200, P250, R450, T850**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E**	
6	**Primergy: B210, C200, E200, N200**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP982-E**	
7	**Primergy: F250[10], H450, T850**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
8	Pnmergy: F250, H450, T850	Microsoft Windows 2000 Server SP4	Microsoft MSCS[7]	HA: 2	QLogic: QLA2310F-E-SP[2, 3, 5, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[3, 4, 5]	

Fujitsu Siemens – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
9	**Primergy: F250[10], H450, T850**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4:** **Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
10	Primergy: F250, H450, T850	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4, Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[7]	HA: 2	QLogic: QLA2310F-E-SP[2, 3, 5, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
11	**Primergy N800**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4.** **Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4.** **Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E**	FC-AL, FC-SW
12	**Primergy: F200, F250[10], H200, H250[10], H400, H450, K400, L200, N400, P200, P250, R450, T850**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4:** **Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E**	FC-AL, FC-SW
13	**Primergy: B210, C200, E200, N200**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP982-E**	FC-AL, FC-SW
14	Primergy: F250, H450, T850	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[2, 3, 5, 9], LP9002-E (LP9002L-E)[2, 3], LP9002DC-E[2, 3], LP9802-E[2, 3, 4, 5], LP9802DC-E[2, 3, 4, 5], LP982-E[2, 3, 4, 5]	FC-AL, FC-SW
15	Primergy: F250, H450, T850	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[6]	HA: 4	Emulex: LP8000-EMC[2, 3, 5, 9], LP9002-E (LP9002L-E)[2, 3], LP9002DC-E[2, 3], LP9802-E[2, 3, 4, 5], LP9802DC-E[2, 3, 4, 5], LP982-E[2, 3, 4, 5]; QLogic: QLA2310F-E-SP[2, 3, 5, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
16	**Primergy N800**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. PowerPath supported. ATF/CDE not supported.
5. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
6. GAB disks (membership and service group heartbeat disks) are not supported.
7. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
8. If using ATF/CDE, requires 2.1.6 or greater..
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
10. **Must use standard PCI 32bit/33MHz slot for SCSI**

HPQ

HPQ – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
	Proliant: BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), DL380[7], DL380(G2)[7], DL380(G3), DL560, DL580[7], DL580(G2)[7], DL580(G3), DL740, DL760[7], DL760 (G2), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), ML370(G3), ML530[7], ML530(G2)[7], ML570[7], ML570(G2), ML750[7]	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4;** **Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4,** **Microsoft Windows 2000 Server, SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)**	
2	**Proliant 8500**	**Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)**	
3	**Proliant: 8500, BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), DL380[7], DL380(G2)[7], DL380(G3), DL560, DL580[7], DL580(G2)[7] DL580(G3), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), ML370(G3), ML530[7], ML530(G2)[7], ML570[7], ML570(G2), ML750[7]**	**Microsoft Windows 2000 Datacenter: SP2[4], SP3[4]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[13], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
4	**Proliant: DL740, DL760[7], DL760 (G2)**	**Microsoft Windows 2000 Datacenter: SP2[4], SP3[4]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[13], LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	

HPQ – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
5	Proliant 8500	Microsoft Windows 2000 Advanced Server SP2[4]	Oracle 9i RAC 9.2.0.1.0[8, 9]	RAC: 8	QLogic QLA2310F-E-SP[1, 2, 10]	FC-AL, FC-SW
6	Proliant: **8500**, BL40p, DL360[7], **DL380[7]**, DL560, DL580[7], DL740, DL760[7], DL760 (G2)	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E[1, 2], LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP[10, 11], QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
7	Proliant BL20p (G2)[24, 25, 26]	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	HPQ Dual-port mezzanine controller card[22, 23]	FC-AL, FC-SW
8	Proliant 6500[7, 20]	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
9	Proliant 8500	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0[8, 9]	RAC: 8	QLogic QLA2310F-E-SP[1, 2, 10, 11, 12]	FC-AL, FC-SW
10	**Proliant: DL740, DL760[7], DL760 (G2)**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E**	FC-AL, FC-SW
	Proliant BL20p (G2)[24, 25]	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4, Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4, Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ Dual-port mezzanine controller card[22, 23]**	FC-AL, FC-SW
12	**Proliant: 8500, BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), DL380[7], DL380(G2)[7], DL380(G3), DL560, DL580[7], DL580(G2)[7], DL580(G3), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), ML370(G3), ML530[7], ML530(G2)[7], ML570[7], ML570(G2), ML750[7]**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[13], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP QLA2342-E-SP**	FC-AL, FC-SW
13	**Proliant: DL740, DL760[7], DL760 (G2)**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[13], LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
14	Netserver LH 4 Proliant: 3000[7], 6500[7, 20], 7000[7, 20], 8000[7, 20]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	Emulex LP8000-EMC[1, 2, 10, 13]; QLogic: QLA2310F-E-SP[1, 2, 10, 17]; QLA2340-E-SP[1, 2, 10, 15]; QLA2342-E-SP[2, 10, 15]	FC-AL, FC-SW
15	Netserver LC: 2000 U3, 2000r[19] Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 8500, BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), **DL380[7], DL380(G2)[7], DL380(G3)**, DL560, DL580[7], DL580(G2)[7], **DL580(G3)**, DL740, DL760[7], DL760 (G2), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), **ML370(G3)**, ML530[7], ML530(G2)[7], ML570[7], ML570(G2)[16], ML750[18]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP8000-EMC[1, 2, 10, 13], LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2], LP9802-E[1, 2, 10, 15], LP9802DC-E[1, 2, 10, 15], LP982-E[1, 2, 10, 15]; QLogic: QLA2310F-E-SP[1, 2, 10, 17]; QLA2340-E-SP[1, 2, 10, 15]; QLA2342-E-SP[2, 10, 15]	FC-AL, FC-SW
16	Proliant BL20p (G2)[24, 25, 26]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	HPQ Dual-port mezzanine controller card[22, 23]	FC-AL, FC-SW
17	Netserver LH 4 Proliant: 3000[7], 6500[7, 20], 7000[7, 20], 8000[7, 20]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[14]	HA: 4	Emulex LP8000-EMC[1, 2, 10, 13]; QLogic: QLA2310F-E-SP[1, 2, 10, 17]; QLA2340-E-SP[1, 2, 10, 15]; QLA2342-E-SP[2, 10, 15]	FC-AL, FC-SW

19.768

19.767

HPQ – Microsoft Windows 2000

No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
18	Netserver LC: 2000 U3, 2000r[19]; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 8500, BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), **DL380[7], DL380(G2)[7], DL380(G3)**, DL560, DL580[7], DL580(G2)[7], **DL580(G3)**, DL740, DL760[7], DL760 (G2), ML350[7], ML350(G2)[7], ML370[7], ML370(G2) **ML370(G3)**, ML530[7], ML530(G2)[7], ML570[7], ML570(G2)[16], ML750[18]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[14]	HA: 4	Emulex: LP8000-EMC[1, 2, 10, 13], LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2] LP9802-E[1, 2, 10, 15], LP9802DC-E[1, 2, 10, 15], LP982-E[1, 2, 10, 15]; QLogic: QLA2310F-E-SP[1, 2, 10, 17]; QLA2340-E-SP[1, 2, 10, 15]; QLA2342-E-SP[2, 10, 15]	FC-AL, FC-SW
19	Proliant BL20p (G2)[24, 25, 26]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[14]	HA: 4	HPQ Dual-port mezzanine controller card[22, 23]	FC-AL, FC-SW
20	Proliant: ML530[7], ML530(G2)[7]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Oracle 9i RAC 9.2.0.1.0[21]	RAC: 8	Emulex: LP8000-EMC[1, 2, 10, 13], LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2] LP9802-E[1, 2, 10, 15], LP9802DC-E[1, 2, 10, 15], LP982-E[1, 2, 10, 15]; QLogic: QLA2310F-E-SP[1, 2, 10, 17]; QLA2340-E-SP[1, 2, 10, 15]; QLA2342-E-SP[2, 10, 15]	FC-AL, FC-SW
21	Proliant 8500	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Oracle 9i RAC 9.2.0.1.0[8, 9]	RAC: 8	Emulex: LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2], LP9802-E, LP9802DC-E[1, 2, 10, 15], LP982-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
22	Proliant: DL740, DL760[6, 7], DL760 (G2)	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[4, 5], Datacenter SP3[4], Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 4	Emulex: LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2]	FC-AL, FC-SW
23	Proliant BL20p (G2)[24, 25, 26]	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[4, 5], Datacenter SP3[4], Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 4	HPQ Dual-port mezzanine controller card[22, 23]	FC-AL, FC-SW
24	**Proliant 8500**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4]; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)**	**FC-SW**

1. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
2. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
3. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. PowerPath not supported. ATF is supported.
6. CX600 only.
7. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
8. Supported on CX600, CX400, CX200 and FC4700-2 only.
9. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0.
   VxVM not supported.
   PowerPath 3.0 supported
10. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
11. Requires QLogic driver v6.04.02 and BIOS v1.34.
12. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
13. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
14. GAB disks (membership and service group heartbeat disks) are not supported.
15. PowerPath supported. ATF/CDE not supported.
16. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
17. If using ATF/CDE, requires 2.1.6 or greater.
18. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
19. HP NetServer LC2000 is only supported with two processors.Uni-Processor configurations are not supported
20. Includes both Pentium PRO and XEON models
21. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0
    . VxVm not supported. PowerPath 3.0 supported.
22. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
23. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
24. BIOS must be obtained from HP at http://h18000 www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
25. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
26. BL20p (G2) is not supported in a direct attach cluster configuration w/ CLARiiON CX200.

IBM

IBM – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**xSeries x440**	**Microsoft Windows 2000 Datacenter: SP2[11], SP3[11]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM 24P0960(QLA2340)[14]: QLogic: QLA2340-E-SP, QLA2342-E-SP**	
2	**xSeries: X330, X335, X340 (4500R), X342, x230, x232, x235, x240, x250, x255, x345, x350 (6000R), x360, x370**	**Microsoft Windows 2000 Datacenter: SP2[11], SP3[11]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[9], 24P0960(QLA2340)[14]: QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
3	**xSeries x445**	**Microsoft Windows 2000 Datacenter, SP2[11], SP3[11]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[2], LP9802-E, LP9802DC-E, LP982-E. QLogic: QLA2340-E-SP, QLA2342-E-SP**	
4	Netfinity 6000R	Microsoft Windows 2000 Server SP4	Microsoft MSCS[6]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 3], LP9002DC-E[1, 3], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM: 19K1246(QLA2310)[1, 3, 4, 9, 10], 24P0960(QLA2340)[1, 3, 4, 7, 14, 15]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 4, 7]	
5	Netfinity 6000R	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[6]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 3], LP9002DC-E[1, 3], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM 19K1246(QLA2310)[1, 3, 4, 9, 10]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 4, 7]	FC-AL, FC-SW
6	**xSeries x445**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000 Datacenter: SP2[11], SP3[11], SP4; Microsoft Windows 2000 Server: SP2[11], SP3[11], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E; IBM: 19K1246(QLA2310)[9], 24P0960(QLA2340)[14]; QLogic QLA2310F-E-SP**	**FC-AL, FC-SW**
7	**xSeries x440**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4, Microsoft Windows 2000 Datacenter: SP2[11], SP3[11], SP4; Microsoft Windows 2000 Server: SP2[11], SP3[11], SP4**	**Microsoft MSCS**	**HA: 4**	**IBM 19K1246(QLA2310)[9], QLogic QLA2310F-E-SP**	FC-AL, FC-SW
8	**xSeries x440**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[11], Server SP3[11], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM 24P0960(QLA2340)[14]; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
9	**xSeries: X330, X335, X340 (4500R), X342, x230, x232, x235, x240, x250, x255, x345, x350 (6000R), x360, x370**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[11], Server SP3[11], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[9], 24P0960(QLA2340)[14]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
10	**xSeries x445**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[11], Server SP3[11], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[2], LP9802-E, LP9802DC-E, LP982-E: QLogic: QLA2340-E-SP, QLA2342-E-SP**	**FC-AL, FC-SW**
11	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[16], 7100	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6]	HA: 2	Emulex LP8000-EMC[1, 2, 3, 4]; IBM: 19K1246(QLA2310)[1, 3, 4, 9, 10], 24P0960(QLA2340)[1, 3, 4, 7, 14, 15]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 4, 7]	FC-AL, FC-SW
12	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 3], LP9002DC-E[1, 3], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM 19K1246(QLA2310)[1, 3, 4, 9, 10]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 4, 7]	FC-AL, FC-SW
13	Netfinity: 5600, 7600, 8500; xSeries: X340 (4500R), X342, x230, x235, x240, x250, **x255**, **x345**, x350 (6000R), **x360**, x370, x440 **x445**	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 3], LP9002DC-E[1, 3], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM: 19K1246(QLA2310)[1, 3, 4, 9, 10], 24P0960(QLA2340)[1, 3, 4, 7, 14, 15]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 4, 7]	FC-AL, FC-SW
14	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[16], 7100	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 4	Emulex LP8000-EMC[1, 2, 3, 4]; IBM: 19K1246(QLA2310)[1, 3, 4, 9, 10], 24P0960(QLA2340)[1, 3, 4, 7, 14, 15]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 4,	FC-AL, FC-SW

IBM – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
15	Netfinity: 5600, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x235, x240, x250, **x255**, **x345**, x350 (6000R), **x360**, x370, x440, **x445**	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 3], LP9002DC-E[1, 3], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM: 19K1246(QLA2310)[1, 3, 4, 9, 10], 24P0960(QLA2340)[1, 3, 4, 7, 14, 15]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 4, 7]	FC-AL, FC-SW
16	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base), Veritas Cluster Server (VCS) 2.0[5]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 3], LP9002DC-E[1, 3], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM 19K1246(QLA2310)[1, 3, 4, 9, 10]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 4, 7]	FC-AL, FC-SW
17	**xSeries x360**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP4**	**Oracle 9i RAC 9.2.0.1.0[12, 13]**	RAC: 8	**Emulex: LP9002-E (LP9002L-E)[1, 3], LP9002DC-E[1, 3], LP9802-E, LP9802DC-E[1, 3, 4, 7], LP982-E;** **IBM: 19K1246(QLA2310)[1, 3, 4, 9], 24P0960(QLA2340)[14];** **QLogic QLA2310F-E-SP[1, 3, 4]**	FC-AL, FC-SW
18	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[16], 7100	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Veritas Cluster Server (VCS) 2.0[5]	HA: 4	Emulex LP8000-EMC[1, 2, 3, 4], IBM: 19K1246(QLA2310)[1, 3, 4, 9, 10], 24P0960(QLA2340)[14]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 4, 7]	FC-AL, FC-SW
19	xSeries: x440, **x445**	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Veritas Cluster Server (VCS) 2.0[5]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 3], LP9002DC-E[1, 3], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM: 19K1246(QLA2310)[1, 3, 4, 9, 10], 24P0960(QLA2340)[1, 3, 4, 7, 14, 15, 17]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 4, 7]	FC-AL, FC-SW
20	xSeries: X340 (4500R), X342, x230, x235, x240, x250, **x255**, **x345**, x350 (6000R), **x360**, x370	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Veritas Cluster Server (VCS) 2.0[5]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 3], LP9002DC-E[1, 3], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM: 19K1246(QLA2310)[1, 3, 4, 9, 10], 24P0960(QLA2340)[1, 3, 4, 7, 14, 15]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 4, 7]	FC-AL, FC-SW
21	Netfinity: 5600, 7600; xSeries: X330, X335	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Veritas Cluster Server (VCS) 2.0[5]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 3], LP9002DC-E[1, 3], LP9802-E[1, 3, 4, 7], LP9802DC-E[1, 3, 4, 7], LP982-E[1, 3, 4, 7]; IBM: 19K1246(QLA2310)[1, 3, 4, 9, 10], 24P0960(QLA2340)[14]; QLogic: QLA2310F-E-SP[1, 3, 4, 8], QLA2340-E-SP[1, 3, 4, 7], QLA2342-E-SP[1, 4, 7]	FC-AL, FC-SW
22	Netfinity 6000R	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[6]	HA: 2	IBM 24P0960(QLA2340)[1, 3, 4, 7, 14, 15]	FC-AL, FC-SW[1]
23	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6]	HA: 2	IBM 24P0960(QLA2340)[1, 3, 4, 7, 14, 15]	FC-AL, FC-SW[1]
	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 4	IBM 24P0960(QLA2340)[1, 3, 4, 7, 14, 15]	FC-AL, FC-SW[1]
25	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Veritas Cluster Server (VCS) 2.0[5]	HA: 4	IBM 24P0960(QLA2340)[14]	FC-AL, FC-SW[1]
26	**eServer BladeCenter HS20 (Model 8678)[20, 21]**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4;** **Microsoft Windows 2000 Datacenter: SP2[11], SP3[11], SP4;** **Microsoft Windows 2000 Server: SP2[11], SP3[11], SP4**	**Microsoft MSCS[6, 18, 19]**	HA: 4	**IBM HS20 FC Expansion card 48P7061[22]**	**FC-SW**

1. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
4. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
5. GAB disks (membership and service group heartbeat disks) are not supported.
6. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
7. PowerPath supported. ATF/CDE not supported.
8. If using ATF/CDE, requires 2.1.6 or greater..
9. This HBA is equivalent to the qLogic QLA2310.
10. IBM xSeries Servers only.
11. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
12. Supported on CX600, CX400, CX200 and FC4700-2 only.
13. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0.
    VxVM not supported.
    PowerPath 3.0 supported.
14. This HBA is equivalent to the qLogic QLA2340.
15. For CX200 direct-connect only, boot from array for clusters not supported.
16. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
17. If using ATF/CDE, requires 2.1.6 or greater.
18. **Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.**

19. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
20. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
21 EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.
22. When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"

This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.

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NCR

NCR – Microsoft Windows 2000					
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter
1	Worldmark, 4500, 45xx, 4700, 47XX, 4850, 48XX, 4900, 4950, 5100 Series, 5150, 5250, 52XX, 5300, 5350, 8550, S50	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Unisys

Unisys – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	ES7000/230, ES7000/500	Microsoft Windows 2000 Datacenter: SP2[4], SP3[4]; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4	Microsoft MSCS	HA: 4	QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	
2	ES7000/100	Microsoft Windows 2000 Datacenter: SP2[4], SP3[4]; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4	Microsoft MSCS	HA: 4	QLogic: QLA2340-E-SP, QLA2342-E-SP	
3	ES7000/230; ES7000/500	Microsoft Windows 2000 Server SP4	Microsoft MSCS		Emulex LP8000-EMC[1, 2, 6, 7]	
4	ES7000/100; ES7000/200[8]	Microsoft Windows 2000 Server SP4	Microsoft MSCS		Emulex LP8000-EMC[1, 2, 6, 7]; Unisys FCH732213-P64 (LP9002L-F2)[4]	
5	ES7000/100; ES7000/200	Microsoft Windows 2000 Server SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP8000-EMC[1, 2, 6, 7], LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2], LP9802-E[1, 2, 7, 9], LP9802DC-E[1, 2, 7, 9], LP982-E[1, 2, 7, 9]; QLogic: QLA2310F-E-SP[1, 2, 7, 10], QLA2340-E-SP[1, 2, 7, 9], QLA2342-E-SP[2, 7, 9]; Unisys FCH732213-P64 (LP9002L-F2)[4]	
6	ES7000/230; ES7000/500	Microsoft Windows 2000 Server SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP8000-EMC[1, 2, 6, 7], LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2]; QLogic: QLA2310F-E-SP[1, 2, 7, 10], QLA2340-E-SP[1, 2, 7, 9], QLA2342-E-SP[2, 7, 9]	
7	ES7000/230; ES7000/500	Microsoft Windows 2000 Server SP4	Microsoft MSCS[3]	HA: 4	Emulex: LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2]	
8	ES7000/100; ES7000/200	Microsoft Windows 2000 Server SP4	Microsoft MSCS[3]	HA: 4	Emulex: LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2]; Unisys FCH732213-P64 (LP9002L-F2)[4]	
9	ES7000/230; ES7000/500	Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E	
10	ES7000/100	Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic QLA2310F-E-SP	

Unisys – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
11	**ES7000/200**	**Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E,** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
12	**ES7000/230; ES7000/500**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4,** **Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
13	**ES7000/100**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
14	ES7000/100; ES7000/200	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4, Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP8000-EMC[1, 2, 6, 7], LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2] LP9802-E[1, 2, 7, 9] LP9802DC-E[1, 2, 7, 9], LP982-E[1, 2, 7, 9]; QLogic: QLA2310F-E-SP[1, 2, 7, 10], QLA2340-E-SP[1, 2, 7, 9], QLA2342-E-SP[2, 7, 9]; Unisys FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW
15	ES7000/230; ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP8000-EMC[1, 2, 6, 7], LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2]; QLogic: QLA2310F-E-SP[1, 2, 7, 10], QLA2340-E-SP[1, 2, 7, 9], QLA2342-E-SP[2, 7, 9]	FC-AL, FC-SW
16	**ES7000/230 ES7000/500**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4;** **Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E**	FC-AL, FC-SW
17	**ES7000/100**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4;** **Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic QLA2310F-E-SP**	FC-AL, FC-SW
18	**ES7000/200**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4;** **Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
19	**ES7000/230; ES7000/500**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4;** **Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4;** **Microsoft Windows 2000 Server, SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E, LP982-E**	FC-AL, FC-SW
20	ES7000/500; ES7000/520; ES7000/530; ES7000/540	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	Microsoft MSCS	HA: 2	Unisys FCH732213-P64 (LP9002L-F2)	FC-AL, FC-SW
21	ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP9802-E[1, 2, 7, 9], LP9802DC-E[1, 2, 7, 9], LP982-E[1, 2, 7, 9]	FC-AL, FC-SW
22	ES7000/230	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP9802-E[1, 2, 7, 9], LP9802DC-E[1, 2, 7, 9], LP982-E[1, 2, 7, 9]; Unisys FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW

Unisys – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
23	ES7000/100; ES7000/200; ES7000/230; ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[11]	HA: 4	Emulex: LP8000-EMC[1, 2, 6, 7], LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2] LP9802-E[1, 2, 7, 9] LP9802DC-E[1, 2, 7, 9], LP982-E[1, 2, 7, 9]; QLogic: QLA2310F-E-SP[1, 2, 7, 10] QLA2340-E-SP[1, 2, 7, 9]; QLA2342-E-SP[2, 7, 9]; Unisys FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW
24	ES7000/230 ES7000/500	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[3, 4, 5], Datacenter SP3[4], Datacenter SP4	Microsoft MSCS		Emulex LP8000-EMC[1, 2, 6, 7]	FC-AL, FC-SW
25	ES7000/100, ES7000/200[8]	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[3, 4, 5], Datacenter SP3[4], Datacenter SP4	Microsoft MSCS		Emulex LP8000-EMC[1, 2, 6, 7]; Unisys FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW
26	ES7000/230; ES7000/500	Microsoft Windows 2000. Advanced Server SP3[4], Datacenter SP2[3, 4, 5], Datacenter SP3[4], Datacenter SP4 Server SP4	Microsoft MSCS		Unisys FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW
27	ES7000/230; ES7000/500	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[4, 5], Datacenter SP3[4], Datacenter SP4	Microsoft MSCS[3]	HA: 4	Emulex: LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2]	FC-AL, FC-SW
28	ES7000/100; ES7000/200	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[4, 5], Datacenter SP3[4], Datacenter SP4	Microsoft MSCS[3]	HA: 4	Emulex: LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2]; Unisys FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW
29	ES7000/230; ES7000/500	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[4, 5], Datacenter SP3[4], Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 4	Unisys FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW

1. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
2. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
3. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. PowerPath not supported. ATF is supported.
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
8. FC4500, FC4700 only.
9. PowerPath supported. ATF/CDE not supported.
10. If using ATF/CDE, requires 2.1.6 or greater..
11. GAB disks (membership and service group heartbeat disks) are not supported.

Microsoft Windows 2003

Dell

Dell – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650, 8450	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server
3. PowerPath is not supported
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Primergy: B210, C200, E200, F200, F250[5], H200, H250[5], H400, H450, K400, L200, N200, N400, N800, P200, P250, R450, T850	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. PowerPath is not supported.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. Must use standard PCI 32bit/33MHz slot for SCSI

HPQ

HPQ – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Proliant: **8500**, BL40p, DL320[4], DL360[4], DL360(G2)[4], DL360(G3), **DL380[4]**, **DL380(G2)[4]**, **DL380(G3)**, DL560, DL580[4], DL580(G2)[4], **DL580(G3)**, DL740, DL760[4], DL760 (G2), ML350[4], ML350(G2)[4], ML370[4], ML370(G2), ML370(G3), ML530[4], ML530(G2)[4], ML570[4], ML570(G2), ML750[4]	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E, QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
2	Proliant BL20p (G2)[5, 6]	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	HPQ Dual-port mezzanine controller card[7, 8]	FC-AL, FC-SW
3	Proliant: **8500**, BL40p, DL320[4], DL360[4], DL360(G2)[4], DL360(G3), **DL380[4]**, **DL380(G2)[4]**, **DL380(G3)**, DL560, DL580[4], DL580(G2)[4], **DL580(G3)**, DL740, DL760[4], DL760 (G2), ML350[4], ML350(G2)[4], ML370[4], ML370(G2), ML370(G3), ML530[4], ML530(G2)[4], ML570[4], ML570(G2), ML750[4]	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)	FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server
2. PowerPath is not supported.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
5. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
6. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
8. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

IBM

IBM – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	xSeries: X330, X335, X340 (4500R), X342, x230, x232, x235, x240, x250, **x255**, **x345**, x350 (6000R), **x360**, x370, x440, **x445**	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[1], 24P0960(QLA2340)[5]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
2	**eServer BladeCenter HS20 (Model 8678)[10]**	**Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]**	**Microsoft MSCS[7, 8, 9]**	HA: 4	**IBM HS20 FC Expansion card 48P7061[11]**	**FC-SW**

1. This HBA is equivalent to the qLogic QLA2310.
2. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
3. PowerPath is not supported.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. This HBA is equivalent to the qLogic QLA2340.
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. **MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.**
8. **Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.**
9. **Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.**
10. **EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.**
11. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"**

This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.

NCR

NCR – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Worldmark: 4500, 45xx, 4700, 47XX, 4850, 48XX, 4900, 4950, 5100 Series, 5150, 5250, 52XX, 5300, 5350, 8550, S50	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Unisys

Unisys – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	ES7000/100; ES7000/200; ES7000/230; ES7000/500	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Microsoft Windows NT

DG

DG – Microsoft Windows NT						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	AViiON: AV1400, AV2800, AV3700, AV3800	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex LP8000-EMC[3, 4, 5, 7, 8] QLogic: QLA2310F-E-SP[3, 4, 5, 6], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
2	AViiON: AV2300, AV3704R, AV8950	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 7, 8], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5] QLogic: QLA2310F-E-SP[3, 4, 5, 6], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
5. FC-AL for FC4700 requires Base Software or Access Logix 8.42 xx or higher
6. If using ATF/CDE, requires 2.0.9 or greater
7. LP8000 no longer has removable GBICs for copper cable support.
8. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Dell

Dell – Microsoft Windows NT						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	PowerEdge: 2300, 6100	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex LP8000-EMC[3, 4, 5, 8, 9] QLogic: QLA2310F-E-SP[3, 4, 5, 7], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
2	PowerEdge: 1550, 1650, 1750, 2400, 2450, 2500, 2550[6], 2600, 4600, 6300, 6350, 6400, 6450, 6650, 8450	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 8, 9], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5] QLogic: QLA2310F-E-SP[3, 4, 5, 7], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
3	PowerEdge 6600	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 8, 9], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5] QLogic: QLA2310F-E-SP[3, 4, 5, 7], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
4	PowerEdge 2650	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5] QLogic: QLA2310F-E-SP[3, 4, 5, 7], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
5	PowerEdge 6600	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex LP982-E[3, 4, 5]	FC-AL, FC-SW[3]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
5. FC-AL for FC4700 requires Base Software or Access Logix 8.42 xx or higher.
6. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
7. If using ATF/CDE, requires 2.0.9 or greater.
8. LP8000 no longer has removable GBICs for copper cable support.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

HPQ

HPQ – Microsoft Windows NT						
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Netserver LH: 3, 4, II, PRO; Netserver: LX PRO, LXR PRO, LXR PRO8; Proliant: 1600[7, 9], 1850[7], 3000[7], 5000[7], 5500[7, 8], 6000[7, 8], 6500[7, 8], 7000[7, 8], 8000[7, 8], 8000 Pro, 8000 Xeon	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex LP8000-EMC[3, 4, 5, 10, 11]; QLogic: QLA2310F-E-SP[3, 4, 5, 12]; QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
2	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 2500[7], 6400R[7], 8500, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), **DL380[7]**, **DL380(G2)[7]**, **DL380(G3)**, DL560, DL580[7], DL580(G2)[7], **DL580(G3)**, DL740, DL760[7], DL760 (G2), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), **ML370(G3)**, ML530[7], ML530(G2)[7], ML750[6]	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 10, 11], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5]; QLogic: QLA2310F-E-SP[3, 4, 5, 12]; QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
3	Proliant 850[7]	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 10, 11], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5]; QLogic: QLA2310F-E-SP[3, 4, 5, 12]; QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
5. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.

6. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
7. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
8. Includes both Pentium PRO and XEON models
9. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. LP8000 no longer has removable GBICs for copper cable support.
12. If using ATF/CDE, requires 2.0.9 or greater.

19.759

IBM

IBM – Microsoft Windows NT						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Netfinity 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[6], 7100	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex LP8000-EMC[3, 4, 5, 11, 12]. IBM: 19K1246(QLA2310)[3, 4, 5, 9, 10], 24P0960(QLA2340)[3, 4, 5, 7, 8]; QLogic: QLA2310F-E-SP[3, 4, 5, 10], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
2	xSeries: x235, **x345**	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 11, 12], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5]. IBM: 19K1246(QLA2310)[3, 4, 5, 9, 10], 24P0960(QLA2340)[3, 4, 5, 7, 8]. QLogic: QLA2310F-E-SP[3, 4, 5, 10], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
3	Netfinity: 5600, 7600, 8500R, xSeries: X340 (4500R), X342, x230, x240, x250, **x255**, x350 (6000R), **x360**, x370, x440, **x445**	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex, LP8000-EMC[3, 4, 5, 11, 12], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5]. IBM: 19K1246(QLA2310)[3, 4, 5, 9, 10], 24P0960(QLA2340)[3, 4, 5, 7, 8]. QLogic: QLA2310F-E-SP[3, 4, 5, 10], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
4	xSeries: x235, **x345**	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex LP982-E[3, 4, 5]	FC-AL, FC-SW[4]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
3. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
4. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
5. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
6. This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
7. For CX200 direct-connect only, boot from array for clusters not supported.
8. This HBA is equivalent to the qLogic QLA2340.
9. This HBA is equivalent to the qLogic QLA2310.
10. If using ATF/CDE, requires 2.0.9 or greater.
11. LP8000 no longer has removable GBICs for copper cable support.
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Unisys

Unisys – Microsoft Windows NT						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	ES7000/100; ES7000/200	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 5, 6, 7, 8], LP9002-E (LP9002L-E)[3, 5, 6]	FC-AL, FC-SW
2	ES7000/230; ES7000/500	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 5, 6, 7, 8], LP9002-E (LP9002L-E)[3, 5, 6], LP9802-E[3, 5, 6], LP9802DC-E[3, 5, 6], LP982-E[3, 4, 5, 6]	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
3. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
4. For CX200 direct-connect only, boot from array for clusters not supported.
5. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
6. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
7. LP8000 no longer has removable GBICs for copper cable support.
8. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Novell Netware

Dell

Dell – Novell Netware						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	PowerEdge 8450	Novell Netware 5.10: SP5[1, 2, 3, 7], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic QLA2340-E-SP[4]	FC-AL, FC-SW
2	PowerEdge: 2650, 4600, 6600, 6650	Novell Netware 5.10: SP5[1, 2, 3, 7], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP	FC-AL, FC-SW
3	PowerEdge: 2650, 4600, 6600, 6650	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2310F-E-SP	FC-AL, FC-SW
4	PowerEdge 8450	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[4]	FC-AL, FC-SW
5	PowerEdge: 2650, 4600, 6600, 6650	Novell Netware 5.10: SP5[1, 2, 3, 7], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic QLA2340-E-SP[4]	FC-AL, FC-SW[5]
6	PowerEdge 8450	Novell Netware 5.10: SP5[1, 2, 3, 7], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP	FC-AL, FC-SW[5]
7	PowerEdge: 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[6], 2600, 4300, 4400, 6100, 6300, 6350, 6450	Novell Netware 5.10: SP5[1, 2, 3, 7], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[4]	FC-AL, FC-SW[5]
8	PowerEdge: 2650, 4600, 6600, 6650	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2340-E-SP[4]	FC-AL, FC-SW[5]
9	PowerEdge: 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[6], 2600, 4300, 4400, 6100, 6300, 6350, 6450	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[4]	FC-AL, FC-SW[5]

1. Maximum number of NWFS volumes that can be mounted is 64
2. Powerpath & ATF supported.
3. Novell Storage Services supported.
4.

FC-AL for CX200 requires the following:
1) QLA2340 driver version 6.50v available at
http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
2) If the server is an HPQ Proliant DLxxx or Proliant MLxxx series, then ONLY (G2) and (G3) servers are supported.

5. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
6. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
7. Requires NetWare patches: NWPAPT2A and NSS5J.

HPQ

HPQ – Novell Netware

No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Netserver: LC 2000r, LH PRO	Novell Netware 5.10: SP5[1, 2, 3, 4], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP	FC-AL, FC-SW
2	Netserver LC 2000 U3; Proliant: 1600[9, 11], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 12], 6000[9, 12], 6400R[9], 6500[9, 12], 7000[9, 12], 8000[9, 12], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL360(G3), **DL380[9], DL380(G2)[9], DL380(G3)**, DL560, DL580[9], DL740, DL760[9], DL760 (G2), ML350[9], ML350(G2)[9], ML370[9], ML370(G2), **ML370(G3)**, ML530[9], ML530(G2)[9], ML570[9], ML570(G2)[6], ML750[10]	Novell Netware 5.10: SP5[1, 2, 3, 4], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[5]	FC-AL, FC-SW
3	Proliant: 1600[9, 11], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 12], 6000[9, 12], 6400R[9], 6500[9, 12], 7000[9, 12], 8000[9, 12], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL360(G3), **DL380[9], DL380(G2)[9], DL380(G3)**, DL560, DL580[9], DL740, DL760[9], DL760 (G2), ML350[9], ML350(G2)[9], ML370[9], ML370(G2), **ML370(G3)** ML530[9], ML530(G2)[9], ML570[9], ML570(G2)[6], ML750[10]	Novell Netware 6.0: SP1[1, 2, 3, 7], SP2[1, 2, 3, 7], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[5]	FC-AL, FC-SW
4	Netserver LH PRO	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2310F-E-SP	**FC-AL, FC-SW**
5	Netserver LC 2000 U3	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[5]	FC-AL, FC-SW
6	Netserver: LC 2000r, LH PRO	Novell Netware 5.10: SP5[1, 2, 3, 4], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic QLA2340-E-SP[5]	FC-AL, FC-SW[8]
7	Netserver LH: 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: DL580(G2)[9], **DL580(G3)**	Novell Netware 5.10: SP5[1, 2, 3, 4], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[5]	FC-AL, FC-SW[8]
8	Proliant: DL580(G2)[9], **DL580(G3)**	Novell Netware 6.0: SP1[1, 2, 3, 7], SP2[1, 2, 3, 7], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[5]	FC-AL, FC-SW[8]
9	Netserver LH PRO	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2340-E-SP[5]	**FC-AL, FC-SW[8]**
10	Netserver LH: 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[5]	FC-AL, FC-SW[8]

1. Maximum number of NWFS volumes that can be mounted is 64.
2. **Powerpath & ATF supported.**
3. Novell Storage Services supported.
4. Requires NetWare patches: NWPAPT2A and NSS5J.
5. FC-AL for CX200 requires the following:
   1) QLA2340 driver version 6.50v available at
   http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
   2) If the server is an HPQ Proliant DLxxx or Proliant MLxxx series, then ONLY (G2) and (G3) servers are supported.
6. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
7. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.
8. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
9. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
10. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
11. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
12. Includes both Pentium PRO and XEON models

IBM

IBM – Novell Netware

No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**xSeries x445**	**Novell Netware 5.10: SP5[1, 2, 3, 8], SP6**	**Novell Netware Cluster Services Server (NCS) v1.01**	**HA: 16**	**IBM 24P0960(QLA2340)[3, 4, 5, 6], QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[5]**	FC-AL
2	xSeries: **x345**, **x360**, x440	Novell Netware 5.10: SP5[1, 2, 3, 8], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP	FC-AL, FC-SW
3	Netfinity 8500R	Novell Netware 5.10: SP5[1, 2, 3, 8], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[5]	FC-AL, FC-SW

IBM – Novell Netware						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
4	xSeries x440	Novell Netware 6.0 SP1[1, 2, 3]	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	IBM 24P0960(QLA2340)[3, 4, 5, 6]	FC-AL, FC-SW
5	**xSeries x445**	**Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3**	**Novell Netware Cluster Services Server (NCS) v1.6**	**HA: 16**	**IBM 24P0960(QLA2340)[3, 4, 5, 6]; QLogic: QLA2310F-E-SP, QLA2340-E-SP[5]**	**FC-AL, FC-SW**
6	xSeries: **x345**, **x360**, x440	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2310F-E-SP	FC-AL, FC-SW
7	Netfinity 8500R	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[5]	FC-AL, FC-SW
8	xSeries x440	Novell Netware 5.10: SP5[1, 2, 3, 8], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	IBM 24P0960(QLA2340)[3, 4, 5, 6]; QLogic QLA2340-E-SP[5]	FC-AL, FC-SW[7]
9	**xSeries. x345. x360**	**Novell Netware 5.10: SP5[1, 2, 3, 8], SP6**	**Novell Netware Cluster Services Server (NCS) v1.01**	HA. 16	**QLogic QLA2340-E-SP[5]**	FC-AL, FC-SW[7]
10	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600 7000, 7000 M10[9], 7100, 7600: xSeries: X330, X340 (4500R), X342, x230, x240, x250, **x255**, x350 (6000R), x370	Novell Netware 5.10: SP5[1, 2, 3, 8], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[5]	FC-AL, FC-SW[7]
11	xSeries X335	Novell Netware 5.10: SP5[1, 2, 3, 8], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[5]	FC-AL, FC-SW[7]
12	xSeries: **x345**, **x360**, x440	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2340-E-SP[5]	FC-AL, FC-SW[7]
13	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600: xSeries: X330, X335, X340 (4500R), X342, x230, x240, x250, **x255**, x350 (6000R), x370	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[5]	FC-AL, FC-SW[7]
14	xSeries x440	Novell Netware 6.0: SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	IBM 24P0960(QLA2340)[3, 4, 5, 6]	FC-AL, FC-SW[7]

1. Maximum number of NWFS volumes that can be mounted is 64.
2. Novell Storage Services supported.
3. Powerpath & ATF supported.
4. This HBA is equivalent to the qLogic QLA2340.
5. FC-AL for CX200 requires the following:
   1) QLA2340 driver version 6.50v available at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
   2) If the server is an HPQ Proliant DLxxx or Proliant MLxxx series, then ONLY (G2) and (G3) servers are supported.
6. If using ATF/CDE, requires 2.1.6 or greater.
7. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
8. Requires NetWare patches: NWPAPT2A and NSS5J.
9. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).

Red Hat Linux

Dell

Dell – Red Hat Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 2650[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9], 6650[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[3, 13, 15]	Oracle 9i RAC 9.2.0.1.0[7, 10, 11, 12]	RAC: 8	QLogic QLA2310F-E-SP[1, 2, 14]	FC-AL, FC-SW
2	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[3, 13, 15]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic QLA2342-E-SP[2, 14]	FC-AL, FC-SW
3	PowerEdge 8450[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[3, 13, 15]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic: QLA2310F-E-SP[2, 14], QLA2342-E-SP[2, 14]	FC-AL, FC-SW
4	PowerEdge: 2650[8, 9], 6650[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[3, 13, 15]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic: QLA2340-E-SP[2, 14], QLA2342-E-SP[2, 14]	FC-AL, FC-SW
5	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 2650[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9], 6650[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 13]	Oracle 9i RAC 9.2.0.1.0[7, 10, 11, 12]	RAC: 8	QLogic: QLA2310F-E-SP[1, 2], QLA2342-E-SP[2]	FC-AL, FC-SW
6	PowerEdge 8450[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 13]	Oracle 9i RAC 9.2.0.1.0[7, 10, 11, 12]	RAC: 8	QLogic: QLA2340-E-SP[1, 2], QLA2342-E-SP[2]	FC-AL, FC-SW
	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 2650[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9], 6650[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 13]	Veritas Cluster Server (VCS) 2.0[19, 20, 21]	HA: 8	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW
8	PowerEdge 8450[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 13]	Veritas Cluster Server (VCS) 2.0[19, 20, 21]	HA: 8	QLogic: QLA2310F-E-SP[2], QLA2340-E-SP[1, 2], QLA2342-E-SP[2]	FC-AL, FC-SW
9	**PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 2650[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9], 6650[8, 9]**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 4, 5, 6]**	**Oracle 9i RAC 9.2.0.1.0[7]**	RAC: 8	**QLogic QLA2310F-E-SP[1, 2]**	FC-AL, FC-SW
10	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 2650[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9], 6650[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 13]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic: QLA2310F-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW
11	PowerEdge 8450[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 13]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW
12	PowerEdge 8450[8, 9]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[3, 13], v2.4.9-E.9[3, 13]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic QLA2310F-E-SP[2]	FC-AL, FC-SW
13	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 2650[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9], 6650[8, 9]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[3, 13], v2.4.9-E.9[3, 13]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic QLA2340-E-SP[2]	FC-AL, FC-SW
14	**PowerEdge: 1750, 2600, 2650, 4600, 6450, 8450**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3, 22], ES v2.4.9-e.24[3, 22]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2342-E-SP**	**FC-AL, FC-SW**
15	**PowerEdge 6600, 6650**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3, 22], ES v2.4.9-e.24[3, 22]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	**FC-AL, FC-SW**
16	PowerEdge 8450[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[3, 13, 15]	Oracle 9i RAC 9.2.0.1.0[7, 10, 11, 12]	RAC: 8	QLogic QLA2340-E-SP[1, 2, 14]	FC-AL, FC-SW[16, 17]
17	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[3, 13, 15]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic QLA2340-E-SP[2, 14]	FC-AL, FC-SW[16, 17]
18	**PowerEdge 8450[8, 9]**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 4, 5, 6, 18]**	**Oracle 9i RAC 9.2.0.1.0[7]**	RAC: 8	**QLogic QLA2340-E-SP[1, 2]**	FC-AL, FC-SW[16, 17]
19	**PowerEdge: 1750, 2600, 2650, 4600, 6450, 8450**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3, 22], ES v2.4.9-e.24[3, 22]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2340-E-SP**	FC-AL, FC-SW[16, 17]

1. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
2. Requires QLogic driver v6.04.02 and BIOS v1.34
3. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
4. **Watchdog Timer should be disabled in ocmargs.ora**
5. **Supported with QLogic driver v6.04.02 or v6.05.00.**
6. **OCFS (Oracle Cluster File System) is not supported.**
7. Configuration information available on EMC PowerLink and Avatar: See the Case Study "Oracle 9i RAC on Linux Red Hat 7.1 and Red Hat 2.1 Advanced Server with CLARiiON Storage Arrays" in the EMC Networked Storage Topology Guide.
8. An RPM from Dell may be used to install the QLogic v6.X driver. RPM may be obtained from the QLogic website.
9. QLogic driver is available with Dell/Oracle CC kit.
10. Requires patch p2646914_9202_LINUX.zip (Private Network Fix)
11. Oracle Cluster File System v1.0 supported with Linux v2.4.9-E9 through E12.
12. requires patch p2632931_9202_LINUX.zip (9.2.0.2 patch set).
13. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
14. Driver v6.04.00 or above must be used with Qlogic HBAs for direct attach configurations.
15. OCFS (Oracle Cluster File System) is supported. Requires patch mount-2.11g-6i386.rpm (ocfs mount support).
16. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
17. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
18. **PowerPath is not supported.**
19. Review single attach VxVM notes for PowerPath and DMP restrictions.
20. When VxVM is used, EMC recommends VxVM 3.2 update 2, VxFS 3.4 update 1 and above.
21. GAB disks (membership and service group heartbeat disks) are not supported.
22. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**

HPQ

HPQ – Red Hat Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 4]	Oracle 9i RAC 9.2.0.1.0[1, 8]	RAC: 8	QLogic QLA2342-E-SP[2, 9, 10, 11]	FC-AL, FC-SW
2	Proliant: 6500[5, 15], DL360[5], **DL380[5]**, DL560, DL580[5]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 4]	Veritas Cluster Server (VCS) 2.0[17, 18, 19]	HA: 8	QLogic QLA2342-E-SP[2]	FC-AL, FC-SW
3	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 4]	Veritas Cluster Server (VCS) 2.0[17, 18, 19]	HA: 8	QLogic: QLA2310F-E-SP[2, 9], QLA2342-E-SP[2, 9, 10, 11]	FC-AL, FC-SW
4	Proliant: DL740, DL760[5], DL760 (G2)	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 4]	Veritas Cluster Server (VCS) 2.0[17, 18, 19]	HA: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW
5	**Proliant 8500**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 13, 14]**	**Oracle 9i RAC 9.2.0.1.0[8]**	RAC: 8	**QLogic QLA2310F-E-SP[2, 9]**	FC-AL, FC-SW
6	Proliant: 6500[5, 15], 8500, DL360[5], **DL380[5]**, DL560, DL580[5]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 4]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic QLA2340-E-SP[2]	FC-AL, FC-SW
7	Proliant DL740	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.12[3, 4]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW
8	Proliant 8500	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.12[3, 4]	Oracle 9i RAC 9.2.0.1.0[1, 8]	RAC: 8	QLogic QLA2310F-E-SP[2, 9]	FC-AL, FC-SW
9	Proliant: 6500[5, 15], DL360[5], **DL380[5]**, DL560, DL580[5]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.12[3, 4], v2.4.9-E.9[3, 4]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic QLA2342-E-SP[2]	FC-AL, FC-SW
10	Proliant: DL760[5], DL760 (G2)	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.12[3, 4], v2.4.9-E.9[3, 4]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW
11	Proliant 8500	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.9[3, 4]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic QLA2342-E-SP[2]	FC-AL, FC-SW
12	**Proliant: DL360(G3), DL380(G3), DL580(G3), DL760 (G2), ML370(G3)**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3, 20], ES v2.4.9-e.24[3, 20]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2342-E-SP**	**FC-AL, FC-SW**
13	Proliant: 6500[5, 15], DL360[5], **DL380[5]**, DL560, DL580[5]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 4]	Veritas Cluster Server (VCS) 2.0[17, 18, 19]	HA: 8	QLogic QLA2340-E-SP[2]	FC-AL, FC-SW[6, 7]
14	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 4]	Veritas Cluster Server (VCS) 2.0[17, 18, 19]	HA: 8	QLogic QLA2340-E-SP[2, 9]	FC-AL, FC-SW[6, 7]
15	**Proliant 8500**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 13, 14]**	**Oracle 9i RAC 9.2.0.1.0[8]**	RAC: 8	**QLogic QLA2340-E-SP[2, 9]**	FC-AL, FC-SW[6, 7]
16	Proliant: 6500[5, 15], DL360[5], **DL380[5]**, DL560, DL580[5]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.12[3, 4]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic QLA2340-E-SP[2]	FC-AL, FC-SW[6, 7]
17	Proliant 8500	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.12[3, 4]	Oracle 9i RAC 9.2.0.1.0[1, 8]	RAC: 8	QLogic QLA2340-E-SP[2, 9]	FC-AL, FC-SW[6, 7]
18	**Proliant: DL360(G3), DL380(G3), DL580(G3), DL760 (G2), ML370(G3)**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3, 20], ES v2.4.9-e.24[3, 20]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2340-E-SP**	**FC-AL, FC-SW[6, 7]**

1. Oracle Cluster File System v1.0 supported with Linux v2.4.9-E9 through E12.
2. Requires QLogic driver v6.04.02 and BIOS v1.34
3. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
4. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
5. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
6. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs
7. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
8. Configuration information available on EMC PowerLink and Avatar: See the Case Study "Oracle 9i RAC on Linux Red Hat 7.1 and Red Hat 2.1 Advanced Server with CLARiiON Storage Arrays" in the EMC Networked Storage Topology Guide.
9. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
10. Host must be offline for interfamily Symmetrix microcode upgrade.
11. Driver v6.04.00 or above must be used with Qlogic HBAs for direct attach configurations.
12. **Supported with QLogic driver v6.04.02 or v6.05.00.**
13. **Watchdog Timer should be disabled in ocmargs.ora**
14. **OCFS (Oracle Cluster File System) is not supported.**
15. Includes both Pentium PRO and XEON models
16. OCFS (Oracle Cluster File System) is supported. Requires patch mount-2.11g-6i386.rpm (ocfs mount support)
17. Review single attach VxVM notes for PowerPath and DMP restrictions.
18. When VxVM is used, EMC recommends VxVM 3.2 update 2, VxFS 3.4 update 1 and above
19. GAB disks (membership and service group heartbeat disks) are not supported.
20. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**

IBM

IBM – Red Hat Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	xSeries: X335, X342, x345, x360, x370, x440, x445	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 2], ES v2.4.9-e.24[1, 2]	Red Hat Enterprise Linux 2.1 Cluster	HA: 2	QLogic QLA2342-E-SP	FC-AL, FC-SW
2	xSeries: X335, X342, x345, x360, x370, x440, x445	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 2], ES v2.4.9-e.24[1, 2]	Red Hat Enterprise Linux 2.1 Cluster	HA: 2	QLogic QLA2340-E-SP	FC-AL, FC-SW[3, 4]

1. This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.
2. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
3. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
4. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300, FC5300 with FC-SW available from selected channels.

Fibre Connectivity: Hub

Please refer to the fibre channel cables and connectors reference file: EPIc_FibreCablesConnectors.pdf.Please refer to the Base Connectivity Interoperability Application for details concerning kernel versions, minimum driver and BIOS / firmware revisions.

Microsoft Windows 2000

Microsoft Windows 2000								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Server: SP2[1], SP3[1]	Emulex: LP8000-EMC[6], LP9802-E, LP9802DC-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Gadzoox FCL1063TW	4	2	256	223[5], 256[2, 3, 4]	128
2	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Server: SP2[1], SP3[1]	Emulex: LP9002-E (LP9002L-E), LP982-E	Gadzoox FCL1063TW	4	2	256	223[7, 8, 9], 256[2, 3, 4]	128

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. CX600
3. CX400
4. CX200
5. FC4700, FC4500, and FC5300.
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. FC5300
8. FC4500
9. FC4700

Microsoft Windows NT

Microsoft Windows NT								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Gadzoox FCL1063TW[3]	4	2	256	223[4, 5, 6], 256[7, 8, 9]	128

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. No support for Fibre Channel Hubs on AViiON servers.
4. FC5300
5. FC4500
6. FC4700
7. CX600
8. CX400
9. CX200

Novell Netware

Novell Netware								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	Novell Netware 5.10: SP5[3], SP6; Novell Netware 6.0: SP1[3], SP2[3], SP3	QLogic: QLA2310F-E-SP, QLA2340-E-SP	Gadzoox FCL1063TW[1]	4	2	256	223[2], 256[4]	128

1. Hubs not supported for FC4700, CX600, CX400, CX200
2. FC4700, FC4500, and FC5300
3. Maximum number of NWFS volumes that can be mounted is 64
4. CX600 and CX400

Red Hat Linux

Red Hat Linux								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[2, 5], v2.4.9-E.12[2, 5], v2.4.9-E.16[2, 5], **v2.4.9-E.3[2, 3, 6, 7]**, v2.4.9-E.9[2, 5, 6, 7]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[2, 5]**, v2.4.9-e.16[2, 5]; Red Hat Linux 7.3: (v2.4.18-3)[2], updated w/ v2.4.18-27.7.x rpm[2, 7]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E	Gadzoox FCL1063TW	4	2	128	128	128
2	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[2, 5], v2.4.9-E.12[2, 5], v2.4.9-E.16[2, 5], **v2.4.9-E.3[2, 3]**, v2.4.9-E.9[2, 5]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[2, 5]**, v2.4.9-e.16[2, 5]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[2, 7]	QLogic: QLA2200F-EMC[1], QLA2310F-E-SP[1], QLA2340-E-SP[1]	Gadzoox FCL1063TW[4]	4	2	128	128	128
3	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[2, 8], ES v2.4.9-e.24[2, 8]**	**Emulex: LP9002-E (LP9002L-E)[9, 10, 12], LP9802-E[9, 10, 12], LP9802DC-E[9, 10, 12, 14, 15], LP982-E[9, 10, 12]**	**Gadzoox FCL1063TW**	**4**	**2**	**128**	**128**	**128**
4	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[2, 8], ES v2.4.9-e.24[2, 8]**	**QLogic: QLA2200F-EMC[1, 9, 10, 11, 12], QLA2310F-E-SP[1, 9, 10, 12, 13], QLA2340-E-SP[1, 9, 13]**	**Gadzoox FCL1063TW[4]**	**4**	**2**	**128**	**128**	**128**

1. Single HBA zoning is required regardless of the switch being utilized
2. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
3. **Supported with QLogic driver v6.04.02 or v6.05.00.**
4. Hubs not supported for FC4700, CX600, CX400, CX200
5. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
6. This kernel is limited to 100 devices, not 128.
7. Requires v6.2.1 or higher Navisphere host agent/CLI.
8. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
9. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
10. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
11. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
12. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
13. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
14. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
15. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**

SuSE Linux

SuSE Linux								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	SuSE Linux SLES 7: (v2.4.7)[2, 3, 4], updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2200F-EMC[1], QLA2310F-E-SP[1], QLA2340-E-SP[1]	Gadzoox FCL1063TW[5]	4	2	128	128	128
2	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[13, 14]**	**QLogic: QLA2200F-EMC[1, 15, 16], QLA2310F-E-SP[1, 15, 17], QLA2340-E-SP[1, 15, 17]**	**Gadzoox FCL1063TW[5]**	**4**	**2**	**128**	**128**	**128**
3	SuSE Linux SLES 8 v2.4.19-SuSE.175[8, 9, 10]	QLogic: QLA2200F-EMC[1, 12], QLA2310F-E-SP[1, 11], QLA2340-E-SP[1, 11]	Gadzoox FCL1063TW[5]	4	2	128	128	128

1. Single HBA zoning is required regardless of the switch being utilized.
2. Requires rev1_sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
3. Supported with QLogic driver v6.04.02.
4. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
5. Hubs not supported for FC4700, CX600, CX400, CX200
6. Requires rev2_sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
7. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
8. Requires QLogic driver v6.04.00 or above.
9. Requires rev3_sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
10. Requires QLogic v6.04.02 driver
11. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
12. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
13. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
14. **Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
15. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
16. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
17. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

Fibre Connectivity: Switch

Microsoft Windows 2000

Microsoft Windows 2000								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Server: SP2[1], SP3[1]	Emulex: LP8000-EMC[7], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000, 2400[6], 2800[6], 3200, 3800, 3900, 6400; Cisco MDS: 9216[11], 9509[11]; EMC Connectrix: DS-16B[6, 9], DS-16B2[10], DS-16M, DS-16M2, DS-24M2, DS-32B2[8], DS-32M, DS-32M2, DS-8B[6], ED-1032, ED-12000B[8], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	15	256	256	

Microsoft Windows 2000								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
2	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4 Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Emulex LP850-EMC	EMC Connectrix ED-140M[11]	4	15	256	256	Y
3	**Microsoft Windows 2000, Advanced Server SP4, Datacenter SP4, Server SP4**	**HPQ Dual-port mezzanine controller card[12]**	**EMC Connectrix: DS-16M[11], DS-16M2[11], DS-24M2[11], DS-32M[11], DS-32M2[11], ED-140M[11], ED-64M[11];** **McDATA: ED-5000[11], ED-6064[11], ED-6140[11], ES-2500[11], ES-3016[11], ES-3032[11], ES-3216[11], ES-3232[11], ES-4500[11]**	4	12	128	128	Y

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server
2. CX600
3. CX400
4. CX200
5. FC4700, FC4500, and FC5300.
6. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
8. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
9. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
10. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
11. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
12. **FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.**

Microsoft Windows 2003

Microsoft Windows 2003								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	**Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]**	**Emulex LP850-EMC**	**EMC Connectrix ED-140M[1]**	**4**	**15**	**256**	**256**	**Y**
2	**Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]**	**Emulex: LP8000-EMC[14], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	**Brocade Silkworm: 12000, 2400[6], 2800[6], 3200, 3800, 3900, 6400;** **Cisco MDS: 9216[1], 9509[1];** **EMC Connectrix: DS-16B[6, 13], DS-16B2[12], DS-16M, DS-16M2, DS-24M2, DS-32B2[11], DS-32M, DS-32M2, DS-8B[6], ED-1032, ED-12000B[11], ED-140M, ED-64M;** **McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**4**	**15**	**256**	**223[10], 256[7, 8, 9]**	**Y**
3	**Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]**	**HPQ Dual-port mezzanine controller card[5]**	**EMC Connectrix: DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], ED-140M[1], ED-64M[1];** **McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]**	**4**	**12**	**128**	**128**	**Y**

1. **For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.**
2. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
3. **Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.**
4. **PowerPath is not supported.**
5. **FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.**
6. **Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.**
7. **CX600**
8. **CX400**
9. **CX200**
10. **FC4700, FC4500, and FC5300.**
11. **EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.**
12. **EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.**
13. **EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.**
14. **The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.**

Microsoft Windows NT

Microsoft Windows NT								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[12], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000, 2400[8], 2800[8], 3200, 3800, 3900, 6400; Cisco MDS: 9216[13], 9509[13]; EMC Connectrix: DS-16B[8, 11], DS-16B2[8, 10], DS-16M, DS-16M2, DS-24M2, DS-32B2[9], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[9], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	15	256	223[2, 3, 4] 256[5, 6, 7]	Y

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. FC5300
3. FC4500
4. FC4700
5. CX600
6. CX400
7. CX200
8. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
9. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
10. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
11. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
13. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.

Novell Netware

Novell Netware									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	**Novell Netware 5.10: SP2[3], SP2A[3]**	**QLogic: QLA2200F-EMC, QLA2202F-EMC**	**Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400;** **EMC Connectrix: DS-16B[2, 6], DS-16B2[7], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[8], ED-12000B[9], ED-140M, ED-64M[8];** **McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	15	256	128	Y	See[1]
2	**Novell Netware 5.10: SP2[3], SP2A[3], SP5[3], SP6**	**QLogic QLA2200F-EMC[14, 15, 16, 17]**	**Brocade Silkworm: 12000, 2400[21], 2800[2, 21], 3200[20], 3800[20], 3900[18], 6400;** **EMC Connectrix: DS-16B[2, 6, 21], DS-16B2[7, 20], DS-16M, DS-16M2, DS-24M2, DS-32B2[9, 18], DS-32M2, DS-8B[2, 21], ED-12000B[9], ED-140M, ED-64M;** **McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	12	128	128	Y	
3	**Novell Netware 5.10: SP5[3], SP6**	**Emulex LP9002-E (LP9002L-E); IBM: 19K1246(QLA2310)[10, 12], 24P0960(QLA2340)[10, 11];** **QLogic: QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2342-E-SP**	**Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400;** **EMC Connectrix: DS-16B[2, 6], DS-16B2[7], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[8], ED-12000B[9], ED-140M, ED-64M[8];** **McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	15	256	128	Y	See[1]
4	Novell Netware 5.10: SP5[3], SP6; Novell Netware 6.0: SP1[3], SP2[3], SP3	QLogic: QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400; EMC Connectrix: DS-16B[2, 6], DS-16B2[7], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[8], ED-12000B[9], ED-140M, ED-64M[8]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	15	256	223[4], 256[5]	Y	See[1]
5	**Novell Netware 6.0: SP1[3], SP2[3], SP3**	**Emulex LP9002-E (LP9002L-E); IBM: 00N6881 (QLA2200)[13], 19K1246(QLA2310)[10, 12], 24P0960(QLA2340)[10, 11];** **QLogic: QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2342-E-SP**	**Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400;** **EMC Connectrix: DS-16B[2, 6], DS-16B2[7], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[8], ED-12000B[9], ED-140M, ED-64M[8];** **McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	15	256	128	Y	See[1]

1. Refer to Table 71 on page 202 for single-vendor and mixed-vendor switched fabrics and supported switch firmware.
2. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
3. Maximum number of NWFS volumes that can be mounted is 64.
4. FC4700, FC4500, and FC5300.
5. CX600 and CX400
6. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
7. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
8. ED-64 and ED-1032 not supported for FC5300.
9. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
10. **For IBM Netfinity and xSeries Intel servers only.**
11. **This HBA is equivalent to the qLogic QLA2340.**
12. **This HBA is equivalent to the qLogic QLA2310.**
13. **(QLA2200) For IBM xSeries and Netfinity servers only.**
14. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
15. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
16. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
17. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
18. **See Switched Fabric Topology Parameters for switch firmware levels.**
19. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
20. **Firmware 3.0.2a or later required.**
21. **Firmware v2.5.1b or later required**
22. **Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

Red Hat Linux

TST 39

Red Hat Linux									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 4], v2.4.9-E.12[1, 4], v2.4.9-E.16[1, 4]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[1, 4]** v2.4.9-e.16[1, 4]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 3]	Emulex: LP9002-E (LP9002L-E)[5], LP9802-E[5], LP9802DC-E[5], LP982-E[5]; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[11], 2800[10, 11], 3200[7], 3800[7], 3900[13], 6400; EMC Connectrix: DS-16B[10, 11, 12], DS-16B2[7, 8], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 13], DS-32M2, DS-8B[10, 11], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12	128	128	Y	
2	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[1, 4], v2.4.9-E.3[1]; Red Hat Linux 8.0 updated to v2.4.18-19.8.0[1]	HPQ Dual-port mezzanine controller card[15]	EMC Connectrix: DS-16M[14], DS-16M2[14], DS-24M2[14], DS-32M[14], DS-32M2[14], ED-140M[14], ED-64M[14]; McDATA: ED-5000[14], ED-6064[14], ED-6140[14], ES-2500[14], ES-3016[14], ES-3032[14], ES-3216[14], ES-3232[14], ES-4500[14]	4	12	128	128	Y	
3	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.3[1, 2, 3, 9]** v2.4.9-E.9[1, 2, 3, 4]	Emulex: LP9002-E (LP9002L-E)[5], LP9802-E[5], LP9802DC-E[5], LP982-E[5]	Brocade Silkworm: 12000, 2400[11], 2800[10, 11], 3200[7], 3800[7], 3900[13], 6400; EMC Connectrix: DS-16B[10, 11, 12], DS-16B2[7, 8], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 13], DS-32M2, DS-8B[10, 11], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12	128	128	Y	
4	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.3[1, 9]**, v2.4.9-E.9[1, 4]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[11], 2800[10, 11], 3200[7], 3800[7], 3900[13], 6400; EMC Connectrix: DS-16B[10, 11, 12], DS-16B2[7, 8], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 13], DS-32M2, DS-8B[10, 11], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12	128	128	Y	
5	**Red Hat Linux 2.1 Advanced Server v2.4.9-e.24[1, 19]**, ES **v2.4.9-e.24[1, 19]**	**Emulex: LP9002-E (LP9002L-E)[5, 16, 17, 18], LP9802-E[5, 16, 17, 18], LP9802DC-E[5, 16, 17, 18, 21, 22], LP982-E[5, 16, 17, 18]; QLogic: QLA2200F-EMC[16, 17, 18, 23], QLA2310F-E-SP[16, 17, 18, 20], QLA2340-E-SP[17, 20]**	**Brocade Silkworm: 12000, 2400[11], 2800[10, 11], 3200[7], 3800[7], 3900[13], 6400; EMC Connectrix: DS-16B[10, 11, 12], DS-16B2[7, 8], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 13], DS-32M2, DS-8B[10, 11], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**4**	**12**	**128**	**128**	**Y**	
6	Red Hat Linux 7.3 (v2.4.18-3)[1]	Emulex: LP9002-E (LP9002L-E)[5], LP9802-E[5], LP9802DC-E[5], LP982-E[5]; **QLogic QLA2200F-EMC[16, 17, 18, 23]**	Brocade Silkworm: 12000, 2400[11], 2800[10, 11], 3200[7], 3800[7], 3900[13], 6400; EMC Connectrix: DS-16B[10, 11, 12], DS-16B2[7, 8], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 13], DS-32M2, DS-8B[10, 11], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12	128	128	Y	
7	**Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[1], v2.4.18-27.8.0[1]**	**QLogic QLA2200F-EMC[16, 17, 18, 23]**	**Brocade Silkworm: 12000, 2400[11], 2800[10, 11], 3200[7], 3800[7], 3900[13], 6400; EMC Connectrix: DS-16B[10, 11, 12], DS-16B2[7, 8], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 13], DS-32M2, DS-8B[10, 11], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**4**	**12**	**128**	**128**	**Y**	
8	**Red Hat Linux: 7.3 (v2.4.18-3)[1], 8.0 updated to v2.4.18-19.8.0[1], 8.0 updated to v2.4.18-27.8.0[1]**	**QLogic: QLA2200F-EMC, QLA2202F-EMC**	**Brocade Silkworm: 12000, 2400[10], 2800[10], 3200, 3800, 6400; EMC Connectrix: DS-16B[10, 12], DS-16B2[8], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[10], ED-1032[25], ED-12000B[6], ED-140M, ED-64M[25]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**4**	**15**	**256**	**128**	**Y**	**See[24]**

1. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
2. This kernel is limited to 100 devices, not 128.
3. Requires v6.2.1 or higher Navisphere host agent/CLI.
4. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
5. Single HBA zoning is required regardless of the switch being utilized.
6. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
7. Firmware 3.0.2a or later required.
8. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
9. **Supported with QLogic driver v6.04.02 or v6.05.00.**
10. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D
11. Firmware v2.5.1b or later required
12. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
13. See Switched Fabric Topology Parameters for switch firmware levels.
14. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
15. FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.
16. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
17. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
18. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**

19. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
20. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
21. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
22. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
23. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
24. **Refer to Table 71 on page 202 for single-vendor and mixed-vendor switched fabrics and supported switch firmware.**
25. **ED-64 and ED-1032 not supported for FC5300.**
26. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
27. **Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

SuSE Linux

SuSE Linux								
No	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	SuSE Linux SLES 7 (v2.4.7)[9, 10, 11], updated with SuSE v2.4.18 rpm[1, 2]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[5], 2800[4, 5], 3200[3], 3800[3], 3900[12], 6400; EMC Connectrix: DS-16B[4, 5, 8], DS-16B2[3, 7], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 12], DS-32M2, DS-8B[4, 5], ED-12000B[6], ED-140M, ED-64M, McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12	128	128	Y
2	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[20, 21]**	**QLogic QLA2200F-EMC[19, 22], QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]**	**Brocade Silkworm: 12000, 2400[5], 2800[4, 5], 3200[3], 3800[3], 3900[12], 6400; EMC Connectrix: DS-16B[4, 5, 8], DS-16B2[3, 7], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 12], DS-32M2, DS-8B[4, 5], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**4**	**12**	**128**	**128**	**Y**
3	SuSE Linux SLES 8 v2.4.19-SuSE.175[14, 15, 16]	QLogic: QLA2200F-EMC[13], QLA2310F-E-SP[17], QLA2340-E-SP[17]	Brocade Silkworm: 12000, 2400[5], 2800[4, 5], 3200[3], 3800[3], 3900[12], 6400; EMC Connectrix: DS-16B[4, 5, 8], DS-16B2[3, 7], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 12], DS-32M2, DS-8B[4, 5], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12	128	128	Y

1. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
2. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
3. Firmware 3.0.2a or later required.
4. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
5. Firmware v2.5.1b or later required
6. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware. 1 x L1 or 2 x L2 ports per quad only.
7. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
8. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
9. Requires rev1_sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
10. Supported with QLogic driver v6.04.02.
11. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
12. See Switched Fabric Topology Parameters for switch firmware levels.
13. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
14. Requires QLogic driver v6.04.00 or above.
15. Requires QLogic v6.04.02 driver.
16. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
17. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
18. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
19. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
20. **Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
21. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
22. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

Application Software

Microsoft Windows 2000

Microsoft Windows 2000			
No.	Operating System	Host Bus Adapter	Application Software
1	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], Microsoft Windows 2000 Server: SP2[1], SP3[1]	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; **HPQ Dual-port mezzanine controller card:** IBM 24P0960(QLA2340)[6]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	PowerPath Base 3.0.2[4]
2	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4, Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4, Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; HPQ Dual-port mezzanine controller card; IBM 24P0960(QLA2340)[6]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	PowerPath 3.0.2[4]

Microsoft Windows 2000			
No.	Operating System	Host Bus Adapter	Application Software
3	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; HPQ Dual-port mezzanine controller card; IBM 24P0960(QLA2340)[6]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[3], Manager Base 6.4.1, **Manager, Event Monitor 6.4.1[3, 5]**
4	Microsoft Windows 2000: Advanced Server SP4, Datacenter SP4, Server SP4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM 24P0960(QLA2340)[6]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	PowerPath Base 3.0.2[4]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1.Tivoli NetView 6.0b. and Unicenter TNG 2.2 and 2.4.
4. Powerpath supported on FC4500, FC5300, FC4700, CX600, CX400, and CX200.
   PowerPath Base supported on FC4500, CX200 only.
   CLARiiON and Symmetrix can co-exist in the SAN with the same server.
5. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.**
6. This HBA is equivalent to the qLogic QLA2340.

Microsoft Windows 2003

Microsoft Windows 2003			
No.	Operating System	Host Bus Adapter	Application Software
1	Microsoft Windows 2003: DataCenter[1, 2, 3, 4], Enterprise Edition (Advanced Server)[1, 2, 3, 4], Standard Edition (Server)[1, 2, 3, 4]	Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; HPQ Dual-port mezzanine controller card; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[5], Manager Base 6.4.1, **Manager, Event Monitor 6.4.1[5, 7]**

1. Support limited to the following configurations: 1 HBA with 1 path to 1 SP; 2 HBAs, one with a single path to SPA and the other with a single path to SPB. Powerpath not supported. Refer to HBA guides for expected device behavior.
2. PowerPath is not supported.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1.Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.**

Microsoft Windows NT

Microsoft Windows NT			
No.	Operating System	Host Bus Adapter	Application Software
1	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; IBM 24P0960(QLA2340)[6]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[3], Manager Base 6.4.1, **Manager, Event Monitor 6.4.1[3, 5]**; **PowerPath 3.0.2[4]**

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
4. **Powerpath supported on FC4500, FC5300, FC4700, CX600, CX400, and CX200.**

   CLARiiON and Symmetrix can co-exist in the SAN with the same server.
5. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.**
   This HBA is equivalent to the qLogic QLA2340.

Novell Netware

Novell Netware			
No.	Operating System	Host Bus Adapter	Application Software
1	Novell Netware 5.10: SP5[1] SP6; Novell Netware 6.0: SP1[1], SP2[1], SP3	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], Manager Base 6.4.1, **Manager, Event Monitor 6.4.1[2, 4]**; PowerPath: 3.0.1[3], Base 3.0.2[3]

1. Maximum number of NWFS volumes that can be mounted is 64
2. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1.Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
3. Powerpath supported on FC4500, FC5300, FC4700, CX600, CX400, and CX200.
   PowerPath Base supported on FC4500, CX200 only.
   CLARiiON and Symmetrix can co-exist in the SAN with the same server.
4. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.**

Red Hat Linux

Red Hat Linux			
No.	Operating System	Host Bus Adapter	Application Software
1	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 3], v2.4.9-E.12[1, 3], v2.4.9-E.16[1, 3], **v2.4.9-E.3[3, 4]**, v2.4.9-E.9[1, 2, 3]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[1, 3]**, v2.4.9-e.16[1, 3]; Red Hat Linux 7.3: (v2.4.18-3)[3], updated w/ v2.4.18-27.7.x rpm[3]	Emulex: LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[5], Manager Base 6.4.1, Manager, Event Monitor 6.4.1[5, 6]

Red Hat Linux			
No.	Operating System	Host Bus Adapter	Application Software
2	Red Hat Linux 2.1: Advanced Server v2.4.9-e.16[1, 3], ES v2.4.9-e.16[1, 3]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	PowerPath Base 3.0.3[7, 8, 9]
3	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[1, 3], ES v2.4.9-e.16[1, 3]	QLogic: QLA2200F-EMC[10, 11, 12, 13], QLA2310F-E-SP[10, 12, 13, 14], QLA2340-E-SP[10, 12, 13, 14], QLA2342-E-SP[10, 12, 13, 14]	PowerPath 3.0.3 b065[7, 8, 9]
4	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3, 17], ES v2.4.9-e.24[3, 17]	Emulex: LP9802-E[10, 15, 16], LP9802DC-E[10, 13, 15, 16, 20], LP982-E[10, 15, 16]; QLogic: QLA2200F-EMC[10, 15, 16, 19], QLA2310F-E-SP[10, 15, 16, 18], QLA2340-E-SP[10, 18]	Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[5], Manager Base 6.4.1, Manager, Event Monitor 6.4.1[5, 6]
5	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3], ES v2.4.9-e.24[3]	QLogic: QLA2200F-EMC[10, 15, 16, 19], QLA2310F-E-SP[10, 15, 16, 18], QLA2340-E-SP[10, 18]	PowerPath Base 3.0.3[7, 8, 9]
6	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3], ES v2.4.9-e.24[3]	QLogic: QLA2200F-EMC[10, 15, 16, 19], QLA2310F-E-SP[10, 15, 16, 18], QLA2340-E-SP[10, 18], QLA2342-E-SP[10, 12, 15, 16, 18]	PowerPath 3.0.3 b065[7]

1. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
2. This kernel is supported with PowerPath v3.0.2 via RPQ only.
3. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
4. **Supported with QLogic driver v6.04.02 or v6.05.00.**
5. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
6. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.
7. **PowerPath Base is supported on the FC4500 and CX200 only.**
8. **CLARiiON and Symmetrix can co-exist in the SAN with the same server.**
9. **PowerPath supported on FC4500, FC4700, CX600, CX400, and CX200.**
10. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
11. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
12. **Single HBA zoning is required regardless of the switch being utilized.**
13. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
14. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
15. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
16. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
17. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
18. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
19. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
20. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**

SuSE Linux

SuSE Linux			
No.	Operating System	Host Bus Adapter	Application Software
1	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[1, 2]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP	Navisphere: Agent/CLI 6.4, Analyzer 6.4, Manager Base 6.4.1, Manager, Event Monitor 6.4.1[3, 12]
2	SuSE Linux SLES 7: (v2.4.7)[4, 5, 6], updated with SuSE v2.4.18 rpm[1, 2]	QLogic QLA2200F-EMC	Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[3], Manager Base 6.4.1, Manager, Event Monitor 6.4.1[3, 12]
3	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[14, 20]**	**QLogic QLA2200F-EMC[18, 19]**	**Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[3], Manager Base 6.4.1, Manager, Event Monitor 6.4.1[3, 12]**
4	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[14, 20]**	**QLogic: QLA2310F-E-SP[19, 21], QLA2340-E-SP[19, 21]**	**Navisphere: Agent/CLI 6.4, Analyzer 6.4, Manager Base 6.4.1, Manager, Event Monitor 6.4.1[3, 12]**
5	**SuSE Linux SLES 8 v2.4.19-SuSE.175[8, 9, 13, 14]**	**QLogic: QLA2200F-EMC[11], QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[22]**	**PowerPath: 3.0.3 b065[15, 16, 17], Base 3.0.3[15, 16, 17]**
6	SuSE Linux SLES 8 v2.4.19-SuSE.175[8, 9, 10]	QLogic QLA2200F-EMC[11]	Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[3], Manager Base 6.4.1, Manager, Event Monitor 6.4.1[3, 12]
7	SuSE Linux SLES 8 v2.4.19-SuSE.175[8, 9, 10]	QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7]	Navisphere: Agent/CLI 6.4, Analyzer 6.4, Manager Base 6.4.1, Manager, Event Monitor 6.4.1[3, 12]

1. Requires rev2_sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
2. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
3. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
5. Requires rev1_sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
6. Supported with QLogic driver v6.04.02.
7. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
8. Requires QLogic v6.04.02 driver.
9. Requires rev3_sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
10. Requires QLogic driver v6.04.00 or above.
11. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
12. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.
13. **Requires QLogic v6.04.02 or v6.05.00 driver.**
14. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
15. **CLARiiON and Symmetrix can co-exist in the SAN with the same server.**
16. **PowerPath supported on FC4500, FC4700, CX600, CX400, and CX200.**
17. **PowerPath Base is supported on the FC4500 and CX200 only.**
18. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
19. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
20. **Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
21. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
22. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

19.747

CLARiiON CX600/400

Base Connectivity

Do not use a LUN in the CLARiiON DAE2-ATA as a host OS boot device.Do not use a LUN in the CLARiiON DAE2-ATA as a host OS boot device.Windows NT/Windows 2000/2003 Servers (Fibre Channel/SCSI) Boot CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN. EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.

DG DG/UX

DG

DG – DG DG/UX							
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON: AV25000, AV35000[11, 12], AV3750	PCI	DG DG/UX R4.20MU07[2, 3]	Emulex LP8000-EMC[13]	FC-AL, FC-SW	N	See[1]
2	AViiON: AV25000, AV35000[11, 12], AV3750	PCI	DG DG/UX R4.20MU07[2, 3]	Emulex LP8000-F1[4, 5, 6, 7]	FC-AL, FC-SW[8, 9, 10]	N	See[1]
3	AViiON: AV25000, AV35000[11, 12], AV3750	PCI	DG DG/UX R4.20MU07[3]	Emulex LP8000-EMC[13]	FC-SW[8, 9, 10]	N	

1. For more information see http://athena.europe.dg.com
2. The release notice for DG/UX (included with the software release at path: "/usr/release/dgux*.rn) lists supported platforms.
3. FC4700 is only supported on DG/UX 4.20 MU07.
   Maximum of 2 fabrics, each with a maximum of 4 switches.
   Maximum of 4 FC4700s per fabric.
   Maximum of 16 HBAs per fabric.
   Maximum of 32 HBAs per FC4700 SP.
   Maximum of 6 DG/UX servers per FC4700.
   Maximum of 4 HBAs per AV3750 server (2 per fabric).
   Maximum of 4 HBAs per NUMA block (2 per fabric in non-clustered environments).
   FA4500 may be mixed within the same fabric with FC4700 running Access Logix, but must be separately zoned.
4. Requires firmware 3.20x4 using the native driver.
5. FC-AL support requires LP8000 BIOS version DB1.60A7 and firmware version DS3.20x4.
6. Only the Brocade FC switch connection is supported. Connectrix FC switch is not supported.
7. DG/UX automatically loads the firmware and BIOS onto the Emulex HBA during boot-up as needed. Current DG/UX R4.20MU06 OS supported firmware is V3.20x1 and BIOS V1.4.
8. DS-8B or DS-16B switches only: qualified with firmware v2 1.4a, v2.2, and v2.3.
9. FC4700 clusters must use FC-SW mode and switches.
10. Support for FC4500, FC4700, and FC5300.
11. ClarAlert is available to support FC4700 on AViiONs. ClarAlert is not compatible with other AViiON management software on the Navisphere management workstation.
12. AViiON 25000/35000 servers are not supported for direct server connections to FC4700.
13. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

EMC NAS

EMC

EMC – EMC NAS							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Celerra File Server Control Station CS-507 Series**	**PCI**	**EMC NAS: 4.1.12, 4.1.4, 4.1.8, 4.2.11, 4.2.18, 4.2.5, 5.0.11, 5.0.9, 5.1.15, 5.1.9**	**EMC 201-712-900[4]**	**FC-SW**	**N**	**See[1]**
2	**Celerra File Server Data Mover DM7 Series**	**PCI**	**EMC NAS: 4.1.12, 4.1.4, 4.1.8, 4.2.11, 4.2.18, 4.2.5, 5.0.11, 5.0.9, 5.1.15, 5.1.9**	**EMC 250-736-900[2]**	**FC-SW**	**N**	**See[1]**
3	**Celerra File Server Data Mover DM 510 Series**	**PCI**	**EMC NAS: 4.1.12, 4.1.4, 4.1.8, 4.2.11, 4.2.18, 4.2.5, 5.0.11, 5.0.9, 5.1.15, 5.1.9**	**EMC: 250-734-902[2, 5], 250-735-900[2, 3]**	**FC-SW**	**N**	**See[1]**

1. **FC4700-2 only**
2. **Not field-replaceable.**
3. **This HBA is for connecting to a disk array.**
4. **Host Adapter Card is not field-replaceable.**
5. **This HBA is for connecting to a Tape Library unit.**

Fujitsu Technology Solutions Solaris

Fujitsu Technology Solutions

Fujitsu Technology Solutions – Fujitsu Technology Solutions Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PRIMEPOWER: 650, 850, GP7000F 1000, GP7000F 200, GP7000F 2000, GP7000F 400, GP7000F 600, GP7000F 800	PCI	Fujitsu Technology Solutions Solaris: 2.6[3], 7[5], 8[6], 9[7]	Emulex: LP8000-EMC[2, 4], LP9002-E (LP9002L-E)[2]	FC-AL, FC-SW	N	See[1]
2	PRIMEPOWER: 650, 850, GP7000F 1000, GP7000F 200, GP7000F 2000, GP7000F 400, GP7000F 600, GP7000F 800	PCI	Fujitsu Technology Solutions Solaris: 8[6], 9[7]	Emulex LP9802-E[8]	FC-AL, FC-SW	N	See[1]
3	PRIMEPOWER 1500	PCI	Fujitsu Technology Solutions Solaris: 8[6], 9[7]	Emulex: LP9002-E (LP9002L-E)[2], LP9802-E[8]	FC-AL, FC-SW	N	See[1]

1. For sales in the USA and Canada only.
2. Requires Emulex driver 5.01e and firmware 3.90a7.
3. EMC required Solaris patches for Fujitsu PCI Bus servers running Solaris 2.6 (must be obtained from Fujitsu): 105181-33: SunOS 5.6:kernel update patch. 105356-[illegible] SunOS 5.6: /kernel/drv/ssd and /kernel/drv/sd patch. 105580-19: SunOS 5.6: /kernel/drv/glm patch.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. EMC required Solaris patches for Fujitsu PCI Bus servers running Solaris 7 (must be obtained from Fujitsu): 106541-23 SunOS 5.7: kernel update patch, 106925-09 SunOS 5.7: GLM driver patch, Fujitsu requires all patches for Solaris 7 be obtained through Fujitsu in the form of a Solaris 7 PTF patch CD. The current patch CD is Solaris 7 PTF R03051.
6. **EMC required Solaris patches for Fujitsu PCI Bus servers running Solaris 8: 108528-19: SunOS 5.8: Kernel update patch, 108974-27: data,uata,dad,sd and SCSI patch, 109885-09 SunOS 5.8: GLM driver patch. 108901-06 SunOS 5.8: /Kernel/sys/rpcmod and /kernel/strmod/rpcmod(for PowerPath 2.x), 110918-04 SunOS 5.8: openeepr patch. Fujitsu requires all patches for Solaris 8 be obtained through Fujitsu in the form of a Solaris 8 PTF patch CD. The current patch CD is Solaris 8 PTF R03051.**

7 EMC requires Solaris patches for Fujitsu servers running Solaris 9:

112233-05 SunOS 5.9: kernel update patch.
113277-08 SunOS 5.9: sd,ssd patch
112834-02
Fujitsu requires that all patches for Solaris 9 be obtained through Fujitsu in the form of a Solaris 9 PTF patch CD. The current patch CD is Solaris 9 PTF R03051.

8. Requires Emulex driver 5.01e and firmware 1.00a4.

HPQ HP-UX

HPQ

HPQ – HPQ HP-UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	HP 9000 K-Class	HSC	HPQ HP-UX 11.0[3, 8, 9]	HPQ A3404A[14]	FC-AL	Y[13]	
2	HP 9000 D-Class	HSC	HPQ HP-UX 11.0[3, 8, 9]	HPQ A3591B[14]	FC-AL	Y[13]	
3	HP 9000 K460	HSC	HPQ HP-UX 11.0[3, 9], 11i v1.0 (HP-UX 11.11)[3]	HPQ A3404A	FC-AL	N	See[14, 34, 53, 60]
4	HP 9000: K220, K250, K260, K360, K370, K380, K420, K450, K570, K580	HSC	HPQ HP-UX: 11.0[3, 9], 11i v1.0 (HP-UX 11.11)[3]	HPQ A3404A[14]	FC-AL	N	
5	HP 9000 D290[33]	HSC	HPQ HP-UX: 11.0[3, 9], 11i v1.0 (HP-UX 11.11)[3]	HPQ A3591B	FC-AL	N	
6	HP 9000: R380, R390[33, 75]	HSC	HPQ HP-UX: 11.0[3, 9], 11i v1.0 (HP-UX 11.11)[3]	HPQ A3591B[14]	FC-AL	N	
7	HP 9000: D270, D280, D370, D380, D390[33]	HSC	HPQ HP-UX: 11.0[3, 9], 11i v1.0 (HP-UX 11.11)[3]	HPQ: A3591A, A3591B	FC-AL	N	
8	HP 9000 rp5405[11]	PCI	HPQ HP-UX 11.0[3, 8]	HPQ A3740A	FC-AL	N	
9	HP 9000 rp5470 (L3000)[10, 40, 41]	PCI	HPQ HP-UX 11.0[3, 8, 9]	HPQ A3740A	FC-AL	Y[73]	
10	HP 9000 rp7400[16, 17]	PCI	HPQ HP-UX 11.0[3, 8, 9]	HPQ A3740A	FC-AL	Y[15]	
11	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11.0[3, 8, 9]	HPQ A3740A[42]	FC-AL	N	
12	HP 9000 N-Class (N4000)[16, 52]	PCI	HPQ HP-UX 11.0[3, 9]	HPQ A3740A	FC-AL	Y[15]	
13	HP 9000: V2500, V2600	PCI	HPQ HP-UX 11.0[3, 9]	HPQ A3740A	FC-AL	Y[8, 15]	
14	HP 9000: rp5400 (L1000)[74], rp5450 (L2000)[74]	PCI	HPQ HP-UX 11.0[3, 9, 53]	HPQ A3740A	FC-AL	Y[8, 15]	
15	HP 9000: N-Class (N4000)[16, 52], V2500, V2600, rp5400 (L1000)[74], rp5450 (L2000)[74]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A3740A	FC-AL	N	
16	HP 9000: V2200, V2250	PCI	HPQ HP-UX: 11.0[3, 9], 11i v1.0 (HP-UX 11.11)[3]	HPQ A3740A	FC-AL	N	
17	**HP 9000 K460**	HSC	HPQ HP-UX 11.0 Dec 2001[3, 9]	**HPQ A6685A[50]**	FC-AL, FC-SW	Y[50, 59]	
18	**HP 9000: K370, K380, K570[55], K580[55]**	HSC	HPQ HP-UX 11.0 Dec 2001[3, 9, 53]	**HPQ A6685A[6, 7, 31, 57]**	FC-AL, FC-SW	Y	
19	**HP 9000: K260, K360**	HSC	HPQ HP-UX 11.0 Dec 2001[3, 9, 53]	**HPQ A6685A[7, 31, 50, 57]**	FC-AL, FC-SW	Y	
20	**HP 9000 R380**	HSC	**HPQ HP-UX 11.0[3, 9]**	**HPQ A6684A[31, 50]**	FC-AL, FC-SW	N	
21	**HP 9000 R390[33, 75]**	HSC	**HPQ HP-UX 11.0[3, 9]**	**HPQ A6684A[31, 50]**	FC-AL, FC-SW	Y[50]	
22	**HP 9000: K220, K250, K420, K450**	HSC	**HPQ HP-UX 11.0[3, 9]**	**HPQ A6685A[28, 30, 31]**	FC-AL, FC-SW	N	
23	**HP 9000 D390[33]**	HSC	**HPQ HP-UX 11.0[3, 9, 33]**	**HPQ A6684A**	FC-AL, FC-SW	Y[8, 51, 54]	
24	HP 9000: K220, K250, K420, K450	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11) June 2001[3]	HPQ A6685A[6, 7, 31, 49]	FC-AL, FC-SW	N	
25	**HP 9000 K460[58]**	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	**HPQ A6685A**	FC-AL, FC-SW	Y	
26	HP 9000: K260, K360, K370, K380, K570, K580	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ A6685A[6, 7, 14, 31, 55, 56, 57]	FC-AL, FC-SW	Y[54, 58]	
27	**HP 9000 D390[33, 51]**	HSC	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]**	**HPQ A6684A**	FC-AL, FC-SW	Y	
28	**HP 9000 R380**	HSC	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]**	**HPQ A6684A[31]**	FC-AL, FC-SW	N	
29	**HP 9000 R390[33, 75]**	HSC	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]**	**HPQ A6684A[31]**	FC-AL, FC-SW	Y[51]	
30	HP 9000: D270, D280, D370, D380	HSC	HPQ HP-UX: 11.0[3, 9], 11i v1.0 (HP-UX 11.11)[3]	HPQ A6684A	FC-AL, FC-SW	N	
31	HP 9000 rp5430[11]	PCI	HPQ HP-UX 11.0 ACE[3, 9]	HPQ A6795A[19, 20, 21, 26, 27, 39]	FC-AL, FC-SW	N	See[1, 7, 11, 19, 20, 21, 26, 27, 34, 35, 36, 37, 38]
32	**HP 9000 rp5430[11]**	PCI	HPQ HP-UX 11.0 ACE[3, 9]	**HPQ: A5158A, A6795A**	FC-AL, FC-SW	N	
33	**HP 9000 rp2405**	PCI	HPQ HP-UX 11.0 March 2002[3]	**HPQ A6795A[29]**	FC-AL, FC-SW	Y	
34	HP 9000 rp7400[16, 17]	PCI	HPQ HP-UX 11.0[3, 8, 9]	HPQ A5158A[1, 6, 7]	FC-AL, FC-SW	Y	
35	HP 9000 rp5430	PCI	HPQ HP-UX 11.0[3, 8, 9]	HPQ A5158A[1, 7, 18]	FC-AL, FC-SW	Y[54, 71, 76]	
36	HP 9000 rp5430	PCI	HPQ HP-UX 11.0[3, 8, 9]	HPQ A6795A[19, 20, 21]	FC-AL, FC-SW	Y[29, 54, 61, 62, 76]	
37	**HP 9000 rp5430[11]**	PCI	**HPQ HP-UX 11.0[3, 8, 9]**	**HPQ: A5158A[1, 7, 18], A6795A[19, 20, 21]**	FC-AL, FC-SW	N	
38	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11.0[3, 9]	HPQ A5158A	FC-AL, FC-SW	Y[8, 18, 54, 71]	See[7, 19, 20, 21, 27, 34, 35, 36, 37, 38, 67, 69]
39	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11.0[3, 9]	HPQ A6795A	FC-AL, FC-SW	Y[8, 29, 54, 61, 62, 70]	See[7, 19, 20, 21, 27, 34, 35, 36, 37, 38, 67, 69]

HPQ – HPQ HP-UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
40	**HP 9000 rp2405**	PCI	**HPQ HP-UX 11.0[3, 9]**	**HPQ A6795A[19, 20, 21, 29]**	FC-AL, FC-SW	Y	
41	HP 9000 rp2470	PCI	HPQ HP-UX 11.0[3, 9]	HPQ: A5158A[28], **A6795A[19, 20, 21, 26, 77]**	FC-AL, FC-SW	N	
42	**HP 9000: V2500, V2600**	PCI	**HPQ HP-UX 11.0[3, 9, 53]**	**HPQ A5158A[1, 6, 7]**	FC-AL, FC-SW	Y	
43	HP 9000 SUPERDOME[67, 68]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001[3]	HPQ: A5158A[64], A6795A[19, 23, 25, 26, 27, 66]	FC-AL, FC-SW	N	
44	HP 9000: rp7405[4], **rp7410[5]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ A5158A[1, 2]	FC-AL, FC-SW	N	
45	HP 9000 rp2405	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ A6795A[19, 20, 21, 26, 27, 39, 48]	FC-AL, FC-SW	N	
46	HP 9000 rp7405[4]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ A6795A[23]	FC-AL, FC-SW	N	See[19, 20, 21, 22, 26, 27, 34, 36, 37]
47	**HP 9000 rp7410[5]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	**HPQ A6795A[23]**	FC-AL, FC-SW	Y[29, 54, 72]	**See[19, 20, 21, 22, 26, 27, 34, 36, 37]**
48	HP 9000 rp2470	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ: A5158A[1, 6, 7], A6795A[19, 20, 21, 26, 39, 48]	FC-AL, FC-SW	N	
49	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A	FC-AL, FC-SW	Y[18, 54, 71]	See[7, 19, 20, 21, 27, 34, 35, 36, 37, 53, 67, 69]
50	**HP 9000 rp7410[5, 22]**	PCI	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]**	**HPQ A5158A[1, 2]**	FC-AL, FC-SW	N	
51	HP 9000: V2500, V2600	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[1, 6, 7]	FC-AL, FC-SW	Y[15, 54]	
52	HP 9000 rp5430[41]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[1, 7]	FC-AL, FC-SW	Y[18, 54, 71, 76]	See[1, 7, 11, 19, 20, 21, 26, 27, 34, 35, 36, 37, 38]
53	HP 9000 rp2405	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A6795A	FC-AL, FC-SW	N	
54	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A6795A	FC-AL, FC-SW	Y[29, 54, 61, 62, 70]	See[7, 19, 20, 21, 27, 34, 35, 36, 37, 53, 67, 69]
55	**HP 9000 rp7410[5, 22]**	PCI	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]**	**HPQ A6795A[19, 21, 23, 24, 25, 26, 27]**	FC-AL, FC-SW	Y[32]	
56	HP 9000 rp5430[41]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A6795A[23, 26, 27]	FC-AL, FC-SW	Y[29, 54, 61, 62, 76]	See[1, 7, 11, 19, 20, 21, 26, 27, 34, 35, 36, 37, 38]
57	**HP 9000 rp5430[11]**	PCI	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]**	**HPQ: A5158A, A6795A**	FC-AL, FC-SW	N	**See[1, 7, 11, 19, 20, 21, 26, 27, 34, 35, 36, 37, 38]**
58	HP 9000 rp7405[4, 22]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ: A5158A[1, 2], A6795A[19, 21, 23, 24, 25, 26, 27]	FC-AL, FC-SW	N	
59	HP 9000 rp2405	PCI	HPQ HP-UX: 11.0 March 2002[3], 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A	FC-AL, FC-SW	N	
60	HP 9000: rp2430, rp2470	PCI	HPQ HP-UX: 11.0 March 2002[3], 11i v1.0 (HP-UX 11.11)[3]	HPQ: A5158A, A6795A	FC-AL, FC-SW	N	
61	HP 9000: V2200, V2250	PCI	HPQ HP-UX: 11.0[3, 9, 53], 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[1, 6, 7]	FC-AL, FC-SW	N	
62	HP 9000 N-Class (N4000)[16, 52]	PCI	HPQ HP-UX: 11.0[3, 9], 11i v1.0 (HP-UX 11.11)[3]	HPQ: A5158A[6], **A6795A[29, 61, 62]**	FC-AL, FC-SW	Y	
63	HP 9000 rp5405[11]	PCI	HPQ HP-UX 11.0 ACE[3, 8]	HPQ A6795A[19, 20, 21, 23, 26]	FC-AL, FC-SW[12]	N	
64	HP 9000 rp8400	PCI	HPQ HP-UX 11.0 ACE[3, 9]	HPQ A5158A[1, 2, 46]	FC-AL, FC-SW[12]	N	
65	HP 9000 rp5430[11]	PCI	HPQ HP-UX 11.0 ACE[3, 9]	HPQ A5158A[1, 6, 7]	FC-AL, FC-SW[12]	N	See[1, 7, 11, 19, 20, 21, 26, 27, 34, 35, 36, 37, 38]
66	HP 9000 rp7400[11]	PCI	HPQ HP-UX 11.0 Dec 2001[3, 8, 18]	HPQ A6795A[19, 20, 21, 23, 26]	FC-AL, FC-SW[12]	Y	
67	**HP 9000 rp5470 (L3000)[11, 41]**	PCI	HPQ HP-UX 11.0 Dec 2001[3, 9]	**HPQ A6795A[19, 20, 21, 26, 39, 40]**	FC-AL, FC-SW[12]	Y	
68	HP 9000: rp5400 (L1000)[74], rp5450 (L2000)[74]	PCI	HPQ HP-UX 11.0 Dec 2001[3, 9, 53]	HPQ A6795A[19, 20, 21, 23, 26, 27]	FC-AL, FC-SW[12]	Y[8, 29, 54, 61, 62]	
69	HP 9000 rp5405[10, 11]	PCI	HPQ HP-UX 11.0[3, 8, 9]	HPQ A5158A[1, 6, 7]	FC-AL, FC-SW[12]	N	
70	HP 9000 rp5470 (L3000)[10, 40, 41]	PCI	HPQ HP-UX 11.0[3, 8, 9]	HPQ A5158A[1, 6, 7]	FC-AL, FC-SW[12]	Y	
71	HP 9000: rp5400 (L1000)[74], rp5450 (L2000)[74]	PCI	HPQ HP-UX 11.0[3, 9, 53]	HPQ A5158A[1, 6, 7]	FC-AL, FC-SW[12]	Y[8, 15, 18, 54]	
72	HP 9000 rp5400 (L1000)[74]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001[3]	HPQ A6795A[19, 20, 21, 23, 26, 27]	FC-AL, FC-SW[12]	Y[29]	
73	HP 9000 rp5450 (L2000)[74]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001[3]	HPQ A6795A[19, 20, 21, 23, 26, 27]	FC-AL, FC-SW[12]	Y[29, 54, 61, 62]	
74	HP 9000 rp5470 (L3000)[10, 40, 41]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001[3]	HPQ A6795A[19, 20, 21, 23, 26, 27]	FC-AL, FC-SW[12]	Y[29, 54, 61, 62, 73]	
75	HP 9000 rp7400[11, 63]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001[3, 64]	HPQ A6795A[19, 20, 21, 23, 26, 27]	FC-AL, FC-SW[12]	Y[29, 54, 61, 62]	
76	HP 9000 rp8400[43, 44]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ: A5158A[1, 2, 46, 47] A6795A[19, 20, 21, 23, 26, 27, 45, 46]	FC-AL, FC-SW[12]	N	
77	HP 9000 rp8400	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3]	HPQ A5158A[1, 2, 46, 47]	FC-AL, FC-SW[12]	N	
78	HP 9000 rp5400 (L1000)[74]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[1, 6, 7]	FC-AL, FC-SW[12]	Y	
79	HP 9000 rp5450 (L2000)[74]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[1, 6, 7]	FC-AL, FC-SW[12]	Y[15, 18, 54]	
80	HP 9000 rp5470 (L3000)[10, 40, 41]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[6, 7]	FC-AL, FC-SW[12]	Y[29, 54, 73]	
81	HP 9000 rp5405[10, 11]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ: A5158A[6, 7], A6795A[19, 20, 21, 23, 26, 27]	FC-AL, FC-SW[12]	N	

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HPQ - HPQ HP-UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
82	HP 9000 rp7400[11, 63]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 64]	HPQ A5158A[1, 7, 65]	FC-AL, FC-SW[12]	Y[15, 29, 54]	
83	HP 9000 rp8400	PCI	HPQ HP-UX: 11.0 ACE[3, 9] 11i v1.0 (HP-UX 11.11) Sept 2001[3]	HPQ A6795A[19, 20, 21, 23, 26, 27, 45, 46]	FC-AL, FC-SW[12]	N	

1. HP A5158A FC-SW software requirement: FC-AL and FC-SW requires the HP A5158A Tachlite PCI Fibre Channel Adapter. The A5158A FC-SW software fabric driver version "AP0301", for HP-UX 11i is now available for download from HP's software depot site, http://www.software.hp.com under "drivers" . It is referred to as the "hp pci tachyon tl fibre channel adapter", and requires the installation of dependent patch PHKL_22874 prior to installing the fabric driver, patches may be superceded or have co-dependencies as defined by HP.
2. rp7400 A5158A requires: HP-UX 11i minimum driver version B11.11.06 or higher HP-UX 11.0 minimum driver version B11.00.06 or higher. rp8400 A5158A requires: HP-UX 11i minimum driver version B11.11.06 or higher
3. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
4. Virtual Partitions (VPAR) is supported on the rp7405 server with 4.x and 5.x Symmetrix models. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later. Partition Manager B.11.11.01.05 or later. Online Diagnostic revision B.11.11.07.23 or later. server PDC firmware 4.0 or later.
5. **Virtual Partitions (VPAR) is supported on the rp7405/7410 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.**
6. HP-UX 11.00 minimum driver revision B.11.00.06.
   HP-UX 11i minimum driver revision B.11.11.06.
   HP-UX 10.20 minimum driver revision B.10.20.01.
7. FC-AL, FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
8. See Technical Bulletin T010820 for supported patch levels.
9. With HP-UX 11.0, a failed-over LUN is not automatically restored to its parent SP following LCC removal and replacement on an FC4702 array. After the LCC has powered back up, the LUN can be restored by deactivating and activating the associated volume group using the command 'vgchange -a'. During other types of failover (disabling/reenabling SP ports on switch, etc.), the LUN "is" automatically restored.
10. L-Class requires minimum PDC firmware 40.26 or higher
11. rp5405, rp5430, rp5470, rp7400: (PA-8700 processors): Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001.
12. Switched fabric (FC-SW) first supported on FC4500, requires Core Software 6.32.05 or higher, Navisphere Agent 4.3 or higher, and Access Logix enabled (data access control enabled).
13. Direct attach only
14. For HP/UX 10.20 Driver J3630BA is required for A3404A, A3591A/B, A3740A, A6684A and A6685A adapters.
15. QuickLoop only or direct attach only.
    Virtual Partitions (VPAR) is supported on the N-class/rp7400 server.
    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later. Powerpath support on Virtual Partitions has to be RPQed at this time.
17. Requires PDC firmware rp7400 (PA-8700) requires PDC firmware 41.36.
18. For HP/UX 11.00, minimum driver revision B 11.00.06.
19. HP-UX driver requirements: HP-UX 11.0 : A6795A HP PCI Tachyon TL/XL2 Fibre Channel driver B.11.00.10 or later release which supports this HBA. HP-UX 11i : A6684A/A6685A/A5158A/A6795A HP Tachyon TL/XL2 Fibre Channel driver B.11.11.09 or later release which supports this HBA.
20. Supported with CX600, CX400, FC4700. FC4700-2 supports 1 and 2 Gb modes. Restrictions apply in boot environments.
21. HP-UX 11.0 ACE required patch: PHKL_23939
    HP-UX 11i required patch: PHKL_23626
    NOTE: These patches must be installed before installing the driver.
22. PDC firmware 15.5 or later
23. QuickLoop support: HP A5223A/AZ, HP A5224A/AZ using parameters outlined in connectivity table.
    The A6795A HBA is capable of supporting both 1 and 2 Gb speeds.
    QuickLoop is not supported with Brocade 3900/12000, or ED-12000B.
    Auto-sensing capability on the HBA is permanently enabled. There is no option to disable auto-sensing on the HBA.

    All switch ports participating in the Quickloop must be set to 1 GBit speed.
24. HP-UX driver requirements: HP-UX 11.0 : A6684A/A6685A/A5158A/A6795A HP PCI Tachyon TL/XL2 Fibre Channel driver B.11.00.10 or later release which supports this HBA.
25. Supported with CX600, CX400, FC4500 and FC4700. FC4700-2 supports both 1GB and 2GB modes. Restrictions apply in a boot environment.
26. Minimum driver version for SNIA HBA API support with HP-UX 11.0 is B.11.00.10. Minimum driver version for SNIA HBA API support with HP-UX 11.11 is B.11.11.09.
27. Supported with HP-UX 11i (64-bit only). FC4700-2 minimum code level 8.44.x1.
28. HP-UX 11.0 minimum driver revision B.11.00.06. HP-UX 11i driver revision B.11.11.06.
29. Boot initialization negotiation at 1 Gb mode for Brocade switches.
    FC-SW - HBA port on the switch must be locked as a "G" port and locked in auto-negotiation mode.
30. Qualified with only CX600, CX400. FC4500 and FC4700 with the switches listed in connectivity section, fabric or QuickLoop.
31. Required dependent FCMS patches are required (patches may be superceded or have co-dependencies as defined by HP): HP-UX 11.0, PHKL_21834 HP-UX 11i: PHKL_23626.NOTE: These patches must be installed before installing the driver, available at http://us-support2.external.hp.com, HSC Tachlite driver available at http://www.software.hp.com, under "drivers" and locate Fibre Channel HSC Tachlite adapter (A6684A or A6685A).For HP-UX 11i, the driver is under "hp tachyon tl fibre channel adapter" which enables support for A6684A/A6685A/A5158A.
32. NDU Release 11 or higher
33. Dx90, Rx90 servers support a maximum of 2 A6684A HBAs. The first must be installed in the turbo slot 10/12 and the second in any HSC slot.
34. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC Symmetrix devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set. No additional patches are required for this option in HP-UX 11.0, HP-UX 11.11 and forward, however in HP-UX 10.x the "N" flag option was introduced with the following patches are required to be installed or patches which supercede or replace these in order to configured the logical volumes residing on Symmetrix devices in this manner: For all HP/UX 10.xx versions install the following Bad Block Reallocation Patch Pair: 10.01: PHKL_11294, PHKL_11890, PHCO_11288 (patches may be superseded or have co-dependencies as defined by HP). 10.10: PHKL_11816, PHCO_11817 (patches may be superseded or have co-dependencies as defined by HP). 10.20: PHKL_11086, PHKL_11903, PHCO_10964 (patches may be superseded or have co-dependencies as defined by HP).
35. For HP/UX 11.00 minimum driver revision B.11.00.06.
    For HP/UX 11i minimum driver revision B.11.11.06.
36. QuickLoop support. HP A5223A/AZ, HP A5224A/AZ using parameters outlined in Table 112 on page 293.
    The A6795A HBA is capable of supporting both 1 and 2 Gb speeds.
    QuickLoop is not supported with Brocade 3200/3800/12000, DS-16B2 or ED-12000B
    Auto-sensing capability on the HBA is permanently enabled. There is no option to disable auto-sensing on the HBA.
37. FC-AL, FC-SW
38. PDC 40.26 or later
39. 1GBit Quickloop supported beginning at firmware release v3.0.2h. all switch ports participating in the Quickloop must be set to 1 GBit speed.
40. Virtual Partitions (VPAR) is supported on the L-class/rp5470 server.
    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later. Partition Manager B.11.11.01.05 or later. Online Diagnostic revision B.11.11.07.23 or later. server PDC firmware 41.02 or later.
41. PA-8700 processors: Initial support with HP-UX 11.0 Sept 2001, HP-UX 11i Sept 2001.
42. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
43. Virtual Partitions (VPAR) is supported on the rp8400 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later. Partition Manager B.11.11.01.05 or later. Online Diagnostic revision B.11 11 07.23 or later. server PDC firmware 4.0 or later.
44. rp8400 requires minimum PDC firmware 13.10 or higher.
45. 1GBit Quickloop supported beginning at firmware release v3.0.3h. all switch ports participating in the Quickloop must be set to 1 GBit speed.
46. Virtual Partitions (VPAR) is supported on the rp8400 server with the Clarion CX600 and FC4700.
    FC-AL only support. Requires PDC 16.009 or later.

    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later. Online Diagnostic revision B.11.11.07.23 or later.
47. Virtual Partitions (VPAR) is supported on the rp8400 server with the Clarion CX600 and FC4700.
    FC-AL only support. Requires PDC 16.009 or later.

    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later. Online Diagnostic revision B.11.11.07.23 or
48. QuickLoop support: HP A5223A/AZ, HP A5224A/AZ using parameters outlined in connectivity table.
    The A6795A HBA is capable of supporting both 1 and 2 Gb speeds.
    QuickLoop is not supported with Brocade 3900/12000, or ED-12000B
    Auto-sensing capability on the HBA is permanently enabled. There is no option to disable auto-sensing on the HBA.
49. Qualified with only CX600, CX400. FC4500 and FC4700 with the switches listed connectivity table, fabric or QuickLoop.

50. **HP-UX 11.0 minimum driver revision B.11.00.06. HP-UX 11i minimum driver revision B.11.11.06.**
51. Requires minimum PDC firmware 42.10
52. N-Class: Arbitrated loop boot with PDC rev 40.04 or higher.Fabric boot with PDC rev 40.25 or higher.
53. See Technical Bulletin T010820 for LVM supported patch levels.
54. The Brocade (Brocade, EMC, or HP models) switch port the HBA involved in a FC-SW topology boot process or FC-SW topology dump process is attached to, is required to be locked as G port when the boot or dump volume resides on the Symmetrix. This can be accomplished by executing the "portCfgGport port_number,1" command from a telnet session on the Brocade switch.The boot device can not be located more than two hops from the initiator involved in the boot process.
55. The A6685A is not supported in slots 10/0 and 10/8 of the K570 and K580. In the K570 and K580, there are restrictions for the number of A6685A HBA cards supported when graphics cards are installed.
56. HP-UX 10.20 requires patches (patches may be superceded or have co-dependencies as defined by HP):
    PHKL_16751. PHKL_17590 . PHSS_23581
    NOTE: These patches must be installed before installing the driver. available at http://us-support2.external.hp.com. HSC Tachlite driver available at http://www.software.hp.com, under "drivers" and locate Fibre Channel HSC Tachlite adapter (A6684A or A6685A)
    Depending on the patch level of the system, the following patches may be required:
    PHKL_16957PHKL_21595PHCO_16591PHSS_20999
    PHKL_17858PHKL_21661PHCO_18563PHNE_19936
    PHKL_20611PHKL_23419PHCO_21186
    Installation instructions available at:
    http://www.software.hp.com/cgi-bin/swdepot_parser.cgi/cgi/displayProductInfo.pl?productNumber=A6685A&oper=install
57. Qualified with only CX600, CX400, FC4500 and FC4700 with the switches listed in connectivity table, fabric or QuickLoop.
58. Requires minimum PDC firmware 41.33.
59. **Symm 6 is qualified with: HP-UX 11.00 Support Plus Sept '02 bundle = QPK1100 Sept '02 & HWE1100 Sept '02**
60. FC-AL
61. FC-AL direct attach 2-Gbit boot using A6795A is not supported.
    FC-SW 2-Gbit boot and/or dump using A6795A requires Auto-Negotiation flag to be enabled on the switch port the HBA is attached to.
62. FC-AL direct attach boot support only at 1 Gb. Requires the boot device port to be configured for 1 Gb operation.
63. Virtual Partitions (VPAR) is supported on the N-class/rp7400 server.
    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later
64. HP-UX 11.00 minimum driver revision B.11.00.06.
    HP-UX 11i minimum driver revision B.11.11.06.
65. HP-UX 11i minimum driver revision B.11.11.06.
66. HP-UX required patches: HP-UX 11.0 ACE: PHKL_23939, HP-UX 11i : PHKL_23626
67. Qualified on FC4500 and later. Requires Access Logix 6.32.11 (FC4500) or 8.42.5x (FC4700) or higher with data access control enabled and Navisphere Agent 5.2 or higher.
68. Requires minimum PDC firmware 32.2 and PDHC 7.3 or higher
69. HP A5158A FC-SW software requirements: FC-AL and FC-SW requires the HP A5158A Tachlite PCI Fibre Channel Adapter. The A5158A FCSW software fabric driver version "AP0301", for HP-UX 11i is now available for download from HP's software depot site, http://www.software.hp.com under "drivers". It is referred to as the "hp pci tachyon ti fibre channel adapter", and requires the installation of dependent patch PHKL_22874 prior to installing the fabric driver. patches may be superceded or have co-dependencies as defined by HP.
70. Requires minimum PDC firmware 42.09.
71. Fabric SAN boot supported.
72. Requires minimum PDC firmware 16.09 or higher
73. Excludes the rp5470 (PA-8700).
74. PDC firmware 41.39 or higher: Arbitrated Loop (direct attach) or FC-SW
75. Dx90, Rx90 require minimum PDC firmware 41.35 or higher.
76. Requires minimum PDC firmware 42.06.
77. QuickLoop support: HP A5223A/AZ, HP A5224A/AZ using parameters outlined in connectivity table.
    The A6795A HBA is capable of supporting both 1 and 2 Gb speeds.
    QuickLoop is not supported with Brocade 3200/3800/12000, DS-16B2 or ED-12000B.
    Auto-sensing capability on the HBA is permanently enabled. There is no option to disable auto-sensing on the HBA.

HPQ Tru64 UNIX

HPQ

HPQ – HPQ Tru64 UNIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**AlphaServer: ES47[6], ES80[6], GS1280[6]**	**PCI**	**HPQ Tru64 UNIX V5.1B[5]**	**HPQ FCA2384 (LP9802)[13, 14]**	**FC-SW**	**Y**	
2	**AlphaServer: ES47[6], ES80[6], GS1280[6]**	PCI	**HPQ Tru64 UNIX V5.1B[5]**	**HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-DA (261329-B21)[2, 3]**	FC-SW	Y	**See[1]**
3	AlphaServer: 1200[9], 4000[9], 4100[9], 8200[9], 8400[9], DS10, DS10L, DS20, DS20E, ES40, GS140[9], GS60[9]	PCI	HPQ Tru64 UNIX: V5.0A, V5.1, V5.1A, **V5.1B[5]**	HPQ: KGPSA-BC (380574-001)[7, 8], KGPSA-CA (168794-B21)[2, 3]	FC-SW	Y	See[1]
4	AlphaServer: GS160, GS320, GS80	PCI	HPQ Tru64 UNIX: V5.1, V5.1A, **V5.1B[5]**	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-CA (168794-B21)[2, 3], KGPSA-DA (261329-B21)[2, 3]	FC-SW	Y	See[1]
	AlphaServer: DS10, DS10L, DS20, DS20E, ES40	PCI	HPQ Tru64 UNIX: V5.1, V5.1A, **V5.1B[5]**	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-DA (261329-B21)[2, 3]	FC-SW	Y	See[1]
6	**AlphaServer: DS10, DS20E, DS25[12], ES40 ES45[11], GS160, GS320, GS80**	**PCI**	**HPQ Tru64 UNIX: V5.1A, V5.1B[5]**	**HPQ FCA2384 (LP9802)[13, 14]**	**FC-SW**	**Y**	
7	AlphaServer DS20L	PCI	HPQ Tru64 UNIX: V5.1A, **V5.1B[5]**	HPQ KGPSA-CA (168794-B21)[2, 3]	FC-SW	Y	See[1]
8	AlphaServer: DS25[10, 12], ES45[10, 11]	PCI	HPQ Tru64 UNIX: V5.1A, **V5.1B[5]**	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-CA (168794-B21)[2, 3], KGPSA-DA (261329-B21)[2, 3]	FC-SW	Y	See[1]

1. Supported on CX600, CX400 and FC4700-2 only.
2. KGPSA-CA/KGPSA-DA(FCA2354). Minimum firmware revision 3.81A4.
3. KGPSA-CA/KGPSA-DA(FCA2354): Latest firmware revision 3.82A1
4. Identical to KGPSA-DA.
5. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
6. **AlphaServer GS1280,ES80,ES47: Minimum Tru64 V5.1B with Patch Kit 1 (T64V51BB1AS0001-20021229)**
7. KGPSA-BC. Latest firmware revision 3.20X7.
8. KGPSA-BC: Minimum firmware revision 3.03A1
9. KGPSA-BC/KGPSA-CA supported ONLY.
10. KGPSA-CA and KGPSA-DA(FCA2354) only supported on this server.
11. Tru64 UNIX V5.1A minimum requirement for ES45.
12. Tru64 UNIX V5.1A minimum requirement for DS25.
13. **FCA2384(KGPSA-EA): Latest firmware revision 1.00X6**
14. **FCA2384(KGPSA-EA): Minimum firmware revision 1.00X2**

IBM AIX

IBM

IBM – IBM AIX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	7013-S7A	PCI	IBM AIX 4.3.3[4]	IBM 6227[24, 25]	FC-AL	N

IBM – IBM AIX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
2	7013-S70; 7013-S7A; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7025-F50	PCI	IBM AIX 5.2	IBM 6227	FC-AL	N
3	7017-S80; p680 7017-S85	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[6, 7, 38]
4	7025-F80; p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[6, 12, 38]
5	7025-H70; 7026-H70	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[6, 13, 38]
6	7026-H50	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[6, 35, 38]
7	7026-H80; p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[6, 15, 38]
8	7026-M80; p660 7026-6M1	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[6, 14, 38]
9	7044-170; 7044-270	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[6, 16, 38]
10	p640 7026-B80	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[6, 32, 38]
11	7013-S7A; 7015-S7A; 7017-S7A; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	N
12	p610: 7028-6C1, 7028-6E1	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[18, 36, 37, 38]
13	p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[12, 36, 37, 38]
14	p630: 7028-6C4, 7028-6E4; p690 7040-681	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[17, 36, 37, 38]
15	p640 7026-B80	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[32, 36, 37, 38]
16	p650 7038-6M2	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[36, 37, 38, 39]
17	p655 7039-651; p670 7040-671; p690 7040-W42	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[36, 37, 38]
18	p660 7026-6M1	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[14, 36, 37, 38]
19	p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[15, 36, 37, 38]
20	p680 7017-S85	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[7, 36, 37, 38]
21	p690: 7040-61D, 7040-61R	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[36, 37, 38, 40]
22	p650 7038-6M2; p655 7039-651	PCI	IBM AIX: 5.1[3, 4, 21], 5.2	IBM 6239	FC-AL, FC-SW	N
23	p630: 7028-6C4, 7028-6E4	PCI	IBM AIX: 5.1[3, 4, 27], 5.2	IBM 6239	FC-AL, FC-SW	N
24	7044-170; 7044-270; p610: 7028-6C1, 7028-6E1; p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1; p670 7040-671; p690: 7040-61D, 7040-61R, 7040-681	PCI	IBM AIX: 5.1[3, 4], 5.2	IBM 6239	FC-AL, FC-SW	N
25	p615: 7029-6C3, 7029-6E3	PCI	IBM AIX: 5.1[42], 5.2[43]	IBM 6239[20, 41]	FC-AL, FC-SW	N
[illegible]	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node, 7026-M80 as SP2 node, SP2 9076 + 06 50X[26], 07 55X[26], 08 T70[26]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	PCI	IBM AIX 5.1[14, 22, 23]	IBM 6228[2, 5]	FC-AL[24], FC-SW	N
27	7013-S70 as SP2 node. 7015-S70 as SP2 node. 7017-S70 as SP2 node	PCI	IBM AIX 4.3.3[4]	IBM 6227[1, 25]	FC-AL[5] FC-SW[5]	N
28	7013-S7A; 7015-S7A; 7017-S7A; 7025-F50	PCI	IBM AIX 4.3.3[4]	IBM 6228[20, 34]	FC-AL[5] FC-SW[5]	N
29	7017-S80; p680 7017-S85	PCI	IBM AIX 4.3.3[4]	IBM 6228[20, 34]	FC-AL[5] FC-SW[5]	Y[6, 7, 8, 29, 30, 31]
30	7025-F80; p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 4.3.3[4]	IBM 6228[20, 34]	FC-AL[5] FC-SW[5]	Y[6, 8, 12, 29, 30, 31]
31	7025-H70; 7026-H70	PCI	IBM AIX 4.3.3[4]	IBM 6228[20, 34]	FC-AL[5] FC-SW[5]	Y[6, 8, 13, 29, 30, 31]
32	7026-H50	PCI	IBM AIX 4.3.3[4]	IBM 6228[20, 34]	FC-AL[5] FC-SW[5]	Y[6, 8, 29, 30, 31, 35]
33	7026-H80; p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 4.3.3[4]	IBM 6228[20, 34]	FC-AL[5] FC-SW[5]	Y[6, 8, 15, 29, 30, 31]
34	7026-M80; p660 7026-6M1	PCI	IBM AIX 4.3.3[4]	IBM 6228[20, 34]	FC-AL[5] FC-SW[5]	Y[6, 8, 14, 29, 30, 31]
35	7044-170; 7044-270	PCI	IBM AIX 4.3.3[4]	IBM 6228[20, 34]	FC-AL[5] FC-SW[5]	Y[6, 8, 16, 29, 30, 31]
36	p610: 7028-6C1, 7028-6E1	PCI	IBM AIX 4.3.3[4]	IBM 6228[20, 34]	FC-AL[5] FC-SW[5]	Y[6, 8, 18, 29, 30, 31]

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IBM – IBM AIX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
37	p640 7026-B80	PCI	IBM AIX 4.3.3[4]	IBM 6228[20, 34]	FC-AL[5] FC-SW[5]	Y[6, 8, 29, 30, 31, 32]
38	7013-S7A as SP2 node, 7015-S7A as SP2 node, 7017-S7A as SP2 node, 7017-S80 as SP2 node; 7026-H80 as SP2 node, 7026-M80 as SP2 node; SP2 9076 +: 06 50X[26], 07 55X[26], 08 T70[26]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node, p680 7017-S85 as SP2 node	PCI	IBM AIX 4.3.3[4]	IBM: 6227[1, 25], 6228[20, 34]	FC-AL[5] FC-SW[5]	N
39	7013-S70; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7025-F50; 7043-270	PCI	IBM AIX 4 3.3[4, 25]	IBM 6227[1, 25]	FC-AL[5] FC-SW[5]	N
40	7017-S80; p680 7017-S85	PCI	IBM AIX 4.3.3[4, 25]	IBM 6227[1, 25]	FC-AL[5] FC-SW[5]	Y[6, 7, 8, 29, 30, 31]
41	7025-F80; p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 4.3.3[4, 25]	IBM 6227[1, 25]	FC-AL[5] FC-SW[5]	Y[6, 8, 12, 29, 30, 31]
42	7025-H70; 7026-H70	PCI	IBM AIX 4.3.3[4, 25]	IBM 6227[1, 25]	FC-AL[5] FC-SW[5]	Y[6, 8, 13, 29, 30, 31]
43	7026-H50	PCI	IBM AIX 4.3.3[4, 25]	IBM 6227[1, 25]	FC-AL[5] FC-SW[5]	Y[6, 8, 29, 30, 31, 35]
44	7026-H80; p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 4.3.3[4, 25]	IBM 6227[1, 25]	FC-AL[5] FC-SW[5]	Y[6, 8, 15, 29, 30, 31]
45	7026-M80; p660 7026-6M1	PCI	IBM AIX 4.3.3[4, 25]	IBM 6227[1, 25]	FC-AL[5] FC-SW[5]	Y[6, 8, 14, 29, 30, 31]
46	7044-170; 7044-270	PCI	IBM AIX 4.3.3[4, 25]	IBM 6227[1, 25]	FC-AL[5] FC-SW[5]	Y[6, 8, 16, 29, 30, 31]
47	p640 7026-B80	PCI	IBM AIX 4.3.3[4, 25]	IBM 6227[1, 25]	FC-AL[5] FC-SW[5]	Y[6, 8, 29, 30, 31, 32]
48	7013-S70; 7015-S70; 7017-S70; 7043-270	PCI	IBM AIX 5.1[3, 4]	IBM 6227[1, 33]	FC-AL[5] FC-SW[5]	N
49	p610: 7028-6C1, 7028-6E1	PCI	IBM AIX 5.1[3, 4]	IBM 6228[1, 2]	FC-AL[5] FC-SW[5]	Y[6, 8, 9, 10, 11, 18]
50	p670 7040-671; p690: 7040-61D, 7040-61R, 7040-681, 7040-W42	PCI	IBM AIX 5.1[3, 4]	IBM 6228[2]	FC-AL[5] FC-SW[5]	Y[6, 8, 9, 10, 11, 17]
51	7013-S7A; 7015-S7A; 7017-S7A; 7025-F50	PCI	IBM AIX 5.1[3, 4]	IBM: 6227[1, 33], 6228[1, 2]	FC-AL[5] FC-SW[5]	N
52	7017-S80; p680 7017-S85	PCI	IBM AIX 5.1[3, 4]	IBM: 6227[1, 33], 6228[1, 2]	FC-AL[5] FC-SW[5]	Y[6, 7, 8, 9, 10, 11]
53	7025-F80; p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 5.1[3, 4]	IBM: 6227[1, 33], 6228[1, 2]	FC-AL[5] FC-SW[5]	Y[6, 8, 9, 10, 11, 12]
54	7025-H70	PCI	IBM AIX 5.1[3, 4]	IBM: 6227[1, 33], 6228[1, 2]	FC-AL[5] FC-SW[5]	Y[6, 8, 9, 10, 11, 13]
55	7026-H50	PCI	IBM AIX 5.1[3, 4]	IBM: 6227[1, 33], 6228[1, 2]	FC-AL[5] FC-SW[5]	Y[6, 8, 9, 10, 11, 35]
56	7026-H80; p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 5.1[3, 4]	IBM: 6227[1, 33], 6228[1, 2]	FC-AL[5] FC-SW[5]	Y[6, 8, 9, 10, 11, 15]
57	7026-M80; p660 7026-6M1	PCI	IBM AIX 5.1[3, 4]	IBM: 6227[1, 33], 6228[1, 2]	FC-AL[5] FC-SW[5]	Y[6, 8, 9, 10, 11, 14]
58	7044-170; 7044-270	PCI	IBM AIX 5.1[3, 4]	IBM: 6227[1, 33], 6228[1, 2]	FC-AL[5] FC-SW[5]	Y[6, 8, 9, 10, 11, 16]
59	p640 7026-B80	PCI	IBM AIX 5 1[3, 4]	IBM: 6227[1, 33], 6228[1, 2]	FC-AL[5] FC-SW[5]	Y[6, 8, 9, 10, 11, 32]
60	7026-H70	PCI	IBM AIX 5.1[3, 4]	IBM: 6227[1, 33], 6228[2]	FC-AL[5] FC-SW[5]	Y[6, 8, 9, 10, 11, 13]
61	p650 7038-6M2	PCI	IBM AIX 5.1[3, 4, 21]	IBM 6228[2, 20]	FC-AL[5] FC-SW[5]	Y[6, 8, 10, 11, 19]
62	p655 7039-651	PCI	IBM AIX 5.1[3, 4, 21]	IBM 6228[2, 20]	FC-AL[5] FC-SW[5]	N
63	p630: 7028-6C4, 7028-6E4	PCI	IBM AIX 5.1[3, 4, 27]	IBM 6228[2, 24]	FC-AL[5] FC-SW[5]	Y[6, 8, 9, 10, 11, 28]
64	7013-S70 as SP2 node, 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node, 7017-S7A as SP2 node; 7017-S80 as SP2 node, 7026-H80 as SP2 node, 7026-M80 as SP2 node, SP2 9076 +: 06 50X[26], 07 55X[26], 08 T70[26], p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	PCI	IBM AIX 5.1[4, 23, 33]	IBM 6227[24]	FC-AL[5] FC-SW[5]	N

1. IBM 6227 and IBM 6228 adapters are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server.
   6227 Filesets: devices.pci/df1000f7.com, devices.pci/df1000f7.diag, devices.pci/df1000f7.rte ;
   6228 Filesets: devices.pci/df1000f7.com, devices.pci/df1000f7.diag, devices.pci/df1000f9.diag, devices.pci/df1000f9.rte
2. Requires minimum HBA firmware 3.82A1, CLArrayS3.5.1 fileset support. Supports FC4700 with minimum Flare code 8.46.xx .
3. AIX 5.1-32/64 bit kernel supported. Requires CLArrayS3.5.1 fileset support.
4. Includes support for FC4700, FC4700-2, CX600, CX400.
5. FC-SW and FC-AL are supported on the same server.
6. **Do not use a LUN in the CLARiiON DAE2-ATA as a host OS boot device.**
7. **System/Service processor combined microcode Version 20020920 dated 11/19/2002 or later.**
8. **Minimum Powerpath version 3.0.2. For Powerpath patches 3.0.x, the bootfix.sh script is required for boot support. See the EMC Primus case ID emc58938 for more details and the PowerPath Release Notes for installation**

9. **AIX 5.1 ML1, APAR IY21957 or higher.**
10. **For Powerpath version 3.0.3, minimum CLArray S3.5.1.0.6 version is required.**
11. **Fibre boot when used under AIX 5.1 requires APAR IY40885 which can be obtained from IBM at https://techsupport.services.ibm.com/server/fixes?view=pSeries.**
12. **System microcode CL020407 or later.**
13. **System/Service processor combined microcode Version SST01256/SS010614 dated 10/23/2001 or later.**
14. **System microcode MM020407 or later.**
15. **System microcode CM020407 or later.**
16. **System/Service processor combined microcode Version SPH02254/sh020307 dated 11/20/2002 or later.**
17. **System/Service processor combined microcode Version RH020413 dated 05/22/2002 or later.**
18. **System/Service processor combined microcode Version CLT02066/ct020307 dated 04/04/2002 or later.**
19. **System/Service processor microcode Version RK021120 dated 12/11/2002 or later.**
20. IBM Native Fibre Channel drivers with feature code 6227 and with feature code 6228 are supported on the same server. Feature 6228 and 6239 are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server. 6227 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f7.rte; 6228 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f9.diag, devices.pci.df1000f9.rte; 6239 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1080f9.diag, devices.pci.df1080f9.rte
21. Requires AIX 5.1 with minimum maintenance level 03 APAR IY32749.
22. Requires adapter firmware 3.82A1, CLArrayS3.5.1 fileset support. Supports FC4700 with minimum Flare code 8.46.xx.
23. AIX 5.1 supported only with 32-bit kernel.
24. IBM 6227 and IBM 6228 adapters are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server. 6227 Filesets: devices.pci/df1000f7.com, devices.pci/df1000f7.diag, devices.pci/df1000f7.rte ; 6228 Filesets: devices.pci/df1000f7.com, devices.pci/df1000f7.diag, devices.pci/df1000f9.diag, devices.pci/df1000f9.rte
25. Requires adapter firmware 3.22A1, CLArrayS3.4.3.0.x fileset support. Supports FC4700 with minimum Flare code 8.46.xx .
26. The following link provides detailed data for all 9076-SP2 models and feature codes: http://www1.ibmlink.ibm.com/cgi-bin/master?request=salesmanual&parms=SMS&xh=NTZH*daEMSRi4n1USenGnN9332&xhi=usa.main%7Csalesmanual%5E&type=D&search=9076&title=T&product
27. Requires minimum AIX 5.1 maintenance level 02.
28. **System/Service processor combined microcode Version RR020822 dated 09/19/2002 or later.**
29. **Minimum AIX 4.3.3 ML9, APAR IY22024**
30. **For Powerpath version 3.0.3, minimum CLArray S3.4.3.0.8 version is required.**
31. **Fibre boot when used under AIX 4.3 requires APAR IY42989 which can be obtained from IBM at https://techsupport.services.ibm.com/server/fixes?view=pSeries.**
32. **System/Service processor combined microcode Version NAN02066/SC020308 dated 03/29/2002 or later.**
33. Requires adapter firmware 3.22A1, CLArrayS3.5.1 fileset support. Supports FC4700 with minimum flare code 8.46.xx.
34. Requires minimum HBA firmware 3.82A1, CLArrayS3.4.3.0.x fileset support. Supports FC4700 with minimum Flare code 8.46.xx .
35. **System/Service processor combined microcode Version L02113/ag010611 or later.**
36. **Requires minimum HBA firmware 3.82A1. For all PCI-based hosts only: see HBA placement guidelines in the IBM document PCI Adapter Placement Reference SA38-0538-6, available at http://www-1.ibm.com/servers/eserver/pseries/library/hardware_docs/sa38/380538.pdf**
37. **Requires CLArrayS3.5.2.0.6**
38. **Fibre boot when used under AIX 5.2 requires APAR IY41028 which can be obtained from IBM at https://techsupport.services.ibm.com/server/fixes?view=pSeries.**
39. **System/Service processor combined microcode Version RK030206 dated 03/31/2003 or later.**
40. **Minimum microcode levels RH0 20413 dated 05/22/2002 or later.**
41. Requires minimum HBA firmware 1.00X5.
42. Requires AIX 5.1 with minimum maintenance level 04 APAR IY44478.
43. Requires AIX 5.2 with minimum maintenance level 01 APAR IY44479.

Microsoft Windows 2000

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Bull

Bull – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Express 5800: 320La, 320La-R, 320Lb, 320Lb-R, 330Ma-R, 330Mb-R, 340Ha-R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[3, 7, 8], SP3[3, 7, 8]**	**QLogic QLA2310F-E-SP[5, 6]**	FC-AL, FC-SW	N	**See[4]**
2	Express 5800 180Rb7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4	Emulex LP8000-EMC[1, 2]	FC-AL, FC-SW	N	

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Windows 2000 Professional is supported as the management workstation.
5. **Qlogic SANSurfer/SANBlade Manager is not supported.**
6. **Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**
7. **Refer to the Stratus, Bull or NEC documentation for hardware, software and non-storage related setup and configuration.**
8. **FC-AL supported for direct attach only. No support for hubs or Quickloop at this time.**

DG

DG – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON: AV1400, AV2300, AV2800, AV3700, AV3704R, AV3800, AV8950	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex LP8000-EMC[8, 19]; **QLogic: QLA2310F-E-SP[20, 22], QLA2340-E-SP[20, 21], QLA2342-E-SP[20, 21]**	FC-AL, FC-SW	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18]	See[1, 2]
2	AViiON: AV8900, AV8950R	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex: LP8000-EMC[8, 19], LP9002-E (LP9002L-E)[6, 7, 8] LP9002DC-E[6, 23, 24, 25], LP9802-E[4, 5, 6], LP9802DC-E[4, 5, 6], LP982-E[4, 5, 6, 23]; **QLogic: QLA2310F-E-SP[20, 22], QLA2340-E-SP[20, 21], QLA2342-E-SP[20, 21]**	FC-AL, FC-SW	N	See[1, 2]
3	AViiON: AV2700, AV3600, AV3704, AV8700	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex: LP8000-EMC[8, 19], LP9002-E (LP9002L-E)[7, 8] LP9002DC-E[6, 23, 24, 25], LP9802-E[4, 5], LP9802DC-E[4, 5, 6], LP982-E[4, 5, 23]; **QLogic: QLA2310F-E-SP[20, 22], QLA2340-E-SP[20, 21], QLA2342-E-SP[20, 21]**	FC-AL, FC-SW	N	See[1, 2]
4	AViiON AV8950	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex: LP9002-E (LP9002L-E)[6, 7, 8], LP9002DC-E[6, 23, 24, 25], LP9802-E[4, 5, 6], LP9802DC-E[4, 5, 6], LP982-E[4, 5, 6, 23]	FC-AL, FC-SW	N	See[1, 2]
5	AViiON: AV1400, AV2300, AV2800, AV3700, AV3704R, AV3800	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex: LP9002-E (LP9002L-E)[7, 8], LP9002DC-E[6, 23, 24, 25], LP9802-E[4, 5], LP9802DC-E[4, 5, 6], LP982-E[4, 5, 23]	FC-AL, FC-SW	N	See[1, 2]

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
5. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
6. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
7. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
8. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
9. Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
10. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
11. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
12. Supports PowerPath 3.0 or greater.
13. No MirrorView or SnapView used on boot LUNs.
14. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
15. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
16. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
17. MSCS cluster configurations are supported with CX600, CX400 and FC4700.
18. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
19. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
20. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
21. **PowerPath supported. ATF/CDE not supported.**
22. **If using ATF/CDE, requires 2.1.6 or greater.**
23. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
24. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
25. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

Dell

Dell – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerVault: 750N[23], 755N[23]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9002-E (LP9002L-E)[3, 27, 28], LP9002DC-E[3, 11, 24, 27, 28, 29]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 7], QLA2342-E-SP[5, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
2	PowerEdge: 2300, 6100, 6300, 6350	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex LP8000-EMC[3, 4]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 7], QLA2342-E-SP[5, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
3	PowerEdge: 4300, 4350	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000, Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex LP8000-EMC[3, 4]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 7], QLA2342-E-SP[5, 7]**	FC-AL, FC-SW	N	See[1, 2]
4	PowerEdge 8450	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[3, 27], LP9002DC-E[11, 24, 28, 29], LP9802-E[9, 10, 11], LP9802DC-E[9, 10, 11], LP982-E[9, 10, 11, 24]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 7], QLA2342-E-SP[5, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]

Dell – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
5	PowerEdge: 1550, 1650, 2400, 2450, 2500, 2550[22], 4400, 6400, 6450	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[3, 27], LP9002DC-E[11, 24, 28, 29], LP9802-E[9, 10], LP9802DC-E[9, 10, 11], LP982-E[9, 10, 24]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 7], QLA2342-E-SP[5, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
6	PowerEdge: 2300, 6100, 6300, 6350	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP9002-E (LP9002L-E)[3, 27], LP9002DC-E[11, 24, 28, 29], LP9802-E[9, 10], LP9802DC-E[9, 10, 11], LP982-E[9, 10, 24]	FC-AL, FC-SW	N	See[1, 2]
7	PowerVault: 770N[23], 775N[23]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP9002-E (LP9002L-E)[3, 27], LP9002DC-E[11, 24, 28, 29], LP9802-E[9, 10], LP9802DC-E[9, 10, 11], LP982-E[9, 10, 24]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 7], QLA2342-E-SP[5, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
8	PowerVault: 750N[23], 755N[23]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP9802-E[9, 10], LP9802DC-E[9, 10, 11], LP982-E[9, 10, 24]	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
9	PowerEdge 8450[25]	PCI	Microsoft Windows 2000 Datacenter: SP2[8, 26], SP3[8], SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[3], LP9002DC-E[11, 24, 28, 29]; **QLogic QLA2310F-E-SP[5, 6]**	FC-AL, FC-SW	N	See[1, 2]
10	PowerEdge 8450	PCI	Microsoft Windows 2000 Datacenter: SP2[8], SP3[8], SP4	Emulex: LP9802-E[9, 10, 11], LP9802DC-E[9, 10, 11], LP982-E[9, 10, 11, 24]	FC-AL, FC-SW	N	See[1, 2]
11	**PowerEdge 8450**	PCI	**Microsoft Windows 2000 Datacenter: SP2[8], SP3[8], SP4**	**QLogic QLA2340-E-SP[5, 11]**	FC-AL, FC-SW	N	
12	PowerVault: 750N, 755N	PCI	Microsoft Windows 2000 Server: SP2[8], SP3[8], SP4	Emulex LP9002-E (LP9002L-E)[28]; **QLogic: QLA2310F-E-SP[5], QLA2340-E-SP[5], QLA2342-E-SP[5]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	
13	PowerVault: 750N[23], 755N[23]	PCI	Microsoft Windows 2000 Server: SP2[8], SP3[8], SP4	Emulex LP9002DC-E[3, 27]	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
14	PowerEdge 2650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex LP8000-EMC[4, 28]	FC-AL, FC-SW	N	See[1, 2]
15	PowerEdge 2600	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[3, 27], LP9002DC-E[11, 24, 28, 29], LP9802-E[9, 10], LP9802DC-E[9, 10, 11], LP982-E[9, 10, 24]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 7], QLA2342-E-SP[5, 7]**	FC-AL, FC-SW	N	See[1, 2]
16	PowerEdge: 1750, 4600, 6600, 6650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP8000-EMC[3, 4], LP9002-E (LP9002L-E)[3, 27], LP9002DC-E[11, 24, 28, 29], LP9802-E[9, 10], LP9802DC-E[9, 10, 11], LP982-E[9, 10, 24]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 7], QLA2342-E-SP[5, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]
17	PowerEdge 2650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8], Server SP3[8], Server SP4	Emulex: LP9002-E (LP9002L-E)[3, 27], LP9002DC-E[11, 24, 28, 29], LP9802-E[9, 10], LP9802DC-E[9, 10, 11], LP982-E[9, 10, 24]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 7], QLA2342-E-SP[5, 7]**	FC-AL, FC-SW	Y[12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	See[1, 2]

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
6. **If using ATF/CDE, requires 2.1.6 or greater.**
7. **PowerPath supported. ATF/CDE not supported.**
8. EMC strongly recommends that HBAs of different vendors not be used in the same host server
9. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
10. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
11. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
12. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
13. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
14. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
15. Supports PowerPath 3.0 or greater.
16. No MirrorView or SnapView used on boot LUNs.
17. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
18. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
19. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
20. MSCS cluster configurations are supported with CX600, CX400 and FC4700.
21. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
22. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
23. Not supported with Emulex LP8000-EMC HBA.
24. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
25. Supported on CX600, CX400, CX200 and FC4700-2 only.
26. PowerPath not supported. ATF is supported only using Emulex 5-2.11a2 driver.
27. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
28. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com

29 Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

Fuji Serv (ICL)

Fuji Serv (ICL) – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Trimetra Nova	PCI	Microsoft Windows 2000 Advanced Server, SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex: LP8000-EMC[12, 13], LP9002-E (LP9002L-E)[11, 12], LP9002DC-E[6, 10, 14, 15], LP9802-E[4, 5], LP9802DC-E[4, 5, 6], LP982-E[4, 5, 10]; **QLogic: QLA2310F-E-SP[7, 9], QLA2340-E-SP[7, 8], QLA2342-E-SP[7, 8]**	FC-AL, FC-SW	N	See[1, 2]

1 Windows 2000 Professional is supported as the management workstation.
2 CX200 available through selected channels.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server
4. CLARiiON CX200 NOTE. Requires 1.00x3 for direct-connect configurations only
5. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
6 QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
7. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
8. **PowerPath supported. ATF/CDE not supported.**
9. **If using ATF/CDE, requires 2.1.6 or greater.**
10 The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
11. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
12. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
13. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
14. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
15. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Primergy T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[4, 5, 12], LP9002-E (LP9002L-E)[1, 2, 3, 4, 5], LP9802-E[1, 9, 10], LP9802DC-E[3, 9, 10], LP982-E[1, 9, 10]	FC-AL, FC-SW	N	
2	Primergy: F200, H200, H400, K400, L200, N400, N800, P200, P250, R450, RX100	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4], LP9002-E (LP9002L-E)[1, 2, 3, 4], LP9002DC-E[1, 3, 4, 16], LP9802-E[1, 10], LP9802DC-E[3, 10], LP982-E[1, 10]	FC-AL, FC-SW	N	
3	Primergy: B210, C200, E200, N200	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4], LP982-E[10]	FC-AL, FC-SW	N	
4	Primergy T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP850-EMC[4], LP9002DC-E[1, 3, 4, 16]	FC-AL, FC-SW	N	
5	Primergy: B210, C200, E200, N200	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP9002-E (LP9002L-E)[1, 2, 3, 4, 5, 15], LP9002DC-E[1, 3, 4, 16]	FC-AL, FC-SW	N	See[13, 14]
	Primergy T850	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**QLogic: QLA2300F-E-SP[3, 11], QLA2310F-E-SP[3, 11], QLA2340-E-SP[3, 11], QLA2342-E-SP[3, 11]**	FC-AL, FC-SW	N	
7	Primergy T850	PCI	Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP8000-EMC[4, 12], LP9002-E (LP9002L-E)[1, 2, 3, 4], LP9802-E[1, 10], LP9802DC-E[3, 10], LP982-E[1, 10]	FC-AL, FC-SW	N	
8	Primergy H450	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[4, 5, 12], LP9002-E (LP9002L-E)[1, 2, 3, 4, 5], LP9802-E[1, 9, 10], LP9802DC-E[3, 9, 10], LP982-E[1, 9, 10]	FC-AL, FC-SW	N	
9	Primergy F250[8]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[4, 5, 12], LP9802-E[1, 9, 10], LP9802DC-E[3, 9, 10], LP982-E[1, 9, 10]	FC-AL, FC-SW	N	
10	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4; Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP8000-EMC[4, 12], LP9002-E (LP9002L-E)[1, 2, 3, 4], LP9002DC-E[1, 3, 4, 16]	FC-AL, FC-SW	N	
11	Primergy: RX200, RX300 TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4. Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP850-EMC[4], LP9802-E[1, 10] LP9802DC-E[3, 10], LP982-E[1, 10]	FC-AL, FC-SW	N	
12	Primergy: H250[8], R450, T850	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4], LP9002-E (LP9002L-E)[1, 2, 3, 4], LP9002DC-E[1, 3, 4, 16], LP9802-E[1, 10], LP9802DC-E[3, 10], LP982-E[1, 10]	FC-AL, FC-SW	N	

Fujitsu Siemens – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
13	Primergy F250[8]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP850-EMC[4], LP9002-E (LP9002L-E)[1, 2, 3, 4, 5], LP9002DC-E[1, 3, 4, 16]	FC-AL, FC-SW	N	
14	Primergy H450	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP850-EMC[4], LP9002DC-E[1, 3, 4, 16]	FC-AL, FC-SW	N	
15	**Primergy: F250[8], H450**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**QLogic: QLA2300F-E-SP[3, 11], QLA2310F-E-SP[3, 11], QLA2340-E-SP[3, 11], QLA2342-E-SP[3, 11]**	FC-AL, FC-SW	N	
16	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4; Microsoft Windows 2000 Server: SP2[6], SP3[6], SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4], LP9002-E (LP9002L-E)[1, 2, 3, 4], LP9802DC-E[3, 10]	FC-AL, FC-SW	N	
17	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter: SP3[6, 7], SP4; Microsoft Windows 2000 Server: SP2[6], SP3[6], SP4	Emulex: LP9002DC-E[1, 3, 4, 16], LP9802-E[1, 10]	FC-AL, FC-SW	N	
18	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4	Emulex LP982-E[1, 10]	FC-AL, FC-SW	N	
19	Primergy N800	PCI-X	Microsoft Windows 2000 Datacenter SP2[6, 7]	Emulex: LP9002DC-E, LP9802-E[10]	FC-AL, FC-SW	N	
20	Primergy N800	PCI-X	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7]	Emulex LP982-E[10]	FC-AL, FC-SW	N	
21	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP850-EMC[1, 3, 4], LP9802-E[1, 3, 10], LP9802DC-E[1, 3, 10], LP982-E[1, 3, 10]; **QLogic: QLA2340-E-SP[3, 11], QLA2342-E-SP[3, 11]**	FC-AL, FC-SW	N	
22	**Primergy N800**	PCI-X	**Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4**	**QLogic: QLA2340-E-SP[3, 11], QLA2342-E-SP[3, 11]**	FC-AL, FC-SW	N	
23	Primergy H450	PCI-X	Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP8000-EMC[4, 12], LP9002-E (LP9002L-E)[1, 2, 3, 4], LP9802-E[1, 10], LP9802DC-E[3, 10], LP982-E[1, 10]	FC-AL, FC-SW	N	
24	Primergy F250[8]	PCI-X	Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP8000-EMC[4, 12], LP9802-E[1, 10], LP9802DC-E[3, 10], LP982-E[1, 10]	FC-AL, FC-SW	N	
25	Primergy R450	PCI, PCI-X	Microsoft Windows 2000 Server: SP2[6], SP3[6], SP4	Emulex LP8000-EMC[12]	FC-AL, FC-SW	N	

1. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
2. The LP9002-E now ships with the LP9002L-E low profile adapter.
3. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
4. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
5. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
6. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
7. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
   Must use standard PCI 32bit/33MHz slot for SCSI
   CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
8. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
11. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
13. Windows 2000 Professional is supported as the management workstation.
14. CX200 available through selected channels.
15. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
16. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

HPQ

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Emulex LP9002-E (LP9002L-E)[19, 20, 27]; QLogic: QLA2310F-E-SP[13, 15, 23], QLA2340-E-SP[13, 14, 23], QLA2342-E-SP[13, 14, 23]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	**See[1, 2]**
2	Netserver LH III: Proliant 850[24]	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex LP8000-EMC[20, 21]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
3	Netserver LH: II PRO; Netserver. LX PRO LXR PRO, LXR PR08	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex LP8000-EMC[20, 21]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	
4	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4**	**Emulex LP8000-EMC[20, 21]**	FC-AL, FC-SW	N	**See[1, 2]**
5	Netserver LH: 3, 4; Proliant: 1600[24, 25], 1850[24], 3000[24], 5000[24], 5500[24, 26], 6000[24, 26], 7000[24, 26], 8000[24, 26]	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex LP8000-EMC[20, 21] **QLogic: QLA2310F-E-SP[13, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]
6	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 2500[24], 6400R[24], 6500[24, 26], 8500, DL320[24], DL360[24], DL360(G2)[24, 28], **DL380[24], DL380(G2)[24]**, DL580[24], ML350[24], ML350(G2)[24], ML370[24], ML370(G2), ML370(G3), ML530[24], ML530(G2)[24], ML570[24], ML750[29]	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP8000-EMC[20, 21], LP9002-E (LP9002L-E)[19, 20], LP9002DC-E[16, 23, 36, 37], LP9802-E[17, 18], LP9802DC-E[17, 18, 23], LP982-E[16, 17, 18]; **QLogic: QLA2310F-E-SP[13, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]
	Netserver LP 2000r, LPR	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP8000-EMC[20, 21], LP9002-E (LP9002L-E)[19, 20], LP9002DC-E[16, 23, 36, 37], LP9802-E[17, 18], LP9802DC-E[17, 18, 23], LP982-E[16, 17, 18]; **QLogic: QLA2310F-E-SP[13, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	N	See[1, 2]
8	Proliant: 1600[24, 25], 1850[24]	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP9002-E (LP9002L-E)[19, 20], LP9002DC-E[16, 23, 36, 37], LP9802-E[17, 18], LP9802DC-E[17, 18, 23], LP982-E[16, 17, 18]	FC-AL, FC-SW	N	See[1, 2]
9	Proliant 850[24]	PCI	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP9002-E (LP9002L-E)[19, 20], LP9002DC-E[16, 23, 36, 37], LP9802-E[17, 18], LP9802DC-E[17, 18, 23], LP982-E[16, 17, 18]; **QLogic: QLA2310F-E-SP[13, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	N	See[1, 2]
10	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4**	**Emulex: LP9002DC-E[16, 23, 36, 37] LP9802-E[17, 18], LP9802DC-E[17, 18, 23], LP982-E[16, 17, 18]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	**See[1, 2]**
11	**Netserver LH III**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4**	**QLogic: QLA2310F-E-SP[13, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	N	**See[1, 2]**
12	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Server: SP2[22], SP3[22], SP4**	**Emulex LP9002-E (LP9002L-E)[19, 20], QLogic: QLA2310F-E-SP[13, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	**See[1, 2]**
13	Proliant: BL40p, DL740, DL760[24], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9002-E (LP9002L-E)[19, 20, 27]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]
14	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP8000-EMC[20, 21], LP9002-E (LP9002L-E)[19, 20], LP9002DC-E[16, 23, 36, 37], LP9802-E[17, 18], LP9802DC-E[17, 18, 23], LP982-E[16, 17, 18]; **QLogic: QLA2310F-E-SP[13, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]
15	Proliant: BL40p, DL740, DL760[24], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP8000-EMC[20, 21], LP9002DC-E[16, 23, 36, 37], LP9802-E[17, 18], LP9802DC-E[17, 18, 23], LP982-E[16, 17, 18]; **QLogic: QLA2310F-E-SP[13, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]
16	Proliant: DL740, DL760[24], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter: SP2[22], SP3[22], SP4	Emulex: LP9002-E (LP9002L-E)[16, 19, 20, 27], LP9002DC-E[16, 23, 36, 37]	FC-AL, FC-SW	N	See[1, 2]
17	Proliant: BL40p, DL740, DL760[24], DL760 (G2)	PCI-X	Microsoft Windows 2000 Server: SP2[22], SP3[22], SP4	Emulex LP9002-E (LP9002L-E)[19, 20]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
18	Proliant BL20p (G2)[33, 34]	PCI-X[35]	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	HPQ Dual-port mezzanine controller card[31, 32]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 30]	
19	Proliant BL20p (G2)[33, 34]	PCI-X[35]	Microsoft Windows 2000 Datacenter: SP2[22], SP3[22], SP4	HPQ Dual-port mezzanine controller card[31, 32]	FC-AL, FC-SW	N	
20	Proliant: DL580(G2)[24], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[22], Server SP3[22], Server SP4	Emulex: LP8000-EMC[20, 21], LP9002-E (LP9002L-E)[19, 20], LP9002DC-E[16, 23, 36, 37], LP9802-E[17, 18], LP9802DC-E[17, 18, 23], LP982-E[16, 17, 18]. **QLogic: QLA2310F-E-SP[13, 15], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]
21	**Proliant 8500**	**PCI**	**Microsoft Windows 2000 Advanced Server: SP2[22], SP3[22], SP4;** **Microsoft Windows 2000 Datacenter: SP2[22], SP3[22];** **Microsoft Windows 2000 Server: SP2[22], SP3[22], SP4**	HPQ: FCA2354 (LP9002)[16, 23, 36, 37], FCA2355 (LP9002DC)[16, 23, 36, 37]	FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
   Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
3. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
4. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
5. Supports PowerPath 3.0 or greater.
6. No MirrorView or SnapView used on boot LUNs.
7. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group.
   Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
8. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
9. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
10. MSCS cluster configurations are supported with CX600, CX400 and FC4700.
11. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
12. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
13. **PowerPath supported. ATF/CDE not supported.**
14. **If using ATF/CDE, requires 2.1.6 or greater.**
15. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
16. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
17. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
18. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
19. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
20. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
21. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
22. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
23. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
24. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
25. Includes both Pentium PRO and XEON models
26. The LP9002-E now ships with the LP9002L-E low profile adapter.
27. Requires minimum BIOS v4.01 rev A (5/17/2002) for use with Emulex HBAs.
28. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
29. BIOS for the BL20p mezzanine card must be obtained from HP. Cannot use BIOS from Qlogic web site. EMC NVRAM settings must be configured manually. Refer to page 2-6 of the Readme document "EMC Fibre Channel with QLogic Host Bus Adapters in the Windows NT/Windows 2000 Environment" found at http://www.qlogic.com for the settings.
30. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
31. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
    BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
32. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
33. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.
34. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
35. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

IBM

IBM – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9002-E (LP9002L-E)[25, 26]; IBM 19K1246(QLA2310)[2]; **QLogic: QLA2340-E-SP[7, 8], QLA2342-E-SP[7, 8]**	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	
2	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[26, 28], LP9002-E (LP9002L-E)[25, 26], LP9002DC-E[7, 9, 31, 32]; IBM 19K1246(QLA2310)[2]; **QLogic: QLA2340-E-SP[7, 8], QLA2342-E-SP[7, 8]**	FC-AL, FC-SW	N	
3	Netfinity 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9002-E (LP9002L-E)[10, 25, 26], LP9802-E[5, 6, 7], LP982-E[5, 6, 7, 9]; IBM 24P0960(QLA2340)[11, 12]; **QLogic: QLA2310F-E-SP[7, 8, 29], QLA2340-E-SP[7, 8, 12], QLA2342-E-SP[7, 8, 12]**	FC-AL, FC-SW	N	

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IBM – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
4	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 7, 9]; QLogic QLA2310F-E-SP[7, 8]	FC-AL, FC-SW	N	See[3, 4]
5	**Netfinity 8500R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Datacenter SP4**	QLogic QLA2310F-E-SP[7, 8]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
6	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7100	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex LP8000-EMC[26, 28]; IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]; QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
7	Netfinity 7000 M10[24]	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex LP8000-EMC[26, 28] QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 30]	See[3, 4]
8	**xSeries x255[13]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**Emulex: LP8000-EMC[26, 28], LP9002-E (LP9002L-E)[10, 26], LP9002DC-E[7, 9, 31, 32], LP9802-E[5, 6], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 9];** **IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11, 12];** **QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]**	FC-AL, FC-SW	N	See[3, 4]
9	Netfinity: 5600, 7600; xSeries: X330[13], X335, X340 (4500R)[13], X342[13], x230, x232[13], x240[13], x250[13], x350 (6000R)[13], x370[13]	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP8000-EMC[26, 28], LP9002-E (LP9002L-E)[10, 26], LP9002DC-E[7, 9, 31, 32], LP9802-E[5, 6], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 9]; IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]; QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
10	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP8000-EMC[26, 28], LP9002DC-E[7, 9, 31, 32]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	
11	Netfinity 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP8000-EMC[26, 28], LP9002DC-E[7, 9, 31, 32], LP9802DC-E[5, 6, 7]; IBM 19K1246(QLA2310)[2]	FC-AL, FC-SW	N	See[3, 4]
12	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[24], 7100	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP9002-E (LP9002L-E)[10, 26], LP9002DC-E[7, 9, 31, 32], LP9802-E[5, 6], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 9]	FC-AL, FC-SW	N	See[3, 4]
13	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 7, 9]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
14	Netfinity 7000 M10[30]	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
15	Netfinity 8500R	PCI	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4	Emulex: LP9802-E[5, 6, 7], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 7, 9]; QLogic QLA2310F-E-SP[8]	FC-AL, FC-SW	N	See[3, 4]
16	Netfinity 8500R	PCI	Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Emulex LP9002-E (LP9002L-E)[9, 25, 26]; **IBM 19K1246(QLA2310)[2, 8];** **QLogic: QLA2340-E-SP[7, 8, 27], QLA2342-E-SP[7, 8, 27]**	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	
17	Netfinity 8500	PCI	Microsoft Windows 2000 Server, SP2[1], SP3[1], SP4	Emulex: LP9002-E (LP9002L-E)[10, 26], LP9802-E[5, 6], LP982-E[5, 6, 9]; IBM 24P0960(QLA2340)[11]; QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]	FC-AL, FC-SW	N	See[3, 4]
18	**Netfinity 8500R**	PCI	**Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	QLogic QLA2310F-E-SP[8]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
19	xSeries: **x360[13]**, x440[13]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex LP850-EMC[26]	FC-AL, FC-SW	N	See[3, 4]

IBM – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
20	xSeries: x360[13], x440[13]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP8000-EMC[26, 28], LP9002-E (LP9002L-E)[10, 26], LP9002DC-E[7, 9, 31, 32], LP9802-E[5, 6], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 9]; IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]; QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]	FC-AL, FC-SW	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
21	xSeries x235[13]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP8000-EMC[26, 28], LP9002-E (LP9002L-E)[10, 26], LP9802-E[5, 6], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 9]; IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]; QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]	FC-AL, FC-SW	N	See[3, 4]
22	xSeries x235[13]	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9002DC-E[7, 9, 31, 32]	FC-AL, FC-SW	N	See[3, 4]
23	xSeries x440[13]	PCI-X	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Emulex LP850-EMC[26]	FC-AL, FC-SW	N	
24	xSeries x440[13]	PCI-X	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4	IBM 19K1246(QLA2310)[2], QLogic QLA2310F-E-SP[8]	FC-AL, FC-SW	N	
25	xSeries x235[13]	PCI-X	Microsoft Windows 2000: Advanced Server SP2[1], Server SP2[1], Server SP3[1], Server SP4	Emulex LP9002DC-E[7, 9, 26, 31, 32]	FC-AL, FC-SW	N	See[3, 4]
26	**xSeries x445**	**PCI PCI-X**	**Microsoft Windows 2000 Advanced Server: SP2[1, 43], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1, 43], Server SP3[1, 43], Server SP4**	**Emulex: LP9002-E (LP9002L-E)[7, 10, 26], LP9002DC-E[7, 9, 31, 32, 42]**	**FC-AL, FC-SW**	**Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 39, 40, 41]**	**See[3, 4]**
27	**xSeries x445**	**PCI, PCI-X**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1, 43], Server SP4**	**Emulex: LP9802-E[5, 6, 9], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 9]**	**FC-AL, FC-SW**	**Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 39, 40, 41]**	**See[3, 4]**
28	**xSeries x445**	**PCI, PCI-X**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**Emulex LP8000-EMC[26, 28, 31], IBM 24P0960(QLA2340)[11]**	**FC-AL, FC-SW**	**Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 39, 40, 41]**	**See[3, 4]**
29	**xSeries x445**	**PCI, PCI-X**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**Emulex LP850-EMC[26]**	**FC-AL, FC-SW**	**N**	**See[3, 4]**
30	**xSeries x345[13]**	PCI, PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**Emulex: LP8000-EMC[26, 28], LP9002-E (LP9002L-E)[10, 26], LP9002DC-E[7, 9, 31, 32], LP9802-E[5, 6], LP9802DC-E[5, 6, 7], LP982-E[5, 6, 9]; IBM: 19K1246(QLA2310)[2], 24P0960(QLA2340)[11]; QLogic: QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]**	FC-AL, FC-SW	N	See[3, 4]
31	**xSeries x445**	**PCI, PCI-X**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**IBM 19K1246(QLA2310)[2], QLogic QLA2310F-E-SP[8, 29], QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]**	**FC-AL, FC-SW**	**Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]**	**See[3, 4]**
32	**xSeries x445**	**PCI, PCI-X**	**Microsoft Windows 2000 Datacenter: SP2[1, 43], SP3[1, 43], SP4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E[7, 9, 31, 32, 42]**	**FC-AL, FC-SW**	**N**	
33	**xSeries x445**	**PCI, PCI-X**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]**	**Emulex LP850-EMC[26]**	**FC-AL, FC-SW**	**N**	
34	**xSeries x445**	**PCI, PCI-X**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]**	**IBM 24P0960(QLA2340)[11]**	**FC-AL, FC-SW**	**Y[39, 40, 41]**	
35	**xSeries x445**	**PCI, PCI-X**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4**	**IBM 19K1246(QLA2310)[2], QLogic QLA2310F-E-SP[8]**	**FC-AL, FC-SW**	**N**	
36	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	IBM 24P0960(QLA2340)[11, 12]	FC-AL, FC-SW[16]	N	See[3, 4]
37	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1]	IBM 24P0960(QLA2340)[11, 12]	FC-AL, FC-SW[16]	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]
38	Netfinity 8500R	PCI	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4	IBM 24P0960(QLA2340)[11, 12]	FC-AL, FC-SW[16]	N	See[3, 4]
39	**Netfinity 8500R**	PCI	**Microsoft Windows 2000 Server: SP3[1], SP4**	**IBM 24P0960(QLA2340)[8, 11, 12]**	FC-AL, FC-SW[16]	Y[14, 15, 16, 17, 18, 19, 20, 21, 22, 23]	See[3, 4]

IBM – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
40	eServer BladeCenter HS20 (Model 8678)[37]	PCI-X[39]	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	IBM HS20 FC Expansion card 48P7061[33, 34, 35, 36]	FC-SW	Y	

19.731

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. This HBA is equivalent to the qLogic QLA2310.
3. Windows 2000 Professional is supported as the management workstation.
4. CX200 available through selected channels.
5. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
6. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
7. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
8. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
9. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3 3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
10. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
11. This HBA is equivalent to the qLogic QLA2340.
12. PowerPath supported. ATF/CDE not supported.
13. For IBM xSeries Servers running Windows NT and Windows 2000 with IBM ServerRaid controller 4M, the ServerRaid Driver must be 6.00 or above for use with EMC PowerPath 3.0 and above. IBM driver can be downloaded at: http://www-3.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-39723
14. Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
15. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
16. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
17. Supports PowerPath 3.0 or greater.
18. No MirrorView or SnapView used on boot LUNs.
19. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability
20. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
21. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
22. MSCS cluster configurations are supported with CX600, CX400 and FC4700
23. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
24. This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
25. The LP9002-E now ships with the LP9002L-E low profile adapter
26. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
27. **If using ATF/CDE, requires 2.0.9 or greater.**
28. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
29. **If using ATF/CDE, requires 2.1.6 or greater.**
30. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
31. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
32. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
33. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"**

    This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.
34. **This server has a built-in FC-SW and must be direct-attached to the external storage.**
35. **Due to the HS20's embedded FC-SW design, EMC Access Logix is required to assign LUNS to each individual blade server.**
36. **IBM BIOS 1.34, EMC Approved Qlogic Driver Version 8.2.2.25. Available at http://www.qlogic.com.**
37. **EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.**
38. **IBM HS20 Fibre Channel Expansion Card (48P7061)**
39. **Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.**
40. **Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.**
41. **MSCS cluster configurations are supported. PowerPath 3.0 or greater required.**
42. **Host must be offline for interfamily Symmetrix microcode upgrade.**
43. **Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.**

NEC

NEC – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Express 5800: 320La, 320La-R, 320Lb, 320Lb-R, 330Ma-R, 330Mb-R, 340Ha-R	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5, 6], SP3[4, 5, 6]	QLogic QLA2310F-E-SP[2, 3]	FC-AL, FC-SW	N	See[1]

1. Windows 2000 Professional is supported as the management workstation.
2. **Qlogic SANSurfer/SANBlade Manager is not supported.**
3. **Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**
4. **Refer to the Stratus, Bull or NEC documentation for hardware, software and non-storage related setup and configuration.**
5. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
6. **FC-AL supported for direct attach only. No support for hubs or Quickloop at this time.**

SUPERMICRO

SUPERMICRO – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Super P3TDL3[17]	PCI	Microsoft Windows 2000 Advanced Server: SP2[13], SP3[13], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[13], Server SP3[13], Server SP4	Emulex LP850-EMC[18]	FC-AL, FC-SW	N	See[1, 2]
2	Super: P3TDL3[17], S2DL3[17]	PCI	Microsoft Windows 2000 Advanced Server: SP2[13], SP3[13], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[13], Server SP3[13], Server SP4	Emulex: LP8000-EMC[18, 24], LP9002-E (LP9002L-E)[18, 22, 23], LP9002DC-E[16, 22, 25, 26], LP9802-E[14, 15, 16], LP9802DC-E[14, 15, 16], LP982-E[14, 15, 16, 22]; QLogic: QLA2310F-E-SP[20, 21], QLA2340-E-SP[19, 20], QLA2342-E-SP[19, 20]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12]	See[1, 2]

1. Windows 2000 Professional is supported as the management workstation.
2. CX200 available through selected channels.
3. Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
4. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.

5. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
6. Supports PowerPath 3.0 or greater
7. No MirrorView or SnapView used on boot LUNs.
8. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
9. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
10. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
11. MSCS cluster configurations are supported with CX600, CX400 and FC4700.
12. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
13. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
14. CLARiiON CX200 NOTE. Requires 1.00x3 for direct-connect configurations only.
15. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
16. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
17. 64-bit slots for 3.3v HBAs only.
18. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
19. **PowerPath supported. ATF/CDE not supported.**
20. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
21. **If using ATF/CDE, requires 2.1.6 or greater.**
22. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
23. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
24. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
25. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
26. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

Stratus

Stratus – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**ftServer: 5240, 6500**	**PCI**	**Microsoft Windows 2000 Advanced Server SP3[5, 6, 7, 8]**	**QLogic QLA2310F-E-SP[2, 3, 4]**	**FC-AL, FC-SW**	**N**	**See[1]**
2	**ftServer: 3210, 3220, 3300, 5200**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[5, 6, 7], SP3[5, 6, 7, 8]**	**QLogic QLA2310F-E-SP[2, 3, 4]**	FC-AL, FC-SW	N	**See[1]**

1. Windows 2000 Professional is supported as the management workstation.
2. **Qlogic SANSurfer/SANBlade Manager is not supported.**
3. **Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**
4. **FC-AL supported for direct attach only. No support for hubs or Quickloop at this time.**
5. **Refer to the Stratus, Bull or NEC documentation for hardware, software and non-storage related setup and configuration.**
6. **Requires Stratus ftServer 1.2.2.x.**
   Requires Microsoft HotFix Q327477. available from Microsoft customer support.
   Requires VxVM 2.7 HotFix 5A. available from http://support.veritas.com/index.htm choose support downloads, choose Volume Manager, choose Volume Manager for Windows 2000. Choose VM2K27HF05aENU_248733.exe Patch - VERITAS Volume Manager 2.7 for Windows 2000 HotFix05a, English Version Size: 5892Kb
   Requires PowerPath 3.0.0 or higher.
7. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
8. **Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.**

Unisys

Unisys – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4	**QLogic QLA2310F-E-SP[5, 6];** Unisys FCH732213-P64 (LP9002L-F2)[16]	FC-AL, FC-SW	N	
2	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[8, 10], LP9002-E (LP9002L-E)[8, 9], LP9002DC-E[5, 7, 15, 16], LP9802-E[3], LP9802DC-E[5], LP982-E[3, 7]; **QLogic: QLA2340-E-SP[5, 6], QLA2342-E-SP[5, 6]**	FC-AL, FC-SW	N	
3	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[8, 10], LP9002-E (LP9002L-E)[8, 9], LP9002DC-E[5, 7, 15, 16]; **QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 6], QLA2342-E-SP[5, 6]**	FC-AL, FC-SW	N	
4	ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4, Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4	Unisys FCH732213-P64 (LP9002L-F2)[16]	FC-AL, FC-SW	N	
5	ES7000/230	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4. Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4	Unisys FCH732213-P64 (LP9002L-F2)[16]	FC-AL, FC-SW	N	
6	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4. Microsoft Windows 2000 Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	Emulex: LP9802-E[3], LP9802DC-E[5], LP982-E[3]	FC-AL, FC-SW	N	
7	ES7000/520; ES7000/530, ES7000/540	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	Unisys FCH732213-P64 (LP9002L-F2)[16]	FC-AL, FC-SW	N	
8	**ES7000/100; ES7000/200**	PCI	**Microsoft Windows 2000 Datacenter SP4**	**QLogic QLA2310F-E-SP[5, 6, 14]**	FC-AL, FC-SW	N	**See[11, 12]**
9	**ES7000/100, ES7000/200**	PCI	**Microsoft Windows 2000 Datacenter SP2[4, 13], SP3[4]**	**QLogic QLA2310F-E-SP[6, 14]**	FC-AL, FC-SW	N	**See[11, 12]**
10	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[4, 13], SP3[4], SP4	Emulex: LP8000-EMC[8, 10], LP9002-E (LP9002L-E)[7, 8], LP9002DC-E[5, 7, 15, 16]	FC-AL, FC-SW	Y[1]	See[11, 12]
11	ES7000/100; ES7000/200; ES7000/230	PCI	Microsoft Windows 2000 Datacenter: SP2[4, 13], SP3[4], SP4	Unisys FCH732213-P64 (LP9002L-F2)[16]	FC-AL, FC-SW	N	See[11, 12]

Unisys – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
12	**ES7000/200**	PCI	**Microsoft Windows 2000 Datacenter: SP2[4], SP3[4]**	**QLogic: QLA2340-E-SP[6], QLA2342-E-SP[6]**	FC-AL, FC-SW	N	
13	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4	Emulex LP9802DC-E[5]	FC-AL, FC-SW	Y[1, 2, 3]	
14	ES7000/230, ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4	Emulex: LP9802-E[3, 7], LP982-E[3, 7]	FC-AL, FC-SW	Y[1, 2]	
15	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4	Emulex: LP9802-E[3], LP982-E[3]	FC-AL, FC-SW	Y[1, 2]	

1 CX600 only.
2. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
3. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
6. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
7. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
8. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. ATF/CDE is not supported with driver 2.20a12. For ATF/CDE, use driver version 2.11a2. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com. NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC. Supports SNIA HBA API.
9. The LP9002-E now ships with the LP9002L-E low profile adapter.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. Windows 2000 Professional is supported as the management workstation.
12. CX200 available through selected channels.
13. PowerPath not supported. ATF is supported only using Emulex 5-2.11a2 driver.
14. **If using ATF/CDE, requires 2.1.6 or greater.**
15. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
16. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

Microsoft Windows 2003

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Dell

Dell – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	PowerEdge: 6400, 6450, 8450	PCI	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 5], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	PowerEdge: 2600, 2650, 4600, 6600, 6650	PCI-X	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 5], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
EMC strongly recommends that HBAs of different vendors not be used in the same host server
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. PowerPath is not supported.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Primergy: B210, C200, E200, F200, H200, H400, K400, L200, N200, N400, P200, P250, R450, RX100, T850	PCI	Microsoft Windows 2003, DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 6], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N
2	Primergy: F250[5], H250[5], H450, N800, RX200, RX300	PCI-X	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 6], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
3. PowerPath is not supported.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server
5. Must use standard PCI 32bit/33MHz slot for SCSI
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

8. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN];817789

HPQ

HPQ – Microsoft Windows 2003

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Proliant: **8500**, DL320[2], DL360[2], DL360(G2)[2], **DL380[2]**, **DL380(G2)[2]**, **DL380(G3)**, DL580[2], ML350[2], ML350(G2)[2], ML370[2], ML370(G2), ML370(G3), ML530[2], ML530(G2)[2], ML570[2], ML750[2]	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 11], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[12], LP9802DC-E[12], LP982-E[12]; QLogic: QLA2310F-E-SP[6], QLA2340-E-SP[6], QLA2342-E-SP[6]	FC-AL, FC-SW	N
2	Proliant: BL40p, DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[2], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 11], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[12], LP9802DC-E[12], LP982-E[12]; QLogic: QLA2310F-E-SP[6], QLA2340-E-SP[6], QLA2342-E-SP[6]	FC-AL, FC-SW	N
3	Proliant BL20p (G2)[8, 9]	PCI-X[10]	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	HPQ Dual-port mezzanine controller card[6, 7]	FC-AL, FC-SW	N
4	Proliant: DL580(G2)[2], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 11], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[12], LP9802DC-E[12], LP982-E[12]; QLogic: QLA2310F-E-SP[6], QLA2340-E-SP[6], QLA2342-E-SP[6]	FC-AL, FC-SW	N
5	Proliant: **8500**, DL320[2], DL360[2], DL360(G2)[2], **DL380[2]**, **DL380(G2)[2]**, **DL380(G3)**, DL580[2], ML350[2], ML350(G2)[2], ML370[2], ML370(G2), ML370(G3), ML530[2], ML530(G2)[2], ML570[2], ML750[2]	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	HPQ: FCA2354 (LP9002)[1], FCA2355 (LP9002DC)[1]	FC-SW	N
6	Proliant: BL40p, DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[2], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	HPQ: FCA2354 (LP9002)[1], FCA2355 (LP9002DC)[1]	FC-SW	N
7	Proliant: DL580(G2)[2], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	HPQ: FCA2354 (LP9002)[1], FCA2355 (LP9002DC)[1]	FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN];817789
2. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. PowerPath is not supported.
5. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
6. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN];817789
7. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
8. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
9. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
10. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.
11. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
12. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN];817789

IBM

IBM – Microsoft Windows 2003

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x350 (6000R), x370	PCI	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 10], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[9], LP9802DC-E[9], LP982-E[9]; IBM: 19K1246(QLA2310)[5, 7], 24P0960(QLA2340)[5, 6]; QLogic: QLA2310F-E-SP[5], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
2	**xSeries x255**	PCI-X	**Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]**	**Emulex: LP8000-EMC[1, 10], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[9], LP9802DC-E[9], LP982-E[9]; IBM: 19K1246(QLA2310)[5, 7], 24P0960(QLA2340)[5, 6, 8]; QLogic: QLA2310F-E-SP[5], QLA2340-E-SP[5], QLA2342-E-SP[5]**	FC-AL, FC-SW	N
3	xSeries: x235, **x360**, x440	PCI-X	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 10], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[9], LP9802DC-E[9], LP982-E[9]; IBM: 19K1246(QLA2310)[5, 7], 24P0960(QLA2340)[5, 6]; QLogic: QLA2310F-E-SP[5], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
4	**xSeries: x345, x445**	PCI, PCI-X	**Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]**	**Emulex: LP8000-EMC[1, 10], LP850-EMC[1], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[9], LP9802DC-E[9], LP982-E[9]; IBM: 19K1246(QLA2310)[5, 7], 24P0960(QLA2340)[5, 6]; QLogic: QLA2310F-E-SP[5], QLA2340-E-SP[5], QLA2342-E-SP[5]**	FC-AL, FC-SW	N
5	**eServer BladeCenter HS20 (Model 8678)[16]**	**PCI-X[11]**	**Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]**	**IBM HS20 FC Expansion card 48P7061[12, 13, 14, 15]**	**FC-SW**	**Y**

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN];817789

2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. PowerPath is not supported.
5. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
6. This HBA is equivalent to the qLogic QLA2340.
7. This HBA is equivalent to the qLogic QLA2310
8. PowerPath supported. ATF/CDE not supported.
9. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. **IBM HS20 Fibre Channel Expansion Card (48P7061)**
12. **Due to the HS20's embedded FC-SW design, EMC Access Logix is required to assign LUNS to each individual blade server.**
13. **This server has a built-in FC-SW and must be direct-attached to the external storage.**
14. **IBM BIOS 1.34, EMC Approved Qlogic STORPort Driver Version 8.2.2.20. Available at http://www.qlogic.com.**
15. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"**

This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.

16. **EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.**

NCR

NCR - Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Worldmark 45xx	MCA	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 5], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	Worldmark 4500, 4700, 47XX, 4850, 48XX, 4900, 4950, 5100 Series, 5150, 5250, 52XX, 5300, 5350, 8550, S50	PCI	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 5], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

NEC

NEC - Microsoft Windows 2003							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Express 5800: 320La, 320La-R, 320Lb, 320Lb-R, 330Ma-R, 330Mb-R, 340Ha-R**	**PCI**	**Microsoft Windows 2003: DataCenter[7, 8, 9], Enterprise Edition (Advanced Server)[7, 8, 9], Standard Edition (Server)[7, 8, 9]**	**NEC N8803-031 (QLA2310F)[3, 4, 5, 6]**	**FC-AL, FC-SW**	**N**	**See[1, 2]**

1. **Windows 2000 Professional is supported as the management workstation.**
2. **CX200 available through selected channels.**
3. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
4. **Qlogic SanBlade Manager is not supported.**
5. **Qlogic SANSurfer/SANBlade Manager is not supported.**
6. **QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).**
7. **Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.**
8. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
9. **PowerPath is not supported.**

Unisys

Unisys - Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Emulex: LP8000-EMC[1, 6], **LP850-EMC[1]**, LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[5], QLA2340-E-SP[5], QLA2342-E-SP[5]; Unisys: FCH20111-P64 (LP8000-D1)[1], FCH20113-P64 (LP8000-EMC, LP8000-F1)[1], FCH732213-P64 (LP9002L-F2)[1]	FC-AL, FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. PowerPath is not supported.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

Microsoft Windows NT

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash during booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual

memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

DG

DG – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	AViiON AV3704	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[5, 9]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	AViiON: AV8900, AV8950, AV8950R	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[5, 9], LP9002-E (LP9002L-E)[3, 5], LP9802-E[2, 3, 4, 6], LP9802DC-E[2, 3, 4], LP982-E[2, 3, 4, 6]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
3	AViiON: AV1400, AV2300, AV2700, AV2800, AV3600, AV3700, AV3704R, AV3800, AV8700	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[5, 9], LP9002-E (LP9002L-E)[3, 5], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[2, 4]; QLogic: QLA2310F-E-SP[7, 8], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
4	AViiON AV3704	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[3, 5], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[2, 4]	FC-AL, FC-SW	Y

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server
2. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
3. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
4. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
5. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
6. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
7. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
8. If using ATF/CDE, requires 2.0.9 or greater.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Dell

Dell – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	PowerEdge: 1650, 4300, 4350	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP8000-EMC[1, 2]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
2	PowerEdge: 2300, 6100, 6300, 6350	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1, 7], LP9002DC-E[1, 7, 11], LP9802-E[6, 7, 8], LP9802DC-E[6, 7, 8], LP982-E[6, 8]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
3	PowerEdge: 1550, 2400, 2450, 2500, 2550[9, 10], 4400, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP8000-EMC[1, 2], LP9002DC-E[1, 7, 11]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
4	PowerEdge: 1550, 1650, 2400, 2450, 2500, 2550[9, 10], 4400, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP9002-E (LP9002L-E)[1, 7], LP9802-E[6, 7, 8], LP9802DC-E[6, 7, 8], LP982-E[6, 8]	FC-AL, FC-SW	Y
5	PowerVault: 770N, 775N	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP9002-E (LP9002L-E)[1, 7], LP9802-E[6, 7, 8], LP9802DC-E[6, 7, 8], LP982-E[6, 8]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
6	PowerEdge 1750	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP8000-EMC[1, 2]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
7	PowerEdge 2600	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1, 7], LP9802-E[6, 7, 8], LP9802DC-E[6, 7, 8], LP982-E[6, 8]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
8	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP8000-EMC[1, 2], LP9002DC-E[1, 7, 11]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
9	PowerEdge 2650	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP8000-EMC[2, 13], LP9002DC-E[1, 7, 11]; QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
10	PowerEdge 6600	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP9002-E (LP9002L-E)[1, 7], LP9802-E[6, 7, 8], LP9802DC-E[6, 7, 8]	FC-AL, FC-SW	Y
11	PowerEdge: 1750, 2650, 4600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP9002-E (LP9002L-E)[1, 7], LP9802-E[6, 7, 8], LP9802DC-E[6, 7, 8], LP982-E[6, 8]	FC-AL, FC-SW	Y
12	PowerEdge 6600	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP982-E[6, 7, 8]	FC-AL, FC-SW[12]	Y

1. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
5. If using ATF/CDE, requires 2.0.9 or greater.
6. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
7. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
8. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
9. Dell PowerEdge supports a maximum of 2 Emulex HBAs at one time and the total power cannot exceed 20 Watts.
10. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
11. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
12. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
13. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

HPQ

HPQ – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**Proliant DL380(G3)**	PCI	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex LP8000-EMC[11, 12], HPQ: 176479-B21[12], KGPSA-CB[12], KGPSA-CY[12]; QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]**	FC-AL, FC-SW	N

HPQ – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
2	Netserver LH: 3, 4, II, PRO, III; Netserver LXR: 8000, 8500, PRO, PRO8; Proliant: 2500[6], 3000[6], 5000[6], 5500[6, 10], 6000[6, 10], 6400R[6], 7000[6, 10], 8000[6, 10], 8500, DL320[6], DL360[6], DL360(G2)[6, 8], **DL380[6], DL380(G2)[6]**, DL580[6], ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML750[9]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[11, 12]; QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
3	Proliant 1850[6]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[11, 12]; QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	Y
4	Proliant 8000 Pro, Xeon	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[11, 12]; QLogic: QLA2310F-E-SP[5, 14], QLA2340-E-SP[5, 14], QLA2342-E-SP[5, 14]	FC-AL, FC-SW	N
5	Netserver LX PRO	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[11, 12], LP850-EMC[12]; QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
6	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LPR, LT 6000R; Proliant: 1600[6, 7], 6500[6, 10], 850[6]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[11, 12], LP9002-E (LP9002L-E)[3, 12], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[2, 4]; QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
7	Netserver LXR: 8000, 8500; Proliant: 2500[6], 6400R[6], DL320[6], DL360[6], DL360(G2)[6, 8], **DL380[6], DL380(G2)[6]**, DL580[6], ML350[6], ML350(G2)[6], ML370[6], ML530[6], ML530(G2)[6], ML570[6], ML750[9]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[3, 12], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[2, 4]	FC-AL, FC-SW	Y
8	Proliant 1850[6]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[3, 12], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[2, 4]	FC-AL, FC-SW	N
9	Proliant: 8500, **DL380(G3)**, ML370(G2), ML370(G3)	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[3, 12], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[2, 4]	FC-AL, FC-SW	Y[6]
10	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[11, 12]; QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
11	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[3, 12], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[2, 4]	FC-AL, FC-SW	Y
12	Proliant: DL580(G2)[6], **DL580(G3)**	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[11, 12]; QLogic: QLA2310F-E-SP[5, 13], QLA2340-E-SP[5], QLA2342-E-SP[5]	FC-AL, FC-SW	N
13	Proliant: DL580(G2)[6], **DL580(G3)**	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[3, 12], LP9802-E[2, 3, 4], LP9802DC-E[2, 3, 4], LP982-E[2, 4]	FC-AL, FC-SW	Y

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
3. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
4. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
5. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
6. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
7. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
8. Requires BIOS v4.01 rev A (5/17/2002) for use with Emulex HBAs.
9. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
10. Includes both Pentium PRO and XEON models
11. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
12. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
13. If using ATF/CDE, requires 2.0.9 or greater.
14. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).

IBM

IBM – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Netfinity: 5600, 7600, 8500R; xSeries: X340 (4500R)[5], X342[5], x230, x240[5], x250[5], x350 (6000R)[5], x370[5]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[10, 13]; IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[2, 11]; QLogic: QLA2310F-E-SP[2, 12], QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW	N
2	xSeries: X330[5], X335, x232[5]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[10, 13]; QLogic: QLA2310F-E-SP[2, 12], QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW	N
3	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 6000R, 7000, 7000 M10[4], 7100	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[10, 13], LP9002-E (LP9002L-E)[9, 10], LP9802-E[7, 8, 9], LP9802DC-E[7, 8, 9], LP982-E[7, 8]; IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[2, 11]; QLogic: QLA2310F-E-SP[2, 12], QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW	N
4	**xSeries x255[5]**	PCI	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex: LP8000-EMC[10, 13], LP9002-E (LP9002L-E)[9, 10], LP9802-E[7, 8, 9], LP9802DC-E[7, 8, 9], LP982-E[7, 8]; QLogic: QLA2310F-E-SP[2, 12], QLA2340-E-SP[2], QLA2342-E-SP[2]**	FC-AL, FC-SW	N
5	Netfinity: 5600, 7600, 8500R; xSeries: X330[5], X335, X340 (4500R)[5], X342[5], x230, x232[5], x240[5], x250[5], x350 (6000R)[5], x370[5]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP9002-E (LP9002L-E)[9, 10], LP9802-E[7, 8, 9], LP9802DC-E[7, 8, 9], LP982-E[7, 8]	FC-AL, FC-SW	Y
6	**xSeries x360[5]**	PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex: LP8000-EMC[10, 13], LP850-EMC[10]; IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[2, 11]; QLogic: QLA2310F-E-SP[2, 12], QLA2340-E-SP[2], QLA2342-E-SP[2]**	FC-AL, FC-SW	N

IBM – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
7	xSeries x440[5]	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[10, 13], LP850-EMC[10], LP9002-E (LP9002L-E)[9, 10], LP9802-E[7, 8, 9], LP9802DC-E[7, 8, 9], LP982-E[7, 8]; IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[2, 11]; QLogic: QLA2310F-E-SP[2, 12], QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW	N
8	xSeries x235[5]	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[10, 13], LP9002-E (LP9002L-E)[10, 14], LP9802-E[7, 8, 9], LP9802DC-E[7, 8, 9]; IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[2, 11]; QLogic: QLA2310F-E-SP[2, 12, 14], QLA2340-E-SP[2, 14], QLA2342-E-SP[2, 14]	FC-AL, FC-SW	N
9	**xSeries x360[5]**	PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex: LP9002-E (LP9002L-E)[9, 10], LP9802-E[7, 8, 9], LP9802DC-E[7, 8, 9], LP982-E[7, 8]**	FC-AL, FC-SW	Y
10	**xSeries x255[5]**	PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[2, 11, 16]**	FC-AL, FC-SW	N
11	**xSeries x445**	**PCI, PCI-X**	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex: LP8000-EMC[10, 13], LP850-EMC[10], LP9002-E (LP9002L-E)[9, 10], LP9802-E[7, 8, 9], LP9802DC-E[7, 8, 9], LP982-E[7, 8];** **IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[2, 11];** **QLogic: QLA2310F-E-SP[2, 12], QLA2340-E-SP[2], QLA2342-E-SP[2]**	**FC-AL, FC-SW**	**N**
12	**xSeries x345[5]**	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex: LP8000-EMC[10, 13], LP9002-E (LP9002L-E)[10, 15];** **IBM: 19K1246(QLA2310)[2, 3], 24P0960(QLA2340)[2, 11]**	FC-AL, FC-SW	N
13	**xSeries x345[5, 6]**	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex: LP9802-E[7, 8, 9], LP9802DC-E[7, 8, 9]**	FC-AL, FC-SW	N
14	**xSeries x345**	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**QLogic: QLA2310F-E-SP[2, 14], QLA2340-E-SP[2, 14], QLA2342-E-SP[2, 14]**	FC-AL, FC-SW	N
15	xSeries x235[5]	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP982-E[7, 8, 9]	FC-AL, FC-SW[17]	N
16	**xSeries x345[5, 6]**	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A[1]**	**Emulex LP982-E[7, 8, 9]**	FC-AL, FC-SW[17]	N

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
3. This HBA is equivalent to the qLogic QLA2310.
4. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
5. For IBM xSeries Servers running Windows NT and Windows 2000 with IBM ServerRaid controller 4M, the ServerRaid Driver must be 6.00 or above for use with EMC PowerPath 3.0 and above. IBM driver can be downloaded at: http://www-3.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-39723
6. It is recommended that the QLogic QLA2340 is not installed in Slot 1.
7. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
8. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
9. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
10. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.
11. This HBA is equivalent to the qLogic QLA2340.
12. If using ATF/CDE, requires 2.0.9 or greater.
13. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
14. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
15. The LP9002-E now ships with the LP9002L-E low profile adapter.
16. PowerPath supported. ATF/CDE not supported.
17. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.

Unisys

Unisys – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	ES7000/100; ES7000/230; ES7000/500	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[7]	FC-AL, FC-SW	N
2	ES7000/200	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[7], QLogic: QLA2340-E-SP[4], QLA2342-E-SP[4]	FC-AL, FC-SW	N
3	ES7000/230	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[3], LP9802-E[3, 5], LP9802DC-E[3], LP982-E[3, 5, 6]	FC-AL, FC-SW	Y[1]
4	ES7000/500	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[3], LP9802-E[3, 5], LP9802DC-E[3], LP982-E[3, 5, 6]	FC-AL, FC-SW	Y
5	ES7000/100; ES7000/200	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E)[3], LP9802-E[5], LP9802DC-E[3], LP982-E[5, 6]	FC-AL, FC-SW	Y[1]

1. CX600 only.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
4. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
5. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
6. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Novell Netware
Dell

Dell – Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerEdge 1650	PCI	Novell Netware 5.00 SP6A[21, 23, 43, 44]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	N, Y[1, 2, 15]	See[20]
2	PowerEdge: 1550, 2400, 2450, 2500, 2550[42], 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.00 SP6A[21, 23, 43, 44]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	N	
3	PowerEdge: 1550, 2500, 2550[42]	PCI	Novell Netware 5.00 SP6A[21, 23, 43, 44]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 25]	
4	PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.00 SP6A[21, 23, 43, 44]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15]	
5	PowerEdge 1650	PCI	Novell Netware 5.10 SP2A[21, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17]	See[20]
6	PowerEdge: 1550, 2500	PCI	Novell Netware 5.10 SP2A[21, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
7	PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10 SP2A[21, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17]	
8	PowerEdge 8450	PCI	Novell Netware 5.10: SP2[21], SP2A[21]	QLogic QLA2200F-EMC[19, 26]	FC-AL, FC-SW	N	
9	PowerEdge 8450	PCI	Novell Netware 5.10: SP2[21], SP2A[21]; Novell Netware 6.0 SP1[21]	IBM: 00N6881 (QLA2200)[29, 31, 33], 19K1246(QLA2310)[29, 31, 32], 24P0960(QLA2340)[29, 30, 31]	FC-AL, FC-SW	N	
10	PowerEdge 8450	PCI	Novell Netware 5.10: SP2[21], SP2A[21], SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3	QLogic QLA2202F-EMC[3, 5, 16, 19, 26, 34, 37, 38, 39, 41, 47]	FC-AL, FC-SW	N	
11	PowerEdge 2550[42]	PCI	Novell Netware 5.10: SP2A[21, 23], SP5[21], SP6	QLogic QLA2340-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
12	PowerEdge 2550[42]	PCI	Novell Netware 5.10: SP2A[21, 23], SP5[21], SP6; Novell Netware 6.0: SP1[21, 23, 36], SP2[21, 23, 36], SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
13	PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP2A[21, 23], SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17]	
14	PowerEdge 2550[42]	PCI	Novell Netware 5.10: SP2A[21, 23], SP5[4, 21], SP6	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
15	PowerEdge 1650	PCI	Novell Netware 5.10: SP2A[21, 23], SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17]	See[20]
16	PowerEdge: 1550, 2500	PCI	Novell Netware 5.10: SP2A[21, 23], SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 23, 36], SP2[21, 23, 36], SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
17	PowerEdge 8450	PCI	Novell Netware 5.10: SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2340-E-SP[18, 19, 22, 27]	FC-AL, FC-SW	N	
18	PowerEdge 1650	PCI	Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3	QLogic QLA2202F-EMC[3, 5, 16, 19, 26, 34, 37, 38, 39, 41, 47]	FC-AL, FC-SW	Y[5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
19	PowerEdge: 1550, 2400, 2450, 2500, 2550[42], 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3	QLogic QLA2202F-EMC[3, 5, 16, 19, 26, 34, 37, 38, 39, 41, 47]	FC-AL, FC-SW	Y[5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
20	PowerEdge: 2300, 6400	PCI	Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3	QLogic QLA2202F-EMC[3, 5, 16, 19, 26, 34, 37, 38, 39, 41, 47]	FC-AL, FC-SW	N	
21	PowerEdge 8450	PCI	Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW	N	
22	PowerEdge 8450	PCI	Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3	QLogic QLA2200F-EMC[19, 26, 34, 41]	FC-AL, FC-SW	N	
23	PowerEdge 8450	PCI	Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2[21], 5.10 SP2A[21, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	N	
24	PowerEdge: 2300, 6400	PCI	Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23]	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]	FC-AL, FC-SW	N	
25	PowerVault: 750N, 755N, 775N	PCI	Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 5.10 SP5[20, 21], 5.10 SP6, 6.0 SP1[21, 23, 24], 6.0 SP2[21, 23], 6.0 SP3	QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	N	
26	PowerEdge: 1550, 1650, 2300, 2400, 2450, 2550[42], 4300, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 5.10 SP5[21], 5.10 SP6, 6.0 SP1[21, 23, 24], 6.0 SP2[21, 23], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[45, 46]	FC-AL, FC-SW	N	
27	PowerEdge 1650	PCI	Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 5.10 SP5[21], 5.10 SP6, 6.0 SP1[21, 24], 6.0 SP2[21], 6.0 SP3	QLogic QLA2300F-E-SP[18, 19]	FC-AL, FC-SW	N	See[20]
28	PowerEdge: 2300, 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6400, 6450, 8450; PowerVault: 750N, 755N, 775N	PCI	Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 5.10 SP5[21], 5.10 SP6, 6.0 SP1[21, 24], 6.0 SP2[21], 6.0 SP3	QLogic QLA2300F-E-SP[18, 19]	FC-AL, FC-SW	N	
29	PowerEdge: 6400, 8450	PCI	Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 5.10 SP5[4, 20, 21], 5.10 SP6, 6.0 SP1[21, 23, 24, 36], 6.0 SP2[21, 23, 36], 6.0 SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL, FC-SW	N	
30	PowerEdge 2300	PCI	Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 5.10 SP5[4, 21, 23], 5.10 SP6, 6.0 SP1[21, 23, 24, 36], 6.0 SP2[21, 23, 36], 6.0 SP3	QLogic QLA2342-E-SP[18, 19, 22]	FC-AL FC-SW	N	
31	PowerEdge 2500	PCI	Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 6.0 SP1[21, 23], 6.0 SP2[21, 23], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[45]	FC-AL, FC-SW	N	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
32	**PowerEdge: 1550, 2500, 2550[42]**	PCI	**Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 6.0 SP1[21], 6.0 SP2[21], 6.0 SP3**	**QLogic QLA2300F-E-SP[18, 19]**	FC-AL, FC-SW	N	
33	**PowerEdge: 1750, 4600**	PCI-X	**Novell Netware 5.00 SP6A[21, 23, 43, 44]**	**QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19] QLA2342-E-SP[18, 19, 22]**	FC-AL, FC-SW	N, Y[1, 2, 15]	See[20]
34	**PowerEdge: 2600, 2650**	PCI-X	**Novell Netware 5.00 SP6A[21, 23, 43, 44]**	**QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19] QLA2342-E-SP[18, 19, 22]**	FC-AL, FC-SW	Y[1, 2, 15, 25]	
35	**PowerEdge: 2600, 2650, 6600 6650**	PCI-X	**Novell Netware 5.00 SP6A[21, 23, 43, 44]**	**QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19] QLA2342-E-SP[18, 19, 22]**	FC-AL, FC-SW	N	
36	**PowerEdge: 6600 6650**	PCI-X	**Novell Netware 5.00 SP6A[21, 23, 43, 44]**	**QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19] QLA2342-E-SP[18, 19, 22]**	FC-AL, FC-SW	Y[1, 2, 15]	
37	**PowerEdge 2600**	PCI-X	**Novell Netware 5.10 SP2A[21, 23]**	**QLogic QLA2310F-E-SP[18, 19]**	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
38	**PowerEdge 2650**	PCI-X	**Novell Netware 5.10 SP2A[21, 23]**	**QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]**	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
39	**PowerEdge 6600**	PCI-X	**Novell Netware 5.10 SP2A[21, 23]**	**QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]**	FC-AL, FC-SW	Y[1, 2, 15, 17]	
40	**PowerEdge: 1750, 4600**	PCI-X	**Novell Netware 5.10 SP2A[21, 23]**	**QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]**	FC-AL, FC-SW	Y[1, 2, 15, 17]	See[20]
41	**PowerEdge 6650**	PCI-X	**Novell Netware 5.10: SP2A[21, 23], SP5[20, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24], SP2[21, 23], SP3**	**QLogic: QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19] QLA2342-E-SP[18, 19, 22]**	FC-AL, FC-SW	Y[1, 2, 15, 17]	
42	**PowerEdge 2650**	PCI-X	**Novell Netware 5.10: SP2A[21, 23], SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3**	**QLogic QLA2342-E-SP[18, 19, 22]**	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
43	**PowerEdge 6600**	PCI-X	**Novell Netware 5.10: SP2A[21, 23], SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3**	**QLogic QLA2342-E-SP[18, 19, 22]**	FC-AL, FC-SW	Y[1, 2, 15, 17]	
44	**PowerEdge: 1750, 4600**	PCI-X	**Novell Netware 5.10: SP2A[21, 23], SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3**	**QLogic QLA2342-E-SP[18, 19, 22]**	FC-AL, FC-SW	Y[1, 2, 15, 17]	See[20]
45	**PowerEdge 2600**	PCI-X	**Novell Netware 5.10: SP2A[21, 23], SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 23, 36], SP2[21, 23, 36], SP3**	**QLogic: QLA2340-E-SP[18, 19], QLA2342-E-SP[18, 19, 22]**	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
46	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP5[20, 21], SP6	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25]	
47	PowerEdge 6600	PCI-X	Novell Netware 5.10: SP5[20, 21], SP6	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
48	**PowerEdge 2650**	PCI-X	**Novell Netware 5.10: SP5[21, 35, 38], SP6**	**QLogic: QLA2200F-EMC[3, 5, 16, 26, 34, 37, 38], QLA2202F-EMC[3, 5, 16, 19, 26, 34, 37, 38, 39, 41, 47]**	FC-AL, FC-SW	Y[4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17]	
49	PowerEdge 4600	PCI-X	Novell Netware 5.10: SP5[21], SP6	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	See[20]
	PowerEdge 6650	PCI-X	Novell Netware 5.10: SP5[21], SP6	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
51	**PowerEdge: 4600, 6600, 6650**	PCI-X	**Novell Netware 5.10: SP5[21], SP6**	**QLogic: QLA2200F-EMC[26] QLA2202F-EMC[3, 5, 16, 19, 26, 34, 37, 38, 39, 41, 47]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
52	**PowerEdge 2600**	PCI-X	**Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 23, 36], SP2[21, 23, 36], SP3**	**QLogic QLA2310F-E-SP[18, 19, 22]**	FC-AL, FC-SW	Y[1, 2, 15, 17, 25]	
53	**PowerEdge 1750**	PCI-X	**Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3**	**QLogic QLA2202F-EMC[3, 5, 16, 19, 26, 34, 37, 38, 39, 41, 47]**	FC-AL, FC-SW	Y[5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
54	**PowerEdge 2600**	PCI-X	**Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3**	**QLogic QLA2202F-EMC[3, 5, 16, 19, 26, 34, 37, 38, 39, 41, 47]**	FC-AL, FC-SW	N	
55	PowerEdge 6650	PCI-X	Novell Netware 6.0 SP1[21]	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
56	PowerEdge 4600	PCI-X	Novell Netware 6.0 SP1[21, 23, 24]	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	See[20]
57	PowerEdge 6600	PCI-X	Novell Netware 6.0 SP1[21, 23, 24]	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
58	**PowerEdge 4600, 6600, 6650**	PCI-X	**Novell Netware 6.0 SP1[21, 35, 36]**	**QLogic: QLA2200F-EMC[3, 5, 16, 26, 34, 37, 38], QLA2202F-EMC[3, 5, 16, 19, 26, 34, 37, 38, 39, 41, 47]**	FC-AL, FC-SW	Y[6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17]	
59	PowerEdge 2650	PCI-X	Novell Netware 6.0: SP1[21, 23, 24], SP2[21, 23], SP3	QLogic QLA2310F-E-SP[18, 19]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25]	
60	**PowerEdge 2650**	PCI-X	**Novell Netware 6.0: SP1[21, 35, 36], SP2[21, 35, 36], SP3**	**QLogic: QLA2200F-EMC[3, 5, 16, 26, 34, 37, 38], QLA2202F-EMC[3, 5, 16, 19, 26, 34, 37, 38, 39, 41, 47]**	FC-AL, FC-SW	Y[6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17]	
61	PowerEdge 4600	PCI-X	Novell Netware 6.0: SP2[21, 23], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	See[20]
62	PowerEdge 6600	PCI-X	Novell Netware 6.0: SP2[21, 23], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
63	**PowerEdge: 4600, 6600, 6650**	**PCI-X**	**Novell Netware 6.0: SP2[21], SP3**	**QLogic QLA2202F-EMC[3, 5, 16, 19, 26, 34, 37, 38, 39, 41, 47]**	**FC-AL, FC-SW**	Y[5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
64	PowerEdge 6650	PCI-X	Novell Netware 6.0: SP2[21], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW	Y[1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
65	**PowerEdge: 1750, 2600, 2650, 4600, 6600, 6650**	**PCI-X**	**Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 5.10 SP5[21], 5.10 SP6, 6.0 SP1[21, 23, 24], 6.0 SP2[21, 23], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[45, 46]**	**FC-AL, FC-SW**	**N**	
66	**PowerEdge 2650**	**PCI-X**	**Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 5.10 SP5[21], 5.10 SP6, 6.0 SP1[21, 24], 6.0 SP2[21], 6.0 SP3**	**QLogic QLA2300F-E-SP[18, 19]**	**FC-AL, FC-SW**	**N**	
67	**PowerEdge: 1750, 4600**	**PCI-X**	**Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 5.10 SP5[21], 5.10 SP6, 6.0 SP1[21, 24], 6.0 SP2[21], 6.0 SP3**	**QLogic QLA2300F-E-SP[18, 19]**	**FC-AL, FC-SW**	**N**	**See[20]**
68	**PowerEdge: 6600, 6650**	**PCI-X**	**Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 5.10 SP5[21], 5.10 SP6, 6.0 SP1[21], 6.0 SP2[21], 6.0 SP3**	**QLogic QLA2300F-E-SP[18, 19]**	**FC-AL, FC-SW**	**N**	
69	**PowerEdge 2600**	**PCI-X**	**Novell Netware: 5.00 SP6A[21, 23, 43, 44], 5.10 SP2A[21, 23], 6.0 SP1[21], 6.0 SP2[21], 6.0 SP3**	**QLogic QLA2300F-E-SP[18, 19]**	**FC-AL, FC-SW**	**N**	
70	PowerEdge 8450	PCI	Novell Netware 5.10: SP5[4, 20, 21], SP6	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW[3]	N	
71	PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW[3]	Y[1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
72	PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2340-E-SP[18, 19, 27]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 28]	
73	PowerEdge 6400	PCI	Novell Netware 5.10: SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic: QLA2310F-E-SP[18, 19, 22], QLA2340-E-SP[18, 19, 27]	FC-AL, FC-SW[3]	N	
74	PowerEdge 2300	PCI	Novell Netware 5.10: SP5[4, 21, 23], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic: QLA2310F-E-SP[18, 19, 22], QLA2340-E-SP[18, 19, 27]	FC-AL, FC-SW[3]	N	
75	**PowerEdge 8450**	PCI	**Novell Netware 5.10: SP5[4, 21], SP6**	**QLogic QLA2200F-EMC[19, 26, 34, 39, 40, 41]**	FC-AL, FC-SW[3]	N	
76	PowerEdge 2550[42]	PCI	Novell Netware 5.10: SP5[4, 21], SP6	QLogic QLA2310F-E-SP[18, 22]	FC-AL, FC-SW[3]	Y[1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25]	
77	PowerEdge 2550[42]	PCI	Novell Netware 5.10: SP5[4, 21], SP6	QLogic QLA2340-E-SP[18, 27]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25, 28]	
78	PowerEdge 1650	PCI	Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW[3]	Y[1, 2, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17]	See[20]
79	PowerEdge 1650	PCI	Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2340-E-SP[18, 19, 27]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 28]	See[20]
80	PowerEdge: 1550, 2500	PCI	Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 23, 36], SP2[21, 23, 36], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW[3]	Y[1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25]	
81	PowerEdge: 1550, 2500	PCI	Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 23, 36], SP2[21, 23, 36] SP3	QLogic QLA2340-E-SP[18, 19, 27]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25, 28]	
82	**PowerEdge 1650**	PCI	**Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3**	**QLogic QLA2200F-EMC[26, 34]**	FC-AL, FC-SW[3]	Y[5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17]	

Dell – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
83	**PowerEdge: 1550, 2400, 2450, 2500, 2550[42], 4300, 4400, 6100, 6300, 6350, 6450**	PCI	**Novell Netware 5.10: SP5[4, 21], SP6;** **Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3**	**QLogic QLA2200F-EMC[26, 34]**	FC-AL, FC-SW[3]	Y[5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
84	**PowerEdge: 2300, 6400**	PCI	**Novell Netware 5.10: SP5[4, 21], SP6;** **Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3**	**QLogic QLA2200F-EMC[26, 34]**	FC-AL, FC-SW[3]	N	
85	**PowerEdge 8450**	PCI	**Novell Netware 5.10: SP5[4, 21], SP6;** **Novell Netware 6.0: SP2[21], SP3**	**IBM: 00N6881 (QLA2200)[29, 31, 33], 19K1246(QLA2310)[29, 31, 32], 24P0960(QLA2340)[29, 30, 31]**	FC-AL, FC-SW[3]	N	
86	PowerEdge 2550[42]	PCI	Novell Netware 6.0: SP1[21, 23, 36], SP2[21, 23, 36], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW[3]	Y[1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25]	
87	PowerEdge 2550[42]	PCI	Novell Netware 6.0: SP1[21, 23, 36], SP2[21, 23, 36], SP3	QLogic QLA2340-E-SP[18, 19, 27]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25, 28]	
88	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2340-E-SP[18, 19, 27]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25, 28]	
89	PowerEdge 6600	PCI-X	Novell Netware 5.10: SP5[4, 20, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2340-E-SP[18, 19, 27]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 28]	
90	PowerEdge 6650	PCI-X	Novell Netware 5.10: SP5[4, 21], SP6	QLogic QLA2340-E-SP[18, 19, 27]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 28]	
91	PowerEdge 1750	PCI-X	Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2310F-E-SP[18, 19, 22]	FC-AL, FC-SW[3]	Y[1, 2, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17]	See[20]
92	PowerEdge 1750	PCI-X	Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2340-E-SP[18, 19, 27]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 28]	See[20]
93	PowerEdge 4600	PCI-X	Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 23, 24, 36], SP2[21, 23, 36], SP3	QLogic QLA2340-E-SP[18, 19, 27]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 28]	See[20]
94	**PowerEdge 1750**	PCI-X	**Novell Netware 5.10: SP5[4, 21], SP6;** **Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3**	**QLogic QLA2200F-EMC[26, 34]**	FC-AL, FC-SW[3]	Y[5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17]	
95	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP5[4, 21], SP6; Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3	QLogic: **QLA2200F-EMC[26, 34]**, QLA2310F-E-SP[18, 22], QLA2340-E-SP[18, 27]	FC-AL, FC-SW[3]	N	
96	PowerEdge 6650	PCI-X	Novell Netware 6.0: SP1[21, 36], SP2[21, 36], SP3	QLogic QLA2340-E-SP[18, 27]	FC-AL, FC-SW[3]	Y[1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 28]	
97	**PowerEdge: 4600, 6600, 6650**	PCI-X	**Novell Netware 6.0: SP2[21], SP3**	**IBM: 00N6881 (QLA2200)[29, 31, 33], 19K1246(QLA2310)[29, 31, 32], 24P0960(QLA2340)[29, 30, 31]**	FC-AL, FC-SW[3]	N	
98	**PowerEdge: 4600, 6600, 6650**	PCI-X	**Novell Netware 6.0: SP2[21], SP3**	**QLogic QLA2200F-EMC[26, 34]**	FC-AL, FC-SW[3]	Y[5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]	

Edit config.sys with the following: Files=100 Buffers=99
When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditons exist where several LUNs are initially created and you perform your first install. NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.

3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. Requires NetWare patches: NWPAPT2A and NSS5J
5. Novell Storage Services supported.
6. Powerpath & ATF supported.
7. FC-SW environments using Brocade 2800 or EMC DS-16B require switch firmware 2.5.0d or greater.
8. Remote boot not supported with PERC controllers enabled in system BIOS.
9. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
10. No MirrorView or SnapView used on boot LUNs.
11. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability
12. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
13. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
14. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
15. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT C: partition will.
16. PowerPath and ATF supported.
17. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
18. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
19. Driver installation with NetWare 5.0 SP6A: Do not load cpqnmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc> Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot
20. Symmetrix 8000 Series. 66/67 support at NetWare 5.x, 5568 support at Netware 5.1.
21. Maximum number of NWFS volumes that can be mounted is 64.
22. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
23. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.
24. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
25. DOS boot device maximum accessible capacity is 2GB. Netware SYS volume must be in LUN 0.
26. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
27. Support for CX600, CX400, CX200, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)

28. PowerPath supported. ATF/CDE not supported.
29. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
30. This HBA is equivalent to the qLogic QLA2340.
31. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
32. This HBA is equivalent to the qLogic QLA2310.
33. (QLA2200) For IBM xSeries and Netfinity servers only.
34. Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.
35. For ATF on Pre CX series, Multipath support or connections to the secondary port are not supported at this time. One path per SP, 2 HBAs per host.
36. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.
37. CX200 available through selected channels.
38. Optical cables apply to CX600, CX400, CX200, FC4500 and FC4700.
39. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
40. Requires HBA firmware revision 1.83 and HBA driver revision 6.50v, available at http://www.qlogic.com
Requires SP4 or higher for NetWare 5.00.
41. Requires HBA bios 1.83 and driver 6.50v.
42. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts
43. NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.
44. Requires NWPA.NLM V.3.07A update from Novell website.
45. Requires driver version 2.02e and firmware 3.90a7.
46. PowerPath not currently supported.
47. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

Fujitsu Siemens

Fujitsu Siemens – Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Primergy: H400, K400, N400	PCI	Novell Netware 5.00 SP6A[4, 6, 7, 8]	QLogic QLA2310F-E-SP[2, 3]	FC-AL, FC-SW	Y[10, 11, 12]	See[16]
2	Primergy P250	PCI	Novell Netware 5.00 SP6A[4, 6, 7, 8]	QLogic: QLA2310F-E-SP[2, 3], QLA2340-E-SP[2, 3] QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N, Y[10, 11, 12]	
3	Primergy: H400, K400, N400	PCI	Novell Netware 5.00 SP6A[4, 6, 7, 8]	QLogic: QLA2340-E-SP[3] QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N, Y[10, 11, 12]	
4	Primergy P250	PCI	Novell Netware 5.10 SP2A[4, 6, 7, 8]	QLogic QLA2340-E-SP[2, 3]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
5	Primergy: H400, K400, N400, P250	PCI	Novell Netware 5.10: SP2A[4, 6, 7, 8], SP5[4], SP6; Novell Netware 6.0: SP1[4, 9], SP2[4], SP3	QLogic QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
6	Primergy P250	PCI	Novell Netware 5.10: SP5[4], SP6	QLogic QLA2310F-E-SP[3]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
7	Primergy: H400, K400, N400	PCI	Novell Netware 5.10: SP5[4], SP6	QLogic: QLA2310F-E-SP[3] QLA2340-E-SP[3]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
8	Primergy P250	PCI	Novell Netware 5.10: SP5[4], SP6; Novell Netware 6.0: SP1[4, 9], SP2[4], SP3	QLogic QLA2340-E-SP[3]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
9	Primergy: B210, C200, E200, F200, L200, N200, P200, R450	PCI	Novell Netware 6.0 SP1[4, 9]	QLogic QLA2310F-E-SP[2, 3]	FC-AL, FC-SW	N	
10	Primergy 700	PCI	Novell Netware 6.0: SP1[4, 9], SP2[4], SP3	QLogic: QLA2310F-E-SP[2, 3], QLA2340-E-SP[2, 3] QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N	
11	Primergy P250	PCI	Novell Netware: 5.10 SP2A[4, 6, 7, 8], 6.0 SP1[4, 9], 6.0 SP2[4], 6.0 SP3	QLogic QLA2310F-E-SP[2, 3]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
12	Primergy: H400, K400, N400	PCI	Novell Netware: 5.10 SP2A[4, 6, 7, 8], 6.0 SP1[4, 9], 6.0 SP2[4], 6.0 SP3	QLogic: QLA2310F-E-SP[2, 3], QLA2340-E-SP[2, 3]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
13	Primergy N800	PCI-X	Novell Netware 5.00 SP6A[4, 6, 7, 8]	QLogic QLA2310F-E-SP[2, 3]	FC-AL, FC-SW	Y[10, 11, 12]	See[16]
14	Primergy H250[5]	PCI-X	Novell Netware 5.00 SP6A[4, 6, 7, 8]	QLogic: QLA2310F-E-SP[2, 3], QLA2340-E-SP[2, 3] QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N, Y[10, 11, 12]	
15	Primergy N800	PCI-X	Novell Netware 5.00 SP6A[4, 6, 7, 8]	QLogic: QLA2340-E-SP[3], QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N, Y[10, 11, 12]	
16	Primergy: H250[5], N800	PCI-X	Novell Netware 5.10: SP2A[4, 6, 7, 8], SP5[4], SP6; Novell Netware 6.0: SP1[4, 9], SP2[4], SP3	QLogic QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
17	Primergy: RX200, RX300, TX200, TX300	PCI-X	Novell Netware 5.10: SP5[4], SP6	QLogic QLA2310F-E-SP[3]	FC-AL, FC-SW	N	
18	Primergy: H250[5], N800	PCI-X	Novell Netware 5.10: SP5[4], SP6	QLogic: QLA2310F-E-SP[3] QLA2340-E-SP[3]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
19	Primergy: RX200, RX300, TX200, TX300	PCI-X	Novell Netware: 5.00 SP6A[4, 6, 7, 8], 5.10 SP2A[4, 6, 7, 8], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 9], 6.0 SP2[4], 6.0 SP3	QLogic QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N	
20	Primergy F250[5]	PCI-X	Novell Netware: 5.00 SP6A[4, 6, 7, 8], 5.10 SP2A[4, 7], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 7, 9], 6.0 SP2[4, 7], 6.0 SP3	QLogic: QLA2310F-E-SP[2, 3], QLA2340-E-SP[2, 3] QLA2342-E-SP[1, 2, 3]	FC-AL, FC-SW	N	
21	Primergy F250[5]	PCI-X	Novell Netware: 5.00 SP6A[4, 6, 7, 8], 5.10 SP2A[4, 7], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 9], 6.0 SP2[4], 6.0 SP3	QLogic QLA2300F-E-SP[2, 3]	FC-AL, FC-SW	N	
22	Primergy: RX200, RX300, TX200, TX300	PCI-X	Novell Netware: 5.00 SP6A[4, 6, 7, 8], 5.10 SP5[4], 5.10 SP6	QLogic QLA2340-E-SP[3]	FC-AL, FC-SW	N	
23	Primergy: H250[5], N800	PCI-X	Novell Netware: 5.10 SP2A[4, 6, 7, 8], 6.0 SP1[4, 9], 6.0 SP2[4], 6.0 SP3	QLogic: QLA2310F-E-SP[2, 3], QLA2340-E-SP[2, 3]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
24	Primergy: RX200, RX300, TX200, TX300	PCI-X	Novell Netware: 5.10 SP2A[4, 6, 7, 8], 6.0 SP1[4, 9], 6.0 SP2[4], 6.0 SP3	QLogic: QLA2310F-E-SP[2, 3], QLA2340-E-SP[2, 3]	FC-AL, FC-SW	N	
25	Primergy F250[5]	PCI-X	Novell Netware: 5.00 SP6A[4, 6, 7, 8], 5.10 SP2A[4, 7], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 7, 9], 6.0 SP2[4, 7], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[14, 15]	FC-SW	N	

1. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
2. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
3. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
4. Maximum number of NWFS volumes that can be mounted is 64.
5. Must use standard PCI 32bit/33MHz slot for SCSI
6. Requires NWPA.NLM V.3.07A update from Novell website.

7. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.
8. NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.
9. PCI–X servers must use single 5 volt PCI slot for Adaptec 2944 family.
10. Edit config.sys with the following: Files=100 Buffers=99
11. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditons exist where several LUNs are initially created and you perform your first install, NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.
12. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT_C: partition will.
13. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
14. Requires driver version 2.02e and firmware 3.90a7.
15. PowerPath not currently supported.
16. Symmetrix 8000 Series: 66/67 support at NetWare 5.x, 5568 support at Netware 5.1.

HPQ

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netserver LH: (LH Pro), 4, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], DL580(G2)[31], ML350[31], ML350(G2)[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 5.00 SP6A[19, 26, 34, 35]	QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17], QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	N, Y[1, 2, 13]	
2	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 5.00 SP6A[19, 26, 34, 35]	QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17], QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	N, Y[1, 2, 13]	See[29]
3	Netserver. LH (LH Pro), LT 6000R	PCI	Novell Netware 5.10 SP2A[19, 26]	QLogic QLA2310F-E-SP[16, 17]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
4	Netserver LH: 4, II, III; Netserver: LP 2000r, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], DL580(G2)[31], ML350[31], ML350(G2)[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 5.10 SP2A[19, 26]	QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
5	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 5.10 SP2A[19, 26]	QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17]	FC-AL, FC-SW	Y[1, 2, 13, 15]	See[29]
6	Netserver LP 2000r	PCI	Novell Netware 5.10: SP2A[19, 26], SP5[19, 20, 29], SP6; Novell Netware 6.0: SP1[19, 23, 26, 30], SP2[19, 23, 26], SP3	QLogic QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
7	Proliant ML350(G2)[31]	PCI	Novell Netware 5.10: SP2A[19, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23, 26, 30], SP2[19, 23, 26], SP3	QLogic QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
8	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 5.10: SP2A[19, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23, 26, 30], SP2[19, 23, 26], SP3	QLogic QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	See[29]
9	Netserver LH: 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], DL580(G2)[31], ML350[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 5.10: SP2A[19, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3	QLogic QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
10	Netserver: LH (LH Pro), LT 6000R	PCI	Novell Netware 5.10: SP2A[19, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3	QLogic: QLA2340-E-SP[16, 17], QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
11	Netserver LC 2000 U3	PCI	Novell Netware 5.10: SP2A[19], SP5[19], SP6; Novell Netware 6.0: SP1[19], SP2[19], SP3	QLogic: QLA2200F-EMC[21], QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]	FC-AL, FC-SW	N	
12	Proliant ML750[31]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2310F-E-SP[16, 17]	FC-AL, FC-SW	Y[1, 2, 13, 15, 27]	
13	Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], ML350[31], ML350(G2)[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
14	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	See[29]
15	Proliant: DL380(G3)[27], DL580(G2)[31]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2310F-E-SP[17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
16	Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], ML350[31], ML350(G2)[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
17	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	See[29]

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
18	**Proliant DL380(G3)[27]**	PCI	**Novell Netware 5.10: SP5[19, 20], SP6**	**QLogic QLA2340-E-SP[17, 18]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
19	Proliant 8500	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[17, 25]	FC-AL, FC-SW	Y[3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
20	Proliant DL580(G2)[31]	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[17, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
21	**Proliant DL380(G3)[27]**	**PCI**	**Novell Netware 5.10: SP5[19, 20], SP6**	**QLogic QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	Y[1, 2, 13, 15]	
22	**Proliant, 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL320[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3)[27], DL580[31], DL580(G2)[31], ML350[31], ML350(G2)[31], ML370[31], ML370(G2), ML370(G3), ML530[31], ML530(G2)[31], ML570[31], ML750[27]**	PCI	**Novell Netware 5.10: SP5[19, 20], SP6**	**QLogic: QLA2200F-EMC[21, 22], QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
23	Proliant 8500	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic: **QLA2200F-EMC[21, 22], QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]**, QLA2310F-E-SP[17, 18]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
24	**Netserver: LH (LH Pro), LT 6000R**	**PCI**	**Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3**	**QLogic QLA2310F-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	Y[1, 2, 13, 15]	
25	**Proliant 8500**	**PCI**	**Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3**	**QLogic QLA2310F-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**N**	
26	Proliant 8000[31, 32]	PCI	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3	QLogic: QLA2310F-E-SP[16, 17, 18], QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW	N	
27	**Netserver LH: (LH Pro), 3, 3000, 6000; Netserver LT 6000R**	**PCI**	**Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3**	**QLogic QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]**	**FC-AL, FC-SW**	**N**	
28	**Netserver LH: 4, II, III; Netserver: LP 2000r, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8**	**PCI**	**Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3**	**QLogic QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]**	**FC-AL, FC-SW**	Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
29	**Proliant 8000[31, 32]**	PCI	**Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3**	**QLogic: QLA2200F-EMC[21, 22], QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]**	FC-AL, FC-SW	N	
30	**Netserver LC 2000r**	PCI	**Novell Netware 5.10: SP5[19], SP6**	**QLogic: QLA2200F-EMC[21], QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]**	FC-AL, FC-SW	N	
31	Netserver LH PRO	PCI	Novell Netware 5.10: SP5[19], SP6	QLogic: **QLA2200F-EMC[21], QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]**, QLA2310F-E-SP[16, 17]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 20]	
32	**Proliant ML750[31]**	**PCI**	**Novell Netware 5.10: SP5[19], SP6**	**QLogic: QLA2340-E-SP[16, 17], QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	Y[1, 2, 13, 15, 27]	
33	Netserver LC 2000 U3	PCI	Novell Netware 5.10: SP5[19], SP6; Novell Netware 6.0: SP1[19, 26], SP2[19, 26], SP3	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW	N	
34	Proliant ML350(G2)[31]	PCI	Novell Netware 6.0: SP1[19, 23, 26, 30], SP2[19, 23, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
35	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 6.0: SP1[19, 23, 26, 30], SP2[19, 23, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	See[29]
36	Proliant ML350(G2)[31]	PCI	Novell Netware 6.0: SP1[19, 23, 26, 30], SP2[19, 23, 26], SP3	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
37	Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]	PCI	Novell Netware 6.0: SP1[19, 23, 26, 30], SP2[19, 23, 26], SP3	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	See[29]
38	Proliant, 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL360[31], DL360(G2)[31], **DL380[31], DL380(G2)[31], DL380(G3)[27]**, DL580[31], DL580(G2)[31], ML350[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
39	**Proliant DL380(G3)[27]**	PCI	**Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3**	**QLogic QLA2340-E-SP[16, 17, 18]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
40	Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31]; DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], DL580(G2)[31], ML350[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]	PCI	Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
41	**Netserver LH PRO**	**PCI**	**Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3**	**QLogic QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]**	
42	Proliant 8500	PCI	Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3	QLogic QLA2340-E-SP[17, 25]	FC-AL, FC-SW	Y[3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
43	**Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 7000[31, 32], 850[31], DL320[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3)[27], DL580[31], DL580(G2)[31], ML350[31], ML350(G2)[31], ML370[31], ML370(G2), ML370(G3), ML530[31], ML530(G2)[31], ML570[31], ML750[27]**	PCI	**Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3**	**QLogic: QLA2200F-EMC[21, 22] QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]**	FC-AL, FC-SW	Y[3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
44	Proliant 8500	PCI	Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3	QLogic: **QLA2200F-EMC[21, 22] QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]** QLA2310F-E-SP[17, 18]	FC-AL, FC-SW	Y[3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
45	Netserver LH PRO	PCI	Novell Netware 6.0: SP1[19], SP2[19], SP3	QLogic QLA2310F-E-SP[16, 17]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
46	**Proliant 8500**	**PCI**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26]**	**QLogic QLA2310F-E-SP[16, 17]**	**FC-AL, FC-SW**	**N**	
47	Netserver LC 2000 U3	PCI	Novell Netware: **5.00 SP6A[19, 26, 34, 35]**, 5.10 SP2A[19, 26]	QLogic QLA2340-E-SP[16, 17]	FC-AL, FC-SW	N	
	Netserver LH; 3, 3000, 6000; Proliant 8000[31, 32]	**PCI**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26]**	**QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17]**	**FC-AL, FC-SW**	**N**	
49	**Netserver LH; 3, 3000, 6000; Proliant 8000[31, 32]**	**PCI**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 5.10 SP5[19, 20], 5.10 SP6, 6.0 SP1[19, 23, 26], 6.0 SP2[19, 23, 26], 6.0 SP3**	**QLogic QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**N**	
50	**Netserver LH PRO; Proliant 8500**	**PCI**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 5.10 SP5[19, 20], 5.10 SP6, 6.0 SP1[19, 23, 26], 6.0 SP2[19, 23, 26], 6.0 SP3**	**QLogic: QLA2340-E-SP[16, 17] QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**N**	
51	Netserver LC 2000 U3	PCI	Novell Netware: **5.00 SP6A[19, 26, 34, 35]**, 5.10 SP2A[19, 26], 5.10 SP5[19, 20], 5.10 SP6, 6.0 SP1[19, 26], 6.0 SP2[19, 26], 6.0 SP3	QLogic QLA2310F-E-SP[16, 17]	FC-AL, FC-SW	N	
52	Netserver LC 2000r	PCI	Novell Netware: **5.00 SP6A[19, 26, 34, 35] 5.10 SP2A[19, 26]**, 5.10 SP5[19, 20], 5.10 SP6, 6.0 SP1[19, 26], 6.0 SP2[19, 26], 6.0 SP3	QLogic: QLA2310F-E-SP[16, 17] **QLA2342-E-SP[16, 17, 18]**	FC-AL, FC-SW	N	
53	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[31, 33], 1850[31], 2500[31], 6400R[31], 6500[31, 32], 850[31], DL320[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], DL580(G2)[31], ML350[31], ML350(G2)[31], ML370[31], ML370(G2), ML370(G3), ML530[31], ML530(G2)[31], ML570[31], ML750[27]**	**PCI**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 5.10 SP5[19], 5.10 SP6, 6.0 SP1[19, 26, 30], 6.0 SP2[19, 26], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[36, 37]**	**FC-AL, FC-SW**	**N**	
54	**Netserver LH PRO**	**PCI**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 5.10 SP5[19], 5.10 SP6, 6.0 SP1[19, 26], 6.0 SP2[19, 26], 6.0 SP3**	**QLogic QLA2310F-E-SP[16, 17]**	**FC-AL, FC-SW**	**N**	
	Netserver LC 2000 U3	**PCI**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 5.10 SP5[19], 5.10 SP6, 6.0 SP1[19, 26], 6.0 SP2[19, 26], 6.0 SP3**	**QLogic QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**N**	
56	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[31, 33], 1850[31], 2500[31], 3000[31], 5000[31], 5500[31, 32], 6000[31, 32], 6400R[31], 6500[31, 32], 8000[31, 32], 850[31], DL360[31], DL360(G2)[31], DL380[31], DL380(G2)[31], DL380(G3), DL580[31], DL580(G2)[31], ML350[31], ML350(G2)[31], ML370[31], ML530[31], ML530(G2)[31], ML570[31]**	**PCI**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 5.10 SP5[19], 5.10 SP6, 6.0 SP1[19, 30], 6.0 SP2[19], 6.0 SP3**	**QLogic QLA2300F-E-SP[16, 17]**	**FC-AL, FC-SW**	**N**	
57	**Proliant: DL320[31], ML370(G2), ML370(G3), ML750[27]**	**PCI**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 5.10 SP5[19], 5.10 SP6, 6.0 SP1[19, 30], 6.0 SP2[19], 6.0 SP3**	**QLogic QLA2300F-E-SP[16, 17]**	**FC-AL, FC-SW**	**N**	**See[29]**
58	**Proliant 8500**	**PCI**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 6.0 SP1[19, 26], 6.0 SP2[19, 26], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[36]**	**FC-AL, FC-SW**	**N**	
59	**Netserver LC 2000r**	**PCI**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 6.0 SP1[19, 26], 6.0 SP2[19, 26], 6.0 SP3**	**QLogic QLA2340-E-SP[16, 17]**	**FC-AL, FC-SW**	**N**	
60	**Netserver LH (LH Pro); Proliant: 7000[31, 32], 8500**	**PCI**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 6.0 SP1[19], 6.0 SP2[19], 6.0 SP3**	**QLogic QLA2300F-E-SP[16, 17]**	**FC-AL, FC-SW**	**N**	
61	**Proliant: DL360(G3), DL560, DL560 (G2), DL760[31], DL760 (G2), ML570(G2)**	**PCI-X**	**Novell Netware 5.00 SP6A[19, 26, 34, 35]**	**QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17], QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**N, Y[1, 2, 13]**	

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
62	Proliant: DL360(G3), DL560, DL740, DL760[31], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.10 SP2A[19, 26]	QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
63	Proliant: DL740, DL760[31], DL760 (G2)	PCI-X	Novell Netware 5.10: SP2A[19, 26], SP5[19, 20, 29], SP6. Novell Netware 6.0: SP1[19, 23, 26, 30], SP2[19, 23, 26], SP3	QLogic QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
64	Proliant: DL360(G3), DL560, ML570(G2)	PCI-X	Novell Netware 5.10: SP2A[19, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3	QLogic QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
65	Proliant DL560 (G2)	PCI-X	Novell Netware 5.10: SP2A[19, 26], SP5[19, 20], SP6; Novell Netware 6.0: SP1[19], SP2[19], SP3	QLogic QLA2310F-E-SP[16, 17]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
66	Proliant DL740	PCI-X	Novell Netware 5.10: SP2A[19, 26], SP5[19], SP6; Novell Netware 6.0: SP1[19, 26, 30], SP2[19, 26], SP3	Emulex LP9002-E (LP9002L-E)[36, 37]	FC-AL, FC-SW	N	
67	Proliant DL560 (G2)	PCI-X	Novell Netware 5.10: SP2A[19, 26], SP5[19], SP6: Novell Netware 6.0: SP1[19], SP2[19], SP3	QLogic: QLA2340-E-SP[16, 17] QLA2342-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
68	Proliant: DL740, DL760[31], DL760 (G2)	PCI-X	Novell Netware 5.10: SP5[19, 20, 29], SP6	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
69	Proliant: DL740, DL760[31], DL760 (G2)	PCI-X	Novell Netware 5.10: SP5[19, 20, 29], SP6	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
70	Proliant: DL360(G3), DL560, ML570(G2)	PCI-X	Novell Netware 5 10: SP5[19, 20], SP6	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
71	Proliant: DL360(G3), DL560, ML570(G2)	PCI-X	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
72	Proliant DL560 (G2)	PCI-X	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[17, 25]	FC-AL, FC-SW	Y[3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
73	Proliant: DL360(G3), DL560, DL740, DL760[31], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.10: SP5[19, 20], SP6	QLogic: QLA2200F-EMC[21, 22] QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
74	Proliant DL560 (G2)	PCI-X	Novell Netware 5.10: SP5[19, 20], SP6	QLogic: QLA2200F-EMC[21, 22] QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41] QLA2310F-E-SP[17, 18]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
75	Proliant DL560 (G2)	PCI-X	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 13, 15]	
76	Proliant: DL740, DL760[31], DL760 (G2)	PCI-X	Novell Netware 6.0: SP1[19, 23, 26, 30], SP2[19, 23, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
77	Proliant: DL740, DL760[31] DL760 (G2)	PCI-X	Novell Netware 6.0: SP1[19, 23, 26, 30], SP2[19, 23, 26], SP3	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
78	Proliant: DL360(G3), DL560, ML570(G2)	PCI-X	Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
79	Proliant: DL360(G3), DL560, ML570(G2)	PCI-X	Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW	Y[1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
80	Proliant DL560 (G2)	PCI-X	Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3	QLogic QLA2340-E-SP[17, 25]	FC-AL, FC-SW	Y[3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
81	Proliant: DL360(G3), DL560, DL740, DL760[31], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3	QLogic: QLA2200F-EMC[21, 22] QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]	FC-AL, FC-SW	Y[3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
82	Proliant DL560 (G2)	PCI-X	Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3	QLogic: QLA2200F-EMC[21, 22] QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41] QLA2310F-E-SP[17, 18]	FC-AL, FC-SW	Y[3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
83	Proliant: DL360(G3), DL560, DL760[31], DL760 (G2), ML570(G2)	PCI-X	Novell Netware: 5.00 SP6A[19, 26, 34, 35] 5.10 SP2A[19, 26], 5.10 SP5[19], 5.10 SP6, 6.0 SP1[19, 26, 30], 6.0 SP2[19, 26], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[36, 37]	FC-AL, FC-SW	N	

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
84	**Proliant DL560 (G2)**	**PCI-X**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 5.10 SP5[19], 5.10 SP6, 6.0 SP1[19, 30], 6.0 SP2[19], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[36, 37]; QLogic QLA2300F-E-SP[16, 17]**	**FC-AL, FC-SW**	**N**	
85	**Proliant: DL360(G3), DL560, DL760[31], DL760 (G2), ML570(G2)**	**PCI-X**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 5.10 SP5[19], 5.10 SP6, 6.0 SP1[19, 30], 6.0 SP2[19], 6.0 SP3**	**QLogic QLA2300F-E-SP[16, 17]**	**FC-AL, FC-SW**	**N**	
86	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.00 SP6A[19, 26, 34, 35]**	**QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17], QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**N, Y[1, 2, 13]**	
87	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.10 SP2A[19, 26]**	**QLogic: QLA2310F-E-SP[16, 17], QLA2340-E-SP[16, 17]**	**FC-AL, FC-SW**	**Y[1, 2, 13, 15]**	
88	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.10: SP2A[19, 26], SP5[19, 20], SP6,** **Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3**	**QLogic QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**Y[1, 2, 13, 15]**	
89	**Proliant: DL580(G2)[31], DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[19, 20], SP6**	**QLogic QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]**	
90	**Proliant DL580(G2)[31]**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[19, 20], SP6;** **Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3**	**QLogic QLA2342-E-SP[16, 17, 18]**	**FC-AL, FC-SW**	**Y[1, 2, 13, 15]**	
[illegible]	**Proliant: DL580(G2)[31], DL580(G3)**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3**	**QLogic QLA2202F-EMC[3, 4, 14, 16, 21, 22, 28, 38, 39, 40, 41]**	**FC-AL, FC-SW**	**Y[4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]**	
92	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware, 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 5.10 SP5[19], 5.10 SP6, 6.0 SP1[19, 26, 30], 6.0 SP2[19, 26], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[36, 37]**	**FC-AL, FC-SW**	**N**	
93	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware: 5.00 SP6A[19, 26, 34, 35], 5.10 SP2A[19, 26], 5.10 SP5[19], 5.10 SP6, 6.0 SP1[19, 30], 6.0 SP2[19], 6.0 SP3**	**QLogic QLA2300F-E-SP[16, 17]**	**FC-AL, FC-SW**	**N**	
94	Netserver LP 2000r	PCI	Novell Netware 5.10: SP5[19, 20, 29], SP6; Novell Netware 6.0: SP1[19, 23, 26, 30], SP2[19, 23, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW[3]	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
95	Netserver LP 2000r	PCI	Novell Netware 5.10: SP5[19, 20, 29], SP6; Novell Netware 6.0: SP1[19, 23, 26, 30], SP2[19, 23, 26], SP3	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW[3]	Y[1, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
96	Netserver LC 2000r	PCI	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW[3]	N	
97	Netserver LH: 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW[3]	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
98	Netserver LH: 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW[3]	Y[1, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
[illegible]	Netserver LH: 3, 3000, 6000	PCI	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3	QLogic: QLA2310F-E-SP[16, 17, 18], QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW[3]	N	
100	**Netserver LH: 3, 3000, 6000**	PCI	**Novell Netware 5.10: SP5[19, 20], SP6;** **Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3**	**QLogic QLA2200F-EMC[21, 28]**	FC-AL, FC-SW[3]	N	
101	**Netserver LH, 4, II, III;** **Netserver, LP 2000r, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8**	PCI	**Novell Netware 5.10: SP5[19, 20], SP6;** **Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3**	**QLogic QLA2200F-EMC[21, 28]**	FC-AL, FC-SW[3]	Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
102	Netserver LH PRO	PCI	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3	QLogic QLA2340-E-SP[17, 25]	FC-AL, FC-SW[3]	Y[4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
103	Netserver: LH (LH Pro), LT 6000R	PCI	Novell Netware 5.10: SP5[19, 20], SP6; Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3	QLogic: **QLA2200F-EMC[21, 28]**, QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 25]	FC-AL, FC-SW[3]	N	
104	**Netserver LH PRO**	PCI	**Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3**	**QLogic QLA2200F-EMC[21, 28]**	FC-AL, FC-SW[3]	Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
105	**Proliant DL580(G2)[31]**	PCI, PCI-X	**Novell Netware 5.10: SP5[19, 20], SP6**	**QLogic QLA2200F-EMC[21]**	FC-AL, FC-SW[3]	Y[4, 5, 6, 7, 6, 9, 10, 11, 12, 13, 14, 15]	

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
106	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[19, 20], SP6**	**QLogic QLA2200F-EMC[21, 22]**	**FC-AL, FC-SW[3]**	**Y[4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]**	
107	Proliant: DL580(G2)[31], **DL580(G3)**	PCI, PCI-X	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2310F-E-SP[16, 17, 18]	FC-AL, FC-SW[3]	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
108	Proliant: DL580(G2)[31], **DL580(G3)**	PCI, PCI-X	Novell Netware 5.10: SP5[19, 20], SP6	QLogic QLA2340-E-SP[16, 17, 25]	FC-AL, FC-SW[3]	Y[1, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	
109	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3**	**QLogic QLA2310F-E-SP[16, 17, 18]**	**FC-AL, FC-SW[3]**	**Y[1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]**	
110	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[19, 23, 26], SP2[19, 23, 26], SP3**	**QLogic QLA2340-E-SP[16, 17, 25]**	**FC-AL, FC-SW[3]**	**Y[1, 2, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]**	
111	**Proliant DL580(G2)[31]**	PCI, PCI-X	**Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3**	**QLogic QLA2200F-EMC[21]**	FC-AL, FC-SW[3]	Y[4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
112	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3**	**QLogic QLA2200F-EMC[21, 22]**	**FC-AL, FC-SW[3]**	**Y[4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]**	
113	Proliant DL580(G2)[31]	PCI, PCI-X	Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3	QLogic QLA2310F-E-SP[17, 18]	FC-AL, FC-SW[3]	Y[1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15]	
'4	Proliant DL580(G2)[31]	PCI, PCI-X	Novell Netware 6.0: SP1[19, 23], SP2[19, 23], SP3	QLogic QLA2340-E-SP[17, 25]	FC-AL, FC-SW[3]	Y[1, 2, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 24]	

1. Edit config.sys with the following: Files=100 Buffers=99
2. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditons exist where several LUNs are initially created and you perform your first install. NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. Novell Storage Services supported.
5. Powerpath & ATF supported.
6. FC-SW environments using Brocade 2800 or EMC DS-16B require switch firmware 2.5.0d or greater.
7. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
8. No MirrorView or SnapView used on boot LUNs.
9. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
10. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
11. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
12. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
13. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT_C: partition will
14. PowerPath and ATF supported.
15. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
16. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
17. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
18. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
19. Maximum number of NWFS volumes that can be mounted is 64.
20. Requires NetWare patches: NWPAPT2A and NSS5J.
21. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
22. **Requires HBA bios 1.83 and driver 6.50v.**
23. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.
24. PowerPath supported. ATF/CDE not supported.
25. Support for CX600, CX400, CX200, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
26. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1
27. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
28. **Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.**
29. Symmetrix 8000 Series: 66/67 support at NetWare 5.x, 5568 support at Netware 5.1.
30. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
31. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
32. Includes both Pentium PRO and XEON models
33. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
34. **Requires NWPA.NLM V.3.07A update from Novell website.**
35. **NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.**
36. **Requires driver version 2.02e and firmware 3.90a7.**
37. **PowerPath not currently supported.**
38. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.**
39. **CX200 available through selected channels.**
40. **Optical cables apply to CX600, CX400, CX200, FC4500 and FC4700.**
41. **Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.**

IBM

IBM – Novell Netware						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**Netfinity 8500: xSeries X342**	**PCI**	**Novell Netware 5.00 SP6A[5, 29, 38, 39]**	**IBM: 19K1246(QLA2310)[23, 30, 33], 24P0960(QLA2340)[4, 23, 32]**	**FC-AL, FC-SW**	**N**

IBM – Novell Netware						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
2	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[35], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.00 SP6A[5, 29, 38, 39]	IBM: 19K1246(QLA2310)[23, 30, 33], 24P0960(QLA2340)[4, 23, 32]	FC-AL, FC-SW	Y[25]
3	Netfinity 8500R	PCI	Novell Netware 5.00 SP6A[5, 29, 38, 39]	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	N
4	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[35], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.00 SP6A[5, 29, 38, 39]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 24, 25]
5	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[35], 7100, 7600; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.00 SP6A[5, 29, 38, 39]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	N
6	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[35], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.10 SP2A[5, 29]	IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]	FC-AL, FC-SW	Y[20, 25]
7	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.10 SP2A[5, 29]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23]	FC-AL, FC-SW	Y[18, 20, 24, 25]
8	Netfinity 7000 M10[35]	PCI	Novell Netware 5.10 SP2A[5, 29]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
9	Netfinity 8500R	PCI	Novell Netware 5.10: SP2[5], SP2A[5]	IBM: 00N6881 (QLA2200)[1, 2, 3], 19K1246(QLA2310)[1, 2, 30], 24P0960(QLA2340)[1, 2, 32]; QLogic: QLA2200F-EMC[21, 23], QLA2202F-EMC[4, 7, 9, 19, 21, 23, 42, 43, 44, 45, 46]	FC-AL, FC-SW	N
10	xSeries X342	PCI	Novell Netware 5.10: SP2A[5, 29], SP5[5, 28], SP6; Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3	IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]	FC-AL, FC-SW	N
11	Netfinity 8500	PCI	Novell Netware 5.10: SP2A[5, 29], SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29, 34, 37], SP2[5, 29, 37], SP3	IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]	FC-AL, FC-SW	N
12	xSeries x255	PCI	Novell Netware 5.10: SP2A[5, 29], SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
13	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x350 (6000R), x370	PCI	Novell Netware 5.10: SP2A[5, 29], SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
14	Netfinity 8500R	PCI	Novell Netware 5.10: SP2A[5, 29], SP5[5], SP6; Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
15	xSeries X342	PCI	Novell Netware 5.10: SP5[5, 8, 28], SP6; Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3	QLogic QLA2310F-E-SP[22, 23, 26]	FC-AL, FC-SW	N
16	Netfinity 8500	PCI	Novell Netware 5.10: SP5[5, 8], SP6	QLogic QLA2340-E-SP[22, 23]	FC-AL, FC-SW	N
17	Netfinity 7000 M10[35, 36]; xSeries X335	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[18, 20, 24, 25]
18	Netfinity 7000 M10[36]	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2202F-EMC[4, 7, 9, 19, 21, 23, 42, 43, 44, 45, 46]	FC-AL, FC-SW	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 35]
19	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.10: SP5[5, 8], SP6. Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2202F-EMC[4, 7, 9, 19, 21, 23, 42, 43, 44, 45, 46]	FC-AL, FC-SW	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
20	Netfinity 8500R	PCI	Novell Netware 5.10: SP5[5], SP6	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW	Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
21	Netfinity 8500R	PCI	Novell Netware 5.10: SP5[5], SP6	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW	Y[7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 27]
22	Netfinity 8500R	PCI	Novell Netware 5.10: SP5[5], SP6	QLogic: QLA2200F-EMC[21, 23], QLA2202F-EMC[4, 7, 9, 19, 21, 23, 42, 43, 44, 45, 46]	FC-AL, FC-SW	Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
23	Netfinity 7000 M10[36]	PCI	Novell Netware 6.0 SP1[5]	IBM 00N6881 (QLA2200)[1, 2, 3]	FC-AL, FC-SW	Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 35]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
24	**Netfinity**: 5000, 5500, 5500 M10 5500 M20, 5600, 7000, 7100, 7600, 8500R. **xSeries**: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	**Novell Netware 6.0 SP1[5]**	**IBM 00N6881 (QLA2200)[1, 2, 3]**	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
25	**xSeries X342**	PCI	**Novell Netware 6.0 SP1[5]**	**IBM: 00N6881 (QLA2200)[1, 2, 3], 19K1246(QLA2310)[1, 2, 30], 24P0960(QLA2340)[1, 2, 32]**	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
26	**Netfinity 7000 M10[36]**	PCI	**Novell Netware 6.0 SP1[5, 29, 34]**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]**	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25, 35]
27	**Netfinity**: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; **xSeries**: X330, X335, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	**Novell Netware 6.0 SP1[5, 29, 34]**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]**	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
28	Netfinity 8500R	PCI	Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW	Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
29	Netfinity 8500R	PCI	Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW	Y[7, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 27]
30	**Netfinity 8500R**	PCI	**Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic: QLA2200F-EMC[21, 23], QLA2202F-EMC[4, 7, 9, 19, 21, 23, 42, 43, 44, 45, 46]**	FC-AL, FC-SW	Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
31	Netfinity 8500R	PCI	Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2[5], 5.10 SP2A[5]	QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23]	FC-AL, FC-SW	N
32	**xSeries X342**	PCI	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29]**	**QLogic QLA2310F-E-SP[22, 23]**	FC-AL, FC-SW	N
33	**xSeries X342**	PCI	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5, 8, 28], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5, 29], 6.0 SP3**	**QLogic: QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]**	FC-AL, FC-SW	N
34	**Netfinity 8500**	PCI	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5, 8], 5.10 SP6, 6.0 SP1[5, 29, 34, 37], 6.0 SP2[5, 29, 37], 6.0 SP3**	**QLogic: QLA2310F-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]**	FC-AL, FC-SW	N
35	**Netfinity**: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[35], 7100, 7600, 8500R; **xSeries**: X330, X340 (4500R), X342, x230, x232, x240, x250, x350 (6000R), x370	PCI	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5, 29], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[40, 41]**	FC-AL, FC-SW	N
36	**xSeries x345**	PCI	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5, 29], 6.0 SP3**	**QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]**	FC-AL, FC-SW	N
37	**Netfinity**: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[35], 7100, 7600; **xSeries**: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2300F-E-SP[22, 23]**	FC-AL, FC-SW	N
38	**Netfinity 8500**	PCI	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 6.0 SP1[5, 29, 34, 37], 6.0 SP2[5, 29, 37], 6.0 SP3**	**QLogic QLA2340-E-SP[22]**	FC-AL, FC-SW	N
39	**xSeries x255**	PCI	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 6.0 SP1[5, 29], 6.0 SP2[5, 29], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[40]**	FC-AL, FC-SW	N
40	**Netfinity 8500R**	PCI	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2300F-E-SP[22, 23]**	FC-AL, FC-SW	N
41	**xSeries x360**	PCI-X	**Novell Netware 5.00 SP6A[5, 29, 38, 39]**	**IBM: 19K1246(QLA2310)[23, 30, 33], 24P0960(QLA2340)[4, 23, 32]**	FC-AL, FC-SW	Y[25]
42	**xSeries x440**	PCI-X	**Novell Netware 5.00 SP6A[5, 29, 38, 39]**	**IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[32]**	FC-AL, FC-SW	Y[25]
43	**xSeries**: x360, x440	PCI-X	**Novell Netware 5.00 SP6A[5, 29, 38, 39]**	**QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]**	FC-AL, FC-SW	N, Y[18, 24, 25]
44	**xSeries x360**	PCI-X	**Novell Netware 5.10 SP2A[5, 29]**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]**	FC-AL, FC-SW	Y[20, 25]
45	**xSeries x360**	PCI-X	**Novell Netware 5.10 SP2A[5, 29]**	**QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23]**	FC-AL, FC-SW	Y[18, 20, 24, 25]
46	**xSeries x440**	PCI-X	**Novell Netware 5.10 SP2A[5, 29, 38, 39]**	**IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[32]**	FC-AL, FC-SW	Y[20, 25]
47	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP2A[5, 29], SP5[5, 8, 28], SP6; Novell Netware 6.0: SP1[5, 29, 34, 37], SP2[5, 29], SP3**	**QLogic QLA2342-E-SP[22, 23, 26]**	FC-AL, FC-SW	Y[18, 20, 24, 25]
48	**xSeries x440**	PCI-X	**Novell Netware 5.10: SP2A[5, 29], SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3**	**QLogic QLA2342-E-SP[22, 23, 26]**	FC-AL, FC-SW	Y[18, 20, 24, 25]
49	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP5[5, 28], SP6**	**QLogic QLA2310F-E-SP[22, 23]**	FC-AL, FC-SW	Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
50	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP5[5, 8, 28], SP6**	**IBM: 19K1246(QLA2310)[1, 2, 7, 22, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 7, 22, 23, 31, 32]**	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
51	**xSeries x440**	PCI-X	**Novell Netware 5.10: SP5[5, 8], SP6**	**IBM 19K1246(QLA2310)[1, 7, 22, 30]**	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
52	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP5[5], SP6**	**IBM 00N6881 (QLA2200)[1, 2, 3, 4]**	FC-AL, FC-SW	Y[8, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
53	**xSeries x440**	PCI-X	**Novell Netware 5.10: SP5[5], SP6**	**IBM 00N6881 (QLA2200)[1, 2, 3, 4, 6]**	FC-AL, FC-SW	Y[8, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
54	xSeries x440	PCI-X	Novell Netware 5.10: SP5[5], SP6	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW	Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
55	**xSeries: x360, x440**	PCI-X	**Novell Netware 5.10: SP5[5], SP6**	**QLogic: QLA2200F-EMC[21], QLA2202F-EMC[4, 7, 9, 19, 21, 23, 42, 43, 44, 45, 46]**	FC-AL, FC-SW	Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
56	xSeries x235	PCI-X	Novell Netware 5.10: SP5[5], SP6	QLogic: **QLA2200F-EMC[21], QLA2202F-EMC[4, 7, 9, 19, 21, 23, 42, 43, 44, 45, 46]**, QLA2310F-E-SP[22, 23] QLA2340-E-SP[6, 22, 23], QLA2342-E-SP[22, 23, 26]	FC-AL, FC-SW	N
57	**xSeries: x360, x440**	PCI-X	**Novell Netware 6.0 SP1[5]**	**IBM 00N6881 (QLA2200)[1, 2, 3]**	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
58	xSeries x440	PCI-X	Novell Netware 6.0 SP1[5]	QLogic QLA2310F-E-SP[22, 23]	FC-AL, FC-SW	Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
59	**xSeries x360**	PCI-X	**Novell Netware 6.0 SP1[5, 29, 34]**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]**	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
60	**xSeries x440**	PCI-X	**Novell Netware 6.0 SP1[5, 34]**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 33], 24P0960(QLA2340)[1, 2, 4, 23, 32]**	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
61	xSeries x360	PCI-X	**Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3**	**QLogic QLA2310F-E-SP[22, 23, 26]**	FC-AL, FC-SW	Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
62	**xSeries: x360, x440**	**PCI-X**	**Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2202F-EMC[4, 7, 9, 19, 21, 23, 42, 43, 44, 45, 46]**	**FC-AL, FC-SW**	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
63	xSeries x440	PCI-X	Novell Netware 6.0: SP2[5], SP3	QLogic QLA2310F-E-SP[22, 23, 26]	FC-AL, FC-SW	Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
64	**xSeries x360**	**PCI-X**	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5, 29], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[40, 41]**	**FC-AL, FC-SW**	**N**
65	**xSeries x440**	**PCI-X**	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[40, 41]**	**FC-AL, FC-SW**	**N**
66	**xSeries x360**	**PCI-X**	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2300F-E-SP[22, 23]**	**FC-AL, FC-SW**	**N**
67	**xSeries x440**	**PCI-X**	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2300F-E-SP[22, 23]**	**FC-AL, FC-SW**	**N**
68	**xSeries x440**	**PCI-X**	**Novell Netware: 5.10 SP2A[5, 29], 6.0 SP1[5, 29], 6.0 SP2[5, 29], 6.0 SP3**	**QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23]**	**FC-AL, FC-SW**	**Y[18, 20, 24, 25]**
69	**xSeries x360**	PCI-X	**Novell Netware: 5.10[5], 5.10 SP2A[5]**	**IBM 00N6881 (QLA2200)[1, 2, 3, 4]**	FC-AL, FC-SW	N
70	**xSeries x440**	PCI-X	**Novell Netware: 5.10[5], 5.10 SP2A[5]**	**IBM 00N6881 (QLA2200)[1, 2, 3, 4, 6]**	FC-AL, FC-SW	N
71	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.00 SP6A[5, 29, 38, 39]**	**IBM: 19K1246(QLA2310)[30], 24P0960(QLA2340)[32]**	**FC-AL, FC-SW**	**Y[25]**
72	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.00 SP6A[5, 29, 38, 39]**	**QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23, 26]**	**FC-AL, FC-SW**	**N, Y[18, 24, 25]**
73	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10 SP2A[5, 29]**	**QLogic: QLA2310F-E-SP[22, 23], QLA2340-E-SP[22, 23]**	**FC-AL, FC-SW**	**Y[18, 20, 24, 25]**
74	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10 SP2A[5, 29, 38, 39]**	**IBM: 19K1246(QLA2310)[22, 23, 30, 33], 24P0960(QLA2340)[4, 22, 23, 32]**	**FC-AL, FC-SW**	**Y[20, 25]**
	xSeries x445	**PCI, PCI-X**	**Novell Netware 5.10 SP6**	**QLogic QLA2310F-E-SP[22, 23]**	**FC-AL, FC-SW**	**Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]**
76	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10: SP2A[5, 29], SP5[5, 8], SP6:** **Novell Netware 6.0: SP1[5, 29, 37], SP2[5, 29], SP3**	**QLogic QLA2342-E-SP[22, 23, 26]**	**FC-AL, FC-SW**	**Y[18, 20, 24, 25]**
77	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[5, 8], SP6**	**IBM: 19K1246(QLA2310)[1, 7, 22, 30], 24P0960(QLA2340)[1, 2, 22, 32]**	**FC-AL, FC-SW**	**Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]**
78	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[5, 8], SP6:** **Novell Netware 6.0: SP1[5, 29, 37], SP2[5, 29], SP3**	**QLogic QLA2340-E-SP[6, 22, 23]**	**FC-AL, FC-SW**	**Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 27]**
79	**xSeries x345**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[5, 8], SP6;** **Novell Netware 6.0: SP1[5, 37], SP2[5], SP3**	**QLogic QLA2342-E-SP[22, 23, 26]**	**FC-AL, FC-SW**	**N**
80	**xSeries x345**	PCI, PCI-X	**Novell Netware 5.10: SP5[5, 8], SP6;** **Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2310F-E-SP[22, 23]**	FC-AL, FC-SW	N
81	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[5], SP6**	**IBM 00N6881 (QLA2200)[1, 2, 3, 4, 6]**	**FC-AL, FC-SW**	**Y[8, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20]**
82	**xSeries x345**	PCI, PCI-X	**Novell Netware 5.10: SP5[5], SP6**	**QLogic: QLA2200F-EMC[21], QLA2202F-EMC[4, 7, 9, 19, 21, 23, 42, 43, 44, 45, 46]**	FC-AL, FC-SW	N
83	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[5], SP6**	**QLogic: QLA2200F-EMC[21], QLA2202F-EMC[4, 7, 9, 19, 21, 23, 42, 43, 44, 45, 46]**	**FC-AL, FC-SW**	**Y[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]**
84	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 6.0 SP1[5]**	**IBM 00N6881 (QLA2200)[1, 2, 3]**	**FC-AL, FC-SW**	**Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]**

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No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
85	**xSeries x445**	PCI, PCI-X	**Novell Netware 6.0: SP1[5, 34], SP2[5], SP3**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 33], 24P0960(QLA2340)[1, 2, 4, 23, 32]**	FC-AL, FC-SW	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
86	**xSeries x445**	PCI, PCI-X	**Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2202F-EMC[4, 7, 9, 19, 21, 23, 42, 43, 44, 45, 46]**	FC-AL, FC-SW	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
87	**xSeries x445**	PCI, PCI-X	**Novell Netware 6.0: SP2[5, 29], SP3**	**QLogic QLA2310F-E-SP[22, 23, 26]**	FC-AL, FC-SW	Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
88	**xSeries x445**	PCI, PCI-X	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5, 29], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[40, 41]**	FC-AL, FC-SW	N
89	**xSeries x445**	PCI, PCI-X	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2300F-E-SP[22, 23]**	FC-AL, FC-SW	N
90	**xSeries x445**	PCI, PCI-X	**Novell Netware: 5.10 SP5[5, 8], 6.0 SP1[5, 29]**	**QLogic QLA2310F-E-SP[22, 23]**	FC-AL, FC-SW	Y[7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
91	**xSeries x445**	PCI, PCI-X	**Novell Netware: 5.10[5], 5.10 SP2A[5]**	**IBM 00N6881 (QLA2200)[1, 2, 3, 4, 6]**	FC-AL, FC-SW	N
92	**Netfinity 7000 M10[36]**	PCI	**Novell Netware 5.10: SP5[5, 8, 28], SP6; Novell Netware 6.0: SP2[5, 29], SP3**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25, 35]
93	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), x230, x232, x240, x250, x350 (6000R), x370**	PCI	**Novell Netware 5.10: SP5[5, 8, 28], SP6; Novell Netware 6.0: SP2[5, 29], SP3**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
1	xSeries x232	PCI	Novell Netware 5.10: SP5[5, 8], SP6	QLogic QLA2310F-E-SP[22, 26]	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
95	xSeries x232	PCI	Novell Netware 5.10: SP5[5, 8], SP6	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 27]
96	**xSeries x255**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3**	**QLogic QLA2310F-E-SP[22, 23, 26]**	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
97	**xSeries x255**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29, 34], SP2[5, 29], SP3**	**QLogic QLA2340-E-SP[6, 22, 23]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 27]
98	Netfinity 7000 M10[36]	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2310F-E-SP[22, 23, 26]	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 35]
99	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), x230, x240, x250, x350 (6000R), x370	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2310F-E-SP[22, 23, 26]	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
100	xSeries x370	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2340-E-SP[22, 23, 26]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 27]
101	Netfinity 7000 M10[36]	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 27, 35]
102	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), x230, x240, x250, x350 (6000R)	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 27]
103	**Netfinity 7000 M10[36]**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2200F-EMC[4, 21]**	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 35]
104	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2200F-EMC[4, 21]**	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
105	xSeries X342	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 27]
106	xSeries X342	PCI	Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic: **QLA2200F-EMC[4, 21]**, QLA2310F-E-SP[22, 26]	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
107	**xSeries x255**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP2[5, 29], SP3**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
108	**Netfinity 7000 M10[36]**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP2[5], SP3**	**IBM 00N6881 (QLA2200)[1, 2, 3]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 35]
109	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP2[5], SP3**	**IBM 00N6881 (QLA2200)[1, 2, 3]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 35]
110	**xSeries X342**	PCI	**Novell Netware 5.10: SP5[5, 8], SP6; Novell Netware 6.0: SP2[5], SP3**	**IBM: 00N6881 (QLA2200)[1, 2, 3], 19K1246(QLA2310)[1, 2, 30], 24P0960(QLA2340)[1, 2, 32]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
111	**Netfinity 8500R**	PCI	**Novell Netware 5.10: SP5[5], SP6**	**IBM 00N6881 (QLA2200)[1, 2, 3]**	FC-AL, FC-SW[7]	Y[8, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
112	**Netfinity 8500R**	PCI	**Novell Netware 5.10: SP5[5], SP6**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]**	FC-AL, FC-SW[7]	Y[8, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
113	xSeries x232	PCI	Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2310F-E-SP[22, 23, 26]	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25]
114	xSeries x232	PCI	Novell Netware 6.0: SP1[5, 29], SP2[5, 29], SP3	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 27]
115	**Netfinity 8500R**	PCI	**Novell Netware 6.0: SP2[5, 29], SP3**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
116	**Netfinity 8500R**	PCI	**Novell Netware 6.0: SP2[5], SP3**	**IBM 00N6881 (QLA2200)[1, 2, 3]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
117	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP5[5, 8, 28], SP6;** Novell Netware 6.0: SP1[5, 29, 34, 37], SP2[5, 29] SP3	**QLogic QLA2340-E-SP[6, 22, 23]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 27]
118	**xSeries x440**	PCI-X	**Novell Netware 5.10: SP5[5, 8], SP6**	**IBM 24P0960(QLA2340)[1, 2, 22, 32]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
119	xSeries x440	PCI-X	Novell Netware 5.10: SP5[5, 8], SP6. Novell Netware 6.0: SP2[5], SP3	QLogic QLA2340-E-SP[6, 22, 23]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 27]
120	xSeries x440	PCI-X	Novell Netware 6.0 SP1[5, 37]	QLogic QLA2340-E-SP[6, 22]	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 27]
121	**xSeries: x360, x440**	PCI-X	**Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2200F-EMC[4, 21]**	FC-AL, FC-SW[7]	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
122	**xSeries x360**	PCI-X	**Novell Netware 6.0: SP2[5, 29], SP3**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 31, 33], 24P0960(QLA2340)[1, 2, 4, 23, 31, 32]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
123	**xSeries: x360, x440**	PCI-X	**Novell Netware 6.0: SP2[5], SP3**	**IBM 00N6881 (QLA2200)[1, 2, 3]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
124	**xSeries x440**	PCI-X	**Novell Netware 6.0: SP2[5], SP3**	**IBM: 19K1246(QLA2310)[1, 2, 23, 30, 33], 24P0960(QLA2340)[1, 2, 4, 23, 32]**	FC-AL, FC-SW[7]	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 25]
125	**xSeries x345**	PCI, PCI-X	**Novell Netware 5.10: SP5[5, 8], SP6**	**QLogic QLA2340-E-SP[6, 22, 23]**	FC-AL, FC-SW[7]	N
126	**xSeries x345**	PCI, PCI-X	**Novell Netware 6.0: SP1[5, 37], SP2[5], SP3**	**QLogic QLA2340-E-SP[6, 22]**	FC-AL, FC-SW[7]	N
127	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2200F-EMC[4, 21]**	**FC-AL, FC-SW[7]**	Y[9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
128	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 6.0: SP2[5], SP3**	**IBM 00N6881 (QLA2200)[1, 2, 3]**	**FC-AL, FC-SW[7]**	Y[9, 11, 12, 13, 14, 15, 16, 17, 19, 20]
129	**xSeries: x255, x345**	**PCI**	**Novell Netware: 5.00 SP6A[5, 29, 38, 39], 5.10 SP2A[5, 29], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29, 34], 6.0 SP2[5, 29], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[40, 41]**	**FC-SW**	**N**

1. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
2. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
3. **(QLA2200) For IBM xSeries and Netfinity servers only.**
4. **Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.**
5. Maximum number of NWFS volumes that can be mounted is 64.
6. Support for CX600, CX400, CX200, FC4500, FC4700, and FC5300 (FC5300 requires copper to Fibre transceiver.)
7. FC-SW applies only to CX600, CX400, CX200, FC4500 FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
8. Requires NetWare patches: NWPAPT2A and NSS5J.
9. Novell Storage Services supported.
10. Powerpath & ATF supported.
11. FC-SW environments using Brocade 2800 or EMC DS-16B require switch firmware 2.5.0d or greater.
12. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
13. No MirrorView or SnapView used on boot LUNs.
14. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
15. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
16. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
17. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
18. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT C: partition will.
19. PowerPath and ATF supported.
20. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
21. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
22. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
23. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
24. Edit config.sys with the following: Files=100 Buffers=99
25. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of boot servers have been reached. Conditions exist where several LUNs are initially created and you perform your first install, NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs
26. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
27. PowerPath supported. ATF/CDE not supported.
28. Symmetrix 8000 Series: 66/67 support at NetWare 5.x, 5568 support at Netware 5.1.
29. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.
30. **This HBA is equivalent to the qLogic QLA2310.**
31. **Host must be offline for interfamily Symmetrix microcode upgrade.**
32. **This HBA is equivalent to the qLogic QLA2340.**

33. **Requires driver 6.50v, BIOS 1.34 available from Qlogic.**
34. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
35. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
36. This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
37. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD
38. **Requires NWPA.NLM V.3.07A update from Novell website.**
39. **NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.**
40. **Requires driver version 2.02e and firmware 3.90a7.**
41. **PowerPath not currently supported.**
42. **Requires driver version 2.20a12. firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.**
43. **Requires HBA bios 1.83 and driver 6.50v.**
44. **CX200 available through selected channels.**
45. **Optical cables apply to CX600, CX400, CX200, FC4500 and FC4700.**
46. **Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.**

Red Hat Linux
DG

DG - Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**Emulex LP9002-E (LP9002L-E)[13, 22]**	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 17]
2	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 17]
3	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**Emulex: LP9802-E[1, 13], LP982-E[1, 13]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 17]
	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**QLogic QLA2200F[13, 15, 16, 18, 21]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 17, 19, 20]
5	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**QLogic QLA2310F-E-SP[13, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 14, 17]
6	**AViiON AV3704R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 26], v2.4.9-E.12[11, 26], v2.4.9-E.16[11, 26], v2.4.9-E.3[11], v2.4.9-E.9[11, 26];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 26], v2.4.9-e.16[11, 26]**	**QLogic QLA2200F[13, 15, 16]**	FC-AL, FC-SW	N
7	**AViiON: AV1400, AV2800, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 26], v2.4.9-E.12[11, 26], v2.4.9-E.9[11, 26]**	**QLogic QLA2200F[13, 15, 16]**	FC-AL, FC-SW	N
8	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 26], v2.4.9-E.3[3, 11, 17, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 26], v2.4.9-e.16[11, 26]**	**QLogic QLA2200F-EMC[13, 21]**	FC-AL, FC-SW	N
9	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 26], v2.4.9-E.3[3, 11, 17, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 26], v2.4.9-e.16[11, 26];** **Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2342-E-SP[12]**	FC-AL, FC-SW	N
10	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 26], v2.4.9-E.3[3, 11, 17, 18], v2.4.9-e.24[11, 28];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 26], v2.4.9-e.16[11, 26], v2.4.9-e.24[11, 28];** **Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2202F-EMC[13, 15, 16, 18, 21, 24, 25, 27, 31]**	**FC-AL, FC-SW**	**N**
11	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 26], **ES** **v2.4.9-e.12[11, 26]**, ES v2.4.9-e.16[11, 26]	Emulex LP9002-E (LP9002L-E)[13, 22]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
12	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 26], **ES** **v2.4.9-e.12[11, 26]**, ES v2.4.9-e.16[11, 26]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
13	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 26], **ES** **v2.4.9-e.12[11, 26]**, ES v2.4.9-e.16[11, 26]	Emulex: LP9802-E[1, 13], LP982-E[1, 13]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
14	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 26], ES** v2.4.9-e.12[11, 26], ES v2.4.9-e.16[11, 26]	**QLogic QLA2200F[13, 15, 16, 18, 21]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 19, 20]
15	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 26], ES** v2.4.9-e.12[11, 26], ES v2.4.9-e.16[11, 26]	**QLogic QLA2310F-E-SP[13, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 14]
16	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES** v2.4.9-e.24[11, 28]	**Emulex LP9002-E (LP9002L-E)[13, 15, 22, 24, 25]**	**FC-AL, FC-SW**	Y[2, 4, 5, 6, 7, 8, 9, 10]
17	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES** v2.4.9-e.24[11, 28]	**Emulex LP9802DC-E[1, 13, 15, 24, 25]**	**FC-AL, FC-SW**	**Y[1, 2, 4, 5, 6, 7, 8, 9, 10]**
18	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES** v2.4.9-e.24[11, 28]	**Emulex: LP9802-E[1, 13, 15, 24, 25], LP982-E[1, 13, 15, 24, 25]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10]**
19	**AViiON AV3704R**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES** v2.4.9-e.24[11, 28]	**QLogic QLA2200F[13, 15, 24, 25, 27, 29]**	**FC-AL, FC-SW**	**N**
20	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES** v2.4.9-e.24[11, 28]	**QLogic QLA2200F[13, 15, 24, 25, 27, 29]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 19, 20]**
21	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES** v2.4.9-e.24[11, 28]	**QLogic QLA2310F-E-SP[13, 15, 24, 25, 30]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 14]**
22	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES** v2.4.9-e.24[11, 28]	**QLogic: QLA2200F-EMC[13, 15, 24, 25, 27], QLA2342-E-SP[15, 24, 25, 29, 30]**	**FC-AL, FC-SW**	**N**

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DG – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
23	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]
24	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4 18-3)[11]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
25	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]
26	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2200F-EMC[13]**	FC-AL, FC-SW	N
27	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic: QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 14]
28	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 19, 20]
29	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900 AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**QLogic QLA2340-E-SP[13, 23]**	FC-AL, FC-SW[24, 25]	Y[4, 5, 6, 7, 8, 9, 10, 14, 17]
30	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 26], ES v2.4.9-e.12[11, 26], ES v2.4.9-e.16[11, 26]**	**QLogic QLA2340-E-SP[13, 23]**	FC-AL, FC-SW[24, 25]	Y[4, 5, 6, 7, 8, 9, 10, 14]
31	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**QLogic QLA2340-E-SP[13, 15, 30]**	FC-AL, FC-SW[24, 25]	Y[4, 5, 6, 7, 8, 9, 10, 14]

1. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
   Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
   Requires v6.2.1 or higher Navisphere host agent/CLI.
4. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
5. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
6. No MirrorView or SnapView used on boot LUNs.
7. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group.
   Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
8. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
9. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
10. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
11. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
12. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
13. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
14. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
15. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
16. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
17. This kernel is limited to 110 devices, not 128.
18. **Supported with QLogic driver v6.04.02 or v6.05.00.**
19. Requires QLogic driver 4.47.18 and BIOS 1.83.
20. Install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.
21. Requires v6.0.5 or higher Navisphere host Agent/CLI.
22. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
23. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
24. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
25. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
26. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath.
    Booting from EMC storage arrays is NOT supported with PowerPath.
27. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
28. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
29. **Single HBA zoning is required regardless of the switch being utilized.**
30. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
31. **Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC-approved driver after installation.**

Dell

Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[11, 17, 19, 30]**	**QLogic QLA2200F-EMC[16, 18]**	FC-AL, FC-SW	N
2	**PowerEdge: 1550, 2300, 2450, 2500, 4400, 6100, 6300, 6350, 6400, 6450 8450**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[11, 19]**	**QLogic QLA2200F[14, 15, 18]**	FC-AL, FC-SW	N
3	**PowerEdge 2550[21]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[11]**	**QLogic QLA2200F[14, 15, 18]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 16, 24, 27, 28]
4	**PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 16, 24]**	**Emulex LP9002-E (LP9002L-E)[18, 25]**	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 24]
5	**PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 16, 24]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 24]
6	**PowerEdge: 1550[20], 2300[20], 2400 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 16, 24]**	**Emulex: LP9802-E[1, 18], LP982-E[1, 18]**	FC-AL, FC-SW	Y[1, 5, 6, 7, 8, 9, 10, 24]
7	**PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 16, 24]**	**QLogic QLA2200F[14, 15, 16, 17, 18]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 24, 27, 28]

Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
8	PowerEdge: 1550[20], 2300[20], 2400 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[3, 11, 16, 24]	QLogic QLA2310F–E–SP[18, 23]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 13, 24]
9	PowerEdge: 1550[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.9[11, 19]	Emulex: LP9802–E[1, 18], LP982–E[1, 18]	FC–AL, FC–SW	N
10	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 17, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24], v2.4.9–E.9[11, 19]; Red Hat Linux 2.1 ES v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11]	Emulex LP9802DC–E	FC–AL, FC–SW	N
11	PowerEdge: 1550[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 17, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24], v2.4.9–E.9[11, 19]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2342–E–SP[12]	FC–AL, FC–SW	N
12	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 17, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24], v2.4.9–E.9[11, 19]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic: QLA2310F–E–SP[18, 23], QLA2342–E–SP[12]	FC–AL, FC–SW	N
13	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 17, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24], v2.4.9–E.9[11, 19], v2.4.9–e.24[11, 34]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19], v2.4.9–e.24[11, 34]; Red Hat Linux 7.3: (v2.4.18–3)[11], updated w/ v2.4.18–27.7.x rpm[3, 11]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2202F–EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]	FC–AL, FC–SW	N
14	PowerEdge: 1550[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 17, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]; Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11]	Emulex LP9802DC–E	FC–AL, FC–SW	N
15	PowerEdge: 1550[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 17, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2310F–E–SP[18, 23]	FC–AL, FC–SW	N
16	PowerEdge: 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 17, 19, 30], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2342–E–SP[12]	FC–AL, FC–SW	N
17	PowerEdge 4300	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 17, 19], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[11, 16], v2.4.9–E.9[11, 19], v2.4.9–e.24[11, 34]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19], v2.4.9–e.24[11, 34]; Red Hat Linux 7.3: (v2.4.18–3)[11], updated w/ v2.4.18–27.7.x rpm[3, 11]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2202F–EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]	FC–AL, FC–SW	N
18	PowerEdge 2400	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 17, 19], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24], v2.4.9–E.9[11, 19], v2.4.9–e.24[11, 34]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19], v2.4.9–e.24[11, 34]; Red Hat Linux 7.3: (v2.4.18–3)[11], updated w/ v2.4.18–27.7.x rpm[3, 11]; Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2202F–EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]	FC–AL, FC–SW	N
19	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24], v2.4.9–E.9[11, 19]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]	Emulex LP9002–E (LP9002L–E)[18, 25]	FC–AL, FC–SW	N
20	PowerEdge: 1550[20], 2300[20], 2450[20], 2500[20], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]	Emulex LP9002–E (LP9002L–E)[18, 25]	FC–AL, FC–SW	N
21	PowerEdge 2550[20, 21]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]	Emulex LP9002–E (LP9002L–E)[18, 25]; QLogic QLA2200F[14, 15, 18]	FC–AL, FC–SW	N
22	PowerEdge: 1650[20], 2400, 2550[21]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]	QLogic QLA2200F[14, 15, 18]	FC–AL, FC–SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
23	PowerEdge: 1550[20], 2300[20], 2450[20], 2500[20], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 19], v2.4.9-E.9[11, 19]	QLogic QLA2200F[14, 15, 18]	FC-AL, FC-SW	N
24	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[16, 17, 18]	FC-AL, FC-SW	N
25	PowerEdge: 1650[20], 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]	QLogic QLA2340-E-SP[12, 18, 23]	FC-AL, FC-SW	N
26	PowerEdge: 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]; Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2342-E-SP[12]	FC-AL, FC-SW	N
27	PowerEdge 4300	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[11, 16]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	N
28	PowerEdge 2400	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]; Red Hat Linux 7.3 (v2.4.18-3)[11]	QLogic QLA2342-E-SP[12]	FC-AL, FC-SW	N
29	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	N
30	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24], v2.4.9-E.9[11, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	Emulex: LP9802-E[1, 18], LP982-E[1, 18]	FC-AL, FC-SW	N
31	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[3, 11, 16, 24], v2.4.9-E.9[11, 19]	QLogic QLA2200F-EMC[17, 18]	FC-AL, FC-SW	N
32	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	Emulex LP9002-E (LP9002L-E)[16, 25]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
33	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
34	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	Emulex: LP9802-E[1, 18], LP982-E[1, 18]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
35	PowerEdge 2550[21]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2200F[14, 15, 18]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
36	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2310F-E-SP[18, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
37	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
38	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	Emulex LP9002-E (LP9002L-E)[14, 18, 22, 25, 26]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
39	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	Emulex LP9802DC-E[1, 14, 18, 22, 26]	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
40	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	Emulex: LP9002-E (LP9002L-E)[14, 18, 22, 25, 26], LP9802-E[1, 14, 18, 22, 26], LP9802DC-E[1, 14, 18, 22, 26], LP982-E[1, 14, 18, 22, 26]; QLogic: QLA2200F[14, 18, 22, 26, 32, 36], QLA2200F-EMC[14, 18, 22, 26, 36], QLA2310F-E-SP[14, 18, 22, 26, 35], QLA2342-E-SP[14, 22, 26, 32, 35]	FC-AL, FC-SW	N
41	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	Emulex: LP9802-E[1, 14, 18, 22, 26], LP982-E[1, 14, 18, 22, 26]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
42	PowerEdge 4300	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2200F[14, 18, 22, 26, 32, 36]	FC-AL, FC-SW	N
43	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2200F[14, 18, 22, 26, 32, 36]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]

Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
44	PowerEdge 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[11, 34], ES v2.4.9–e.24[11, 34]	QLogic QLA2310F–E–SP[14, 18, 22, 26, 35]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
45	PowerEdge 2400	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[11, 34], ES v2.4.9–e.24[11, 34]	QLogic QLA2342–E–SP[14, 22, 26, 32, 35]	FC–AL, FC–SW	N
46	PowerEdge 1550[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[11, 34], ES v2.4.9–e.24[11, 34]	QLogic: QLA2200F–EMC[14, 18, 22, 26, 36], QLA2342–E–SP[14, 22, 26, 32, 35]	FC–AL, FC–SW	N
47	PowerEdge 1550, 2300, 2400, 2450, 2500, 2550[21], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4.18–3)[11]	Emulex LP9002–E (LP9002L–E)	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]
48	PowerEdge: 1550, 2300, 2400, 2450 2500, 2550[21], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4.18–3)[11]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
49	PowerEdge 1650	PCI	Red Hat Linux 7.3 (v2.4.18–3)[11]	Emulex: LP9002–E (LP9002L–E), LP9802–E, LP9802DC–E, LP982–E: QLogic: QLA2310F–E–SP[14, 15], QLA2340–E–SP[14, 15], QLA2342–E–SP[12]	FC–AL, FC–SW	N
50	PowerEdge, 1550, 2300, 2400, 2450, 2500, 2550[21], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4 18–3)[11]	Emulex: LP9802–E, LP982–E	FC–AL, FC–SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]
51	PowerEdge: 1550, 2300, 2450, 2500 2550[21], 4400, 6100, 6300, 6350, 6400	PCI	Red Hat Linux 7.3 (v2.4.18–3)[11]	QLogic QLA2342–E–SP[12]	FC–AL, FC–SW	N
52	PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[21], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 7.3 (v2.4.18–3)[11]	QLogic: QLA2310F–E–SP[14, 15], QLA2340–E–SP[14, 15]	FC–AL, FC–SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 13]
53	PowerEdge 2550[21]	PCI	Red Hat Linux 7.3 updated w/ v2 4.18–27.7.x rpm[3, 11]	QLogic QLA2200F	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
54	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11]	QLogic: QLA2310F–E–SP[18], QLA2342–E–SP[12, 14, 18, 32, 33]	FC–AL, FC–SW	N
55	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 7.3: (v2.4.18–3)[11], updated w/ v2.4.18–27.7.x rpm[3, 11]	QLogic QLA2200F–EMC[18]	FC–AL, FC–SW	N
56	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC–AL, FC–SW	N
57	PowerEdge: 1750, 2600[20], 2650[20], 4600[20], 6600[20]	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.10[11, 17, 19, 30]	QLogic QLA2200F–EMC[16, 18]	FC–AL, FC–SW	N
58	PowerEdge: 2600, 6600	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.12[11, 19]	QLogic QLA2200F[14, 15, 18]	FC–AL, FC–SW	N
59	PowerEdge 2650	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.16[11, 19]	Emulex LP9002–E (LP9002L–E)[18, 25]	FC–AL, FC–SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
60	PowerEdge 2650	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.16[11, 19]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
61	PowerEdge 2650	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.16[11, 19]	QLogic QLA2200F–EMC[16, 17, 18]	FC–AL, FC–SW	N
62	PowerEdge: 2650, 6650	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[11, 16]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC–AL, FC–SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 24, 27, 28]
63	PowerEdge: 2600[20], 2650, 6600[20]	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[3, 11, 16, 24]	Emulex LP9002–E (LP9002L–E)[18, 25]	FC–AL, FC–SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 24]
	PowerEdge: 2600[20], 2650, 6600[20]	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[3, 11, 16, 24]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 24]
65	PowerEdge: 2600[20], 2650, 6600[20]	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[3, 11, 16, 24]	Emulex: LP9802–E[1, 18], LP982–E[1, 18]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 24]
66	PowerEdge: 2650, 6650	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[3, 11, 16, 24]	QLogic QLA2200F–EMC[17, 18]	FC–AL, FC–SW	N
67	PowerEdge: 2600[20], 6600[20]	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[3, 11, 16, 24]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 24, 27, 28]
68	PowerEdge: 2600[20], 6600[20]	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[3, 11, 16, 24]	QLogic QLA2310F–E–SP[18, 23]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 13, 24]
69	PowerEdge 6650	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[3, 11, 16, 24]	QLogic QLA2340–E–SP[18, 23]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
70	PowerEdge 2600[20]	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.9[11, 19]	Emulex: LP9802–E[1, 18], LP982–E[1, 18]	FC–AL, FC–SW	N
71	PowerEdge 2650[20]	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.9[11, 19]	Emulex: LP9802–E[1, 18], LP982–E[1, 18]; QLogic QLA2200F–EMC[17, 18]	FC–AL, FC–SW	N
72	PowerEdge 6650	PCI–X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.9[11, 19]	QLogic QLA2200F–EMC[17]	FC–AL, FC–SW	N
73	PowerEdge 2650	PCI–X	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 17, 19, 30], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24], v2.4.9–E.9[11, 19]; Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]; Red Hat Linux 7.3 (v2.4.18–3)[11]	QLogic QLA2342–E–SP[12]	FC–AL, FC–SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
74	**PowerEdge 4600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24], v2.4.9-E.9[11, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	N
75	PowerEdge 1750	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], **v2.4.9-E.3[3, 11, 16, 24]**, v2.4.9-E.9[11, 19]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[11, 19]**, v2.4.9-e.16[11, 19]; Red Hat Linux 7.3: (v2.4.18-3)[11], updated w/ v2.4.18-27.7.x rpm[3, 11]	Emulex LP9802DC-E	FC-AL, FC-SW	N
76	**PowerEdge: 1750, 4600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24], v2.4.9-E.9[11, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2310F-E-SP[18, 23]**	FC-AL, FC-SW	N
77	**PowerEdge 6600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24], v2.4.9-E.9[11, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2342-E-SP[12]**	FC-AL, FC-SW	N
78	**PowerEdge: 1750, 2600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24], v2.4.9-E.9[11, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux: 7.3 (v2.4.18-3)[11], 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2342-E-SP[12]**	FC-AL, FC-SW	N
79	**PowerEdge: 1750, 4600[20], 6600[20]**	**PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24], v2.4.9-E.9[11, 19], v2.4.9-e.24[11, 34];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19], v2.4.9-e.24[11, 34];** **Red Hat Linux 7.3: (v2.4.18-3)[11], updated w/ v2.4.18-27.7.x rpm[3, 11];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2202F-EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]**	**FC-AL, FC-SW**	**N**
80	**PowerEdge 2650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]**	**QLogic: QLA2310F-E-SP[12, 14, 18, 23], QLA2340-E-SP[12, 18, 23]**	FC-AL, FC-SW	N
81	**PowerEdge 2650[20]**	**PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux 7.3: (v2.4.18-3)[11], updated w/ v2.4.18-27.7.x rpm[3, 11];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2202F-EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]**	**FC-AL, FC-SW**	**N**
82	**PowerEdge: 2600[20], 2650[20], 6600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	N
83	**PowerEdge: 2600[20], 6600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2310F-E-SP[18, 23]**	FC-AL, FC-SW	N
84	**PowerEdge 4600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2342-E-SP[12]**	FC-AL, FC-SW	N
85	**PowerEdge 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19], v2.4.9-E.12[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2200F-EMC[16, 17]**	FC-AL, FC-SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
86	**PowerEdge 2650**	**PCI–X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 17, 19], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[11, 16], v2.4.9–E.9[11, 19], v2.4.9–e.24[11, 34];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19], v2.4.9–e.24[11, 34];** **Red Hat Linux 7.3: (v2.4.18–3)[11], updated w/ v2.4.18–27.7.x rpm[3, 11];** **Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]**	**QLogic QLA2202F–EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]**	**FC–AL, FC–SW**	**N**
87	**PowerEdge: 2600[20], 6650**	**PCI–X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 17, 19], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24], v2.4.9–E.9[11, 19], v2.4.9–e.24[11, 34];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19], v2.4.9–e.24[11, 34];** **Red Hat Linux 7.3: (v2.4.18–3)[11], updated w/ v2.4.18–27.7.x rpm[3, 11];** **Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]**	**QLogic QLA2202F–EMC[14, 15, 16, 17, 18, 22, 26, 36, 37]**	**FC–AL, FC–SW**	**N**
88	PowerEdge: 1750, **4600[20]**	PCI–X	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], **v2.4.9–E.3[3, 11, 16, 24]**, v2.4.9–E.9[11, 19]; Red Hat Linux 2.1 ES: **v2.4.9–e.12[11, 19]**, v2.4.9–e.16[11, 19]	Emulex LP9002–E (LP9002L–E)[18, 25]	FC–AL, FC–SW	N
89	**PowerEdge 6650**	PCI–X	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24], v2.4.9–E.9[11, 19];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19];** **Red Hat Linux 7.3 (v2.4.18–3)[11]**	**QLogic QLA2342–E–SP[12]**	FC–AL, FC–SW	N
90	**PowerEdge: 2650[20], 6600[20]**	PCI–X	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]**	**Emulex LP9002–E (LP9002L–E)[18, 25]**	FC–AL, FC–SW	N
91	**PowerEdge 2600[20]**	PCI–X	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]**	**Emulex LP9002–E (LP9002L–E)[18, 25];** **QLogic: QLA2200F[14, 15, 18], QLA2310F–E–SP[12, 14, 18], QLA2340–E–SP[12, 18]**	FC–AL, FC–SW	N
92	PowerEdge 6650	PCI–X	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]	Emulex: LP9002–E (LP9002L–E)[18, 25], LP9802–E[1, 18], LP9802DC–E, LP982–E[1, 18]; QLogic: **QLA2200F[14, 15, 18]**, QLA2310F–E–SP, **QLA2340–E–SP[12, 18]**	FC–AL, FC–SW	N
93	**PowerEdge: 1750, 2650, 4600[20]**	PCI–X	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]**	**QLogic QLA2200F[14, 15, 18]**	FC–AL, FC–SW	N
94	**PowerEdge 6600[20]**	PCI–X	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[11, 19], v2.4.9–E.9[11, 19]**	**QLogic QLA2200F[14, 15, 18]**	FC–AL, FC–SW	N
95	**PowerEdge: 1750, 2600[20], 4600[20], 6600[20]**	PCI–X	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[11, 19], v2.4.9–E.16[11, 19];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18–27.8.0[11]**	**QLogic QLA2200F–EMC[16, 17, 18]**	FC–AL, FC–SW	N
96	**PowerEdge 6600[20]**	PCI–X	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]**	**Emulex: LP9802–E[1, 18], LP982–E[1, 18];** **QLogic QLA2340–E–SP[18, 23]**	FC–AL, FC–SW	N
97	**PowerEdge: 1750, 2600, 4600**	PCI–X	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19]**	**QLogic QLA2340–E–SP[12, 18, 23]**	FC–AL, FC–SW	N
	PowerEdge: 2600, 4600	PCI–X	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.12[11, 19], v2.4.9–E.9[11, 19];** **Red Hat Linux 7.3 (v2.4.18–3)[11]**	**QLogic QLA2342–E–SP[12]**	FC–AL, FC–SW	N
99	**PowerEdge 2650**	PCI–X	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24, 29]**	**QLogic QLA2310F–E–SP[12, 14, 18, 23]**	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
100	**PowerEdge 2600[20]**	PCI–X	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24, 29];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19]**	**QLogic QLA2310F–E–SP[12, 14, 18, 23]**	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
101	**PowerEdge: 2600[20], 2650**	PCI–X	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 19], v2.4.9–E.3[3, 11, 16, 24, 29];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[11, 19], v2.4.9–e.16[11, 19];** **Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11]**	**QLogic QLA2200F[14, 15, 16, 17, 18]**	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
102	PowerEdge 6650	PCI–X	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 19], **v2.4.9–E.3[3, 11, 16, 24]**; Red Hat Linux 2.1 ES: **v2.4.9–e.12[11, 19]**, v2.4.9–e.16[11, 19]	Emulex LP9002–E (LP9002L–E)[18, 25]	FC–AL, FC–SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
103	PowerEdge 6650	PCI–X	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 19], **v2.4.9–E.3[3, 11, 16, 24]**; Red Hat Linux 2.1 ES: **v2.4.9–e.12[11, 19]**, v2.4.9–e.16[11, 19]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
104	PowerEdge 6650	PCI–X	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[11, 19], **v2.4.9–E.3[3, 11, 16, 24]**; Red Hat Linux 2.1 ES: **v2.4.9–e.12[11, 19]**, v2.4.9–e.16[11, 19]	Emulex: LP9802–E[1, 18], LP982–E[1, 18]	FC–AL, FC–SW	Y[4, 5, 6, 7, 8, 9, 10]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
105	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24]. Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	QLogic QLA2310F-E-SP[18, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
106	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24], Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19], Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
107	PowerEdge. 1750, 4600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24]. Red Hat Linux 2.1 ES. v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]. Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]. 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	N
108	PowerEdge: 1750, 4600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E 16[11, 19], v2.4.9-E.3[3, 11, 16, 24], v2.4.9-E.9[11, 19]. Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	Emulex: LP9802-E[1, 18], LP982-E[1, 18]	FC-AL, FC-SW	N
109	PowerEdge: 1750, 2600[20], 4600[20], 6600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[3, 11, 16, 24], v2.4.9-E.9[11, 19]	QLogic QLA2200F-EMC[17, 18]	FC-AL, FC-SW	N
110	PowerEdge 2650[20]	PCI-X	Red Hat Linux 2.1 ES. v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	Emulex LP9002-E (LP9002L-E)[18, 25]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
111	PowerEdge 2650[20]	PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
112	PowerEdge 2650[20]	PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	QLogic QLA2310F-E-SP[12, 14, 18, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
113	PowerEdge 2650[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.12[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2200F-EMC[16, 17, 18]	FC-AL, FC-SW	N
114	PowerEdge: 2600[20], 6600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	Emulex LP9002-E (LP9002L-E)[18, 25]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
115	PowerEdge: 2600[20], 6600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
116	PowerEdge: 2600[20], 2650, 6600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	Emulex: LP9802-E[1, 18], LP982-E[1, 18]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
117	PowerEdge 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2200F-EMC[16, 17, 18]	FC-AL, FC-SW	N
118	PowerEdge 2600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2310F-E-SP[18, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
119	PowerEdge 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[12, 18, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
120	PowerEdge 6600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic: QLA2310F-E-SP[18, 23], QLA2340-E-SP[18, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
121	PowerEdge 6600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F[14, 15, 16, 17, 18]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
122	PowerEdge: 2600[20], 2650, 6600[20], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	Emulex LP9002-E (LP9002L-E)[14, 18, 22, 25, 26]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
123	PowerEdge: 2600[20], 2650, 6600[20], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	Emulex LP9802DC-E[1, 14, 18, 22, 26]	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
124	PowerEdge: 1750, 4600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	Emulex: LP9002-E (LP9002L-E)[14, 18, 22, 25, 26], LP9802-E[1, 14, 18, 22, 26], LP9802DC-E[1, 14, 18, 22, 26], LP982-E[1, 14, 18, 22, 26]; QLogic: QLA2200F[14, 18, 22, 26, 32, 36], QLA2200F-EMC[14, 18, 22, 26, 36], QLA2310F-E-SP[14, 18, 22, 26, 35], QLA2342-E-SP[14, 22, 26, 32, 35]	FC-AL, FC-SW	N
125	PowerEdge: 2600[20], 2650, 6600[20], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	Emulex: LP9802-E[1, 14, 18, 22, 26], LP982-E[1, 14, 18, 22, 26]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
126	PowerEdge. 2600[20], 2650, 6600[20], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2200F[14, 18, 22, 26, 32, 36]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
127	PowerEdge: 2600[20], 2650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2310F-E-SP[14, 18, 22, 26, 35]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
128	PowerEdge. 2600[20], 2650, 6600[20], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic: QLA2200F-EMC[14, 18, 22, 26, 36], QLA2342-E-SP[14, 22, 26, 32, 35]	FC-AL, FC-SW	N
129	PowerEdge: 6600[20], 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic: QLA2310F-E-SP[14, 18, 22, 26, 35], QLA2340-E-SP[14, 18, 35]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 13]
130	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]

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Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
131	PowerEdge 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
132	PowerEdge 4600	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; **QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15]**	FC-AL, FC-SW	N
133	PowerEdge 1750	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E; **QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15]**	FC-AL, FC-SW	N
134	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]
135	**PowerEdge 6600**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2342-E-SP[12]**	FC-AL, FC-SW	N
136	**PowerEdge: 2600, 2650, 6600, 6650**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 13]
137	PowerEdge 2650	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 27, 28]
138	PowerEdge: 1750, **2600[20], 2650[20], 4600[20], 6600[20]**	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic: QLA2310F-E-SP[18], **QLA2342-E-SP[12, 14, 18, 32, 33]**	FC-AL, FC-SW	N
139	PowerEdge: 1750, **2600[20], 2650[20], 4600[20], 6600[20]**	PCI-X	Red Hat Linux 7.3: **(v2.4.18-3)[11]**, updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F-EMC[18]	FC-AL, FC-SW	N
140	**PowerEdge: 2600[20], 2650, 6600[20], 6650**	PCI-X	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2200F[14, 15, 16, 17, 18]**	FC-AL, FC-SW	N
141	**PowerEdge 2650[20]**	PCI-X	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic: QLA2200F[14, 15, 16, 17, 18], QLA2310F-E-SP[18, 23], QLA2342-E-SP[12]**	FC-AL, FC-SW	N
142	**PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]**	**Emulex LP9802-E[1, 18]**	FC-AL, FC-SW[1, 18, 22, 31]	N
143	PowerEdge: 1750, **2600[20], 2650[20], 4600[20]**	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	Emulex LP9802-E[1, 18]	FC-AL, FC-SW[1, 18, 22, 31]	N
144	**PowerEdge 6600[20]**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[11, 17, 19, 30], 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]**	**Emulex LP9802-E[1, 18]**	FC-AL, FC-SW[1, 18, 22, 31]	N
145	PowerEdge: 2400, 4300	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[11, 19]	QLogic QLA2200F-EMC[17]	FC-AL, FC-SW[22]	N
146	**PowerEdge 2400**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19], v2.4.9-E.12[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2200F-EMC[16, 17]**	FC-AL, FC-SW[22]	N
147	**PowerEdge 4300**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[11, 16];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2200F-EMC[16, 17]**	FC-AL, FC-SW[22]	N
148	**PowerEdge 2400**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 19], v2.4.9-E.3[3, 11, 16, 24];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]**	**QLogic QLA2200F-EMC[16, 17, 18]**	FC-AL, FC-SW[22]	N
149	**PowerEdge 2400**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]**	**QLogic QLA2200F-EMC[14, 18, 22, 26, 36]**	**FC-AL, FC-SW[22]**	**N**
150	**PowerEdge 4300**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]**	**QLogic QLA2200F-EMC[14, 22, 26, 36]**	**FC-AL, FC-SW[22]**	**N**
151	**PowerEdge: 2400, 4300**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2200F-EMC[15, 18]**	FC-AL, FC-SW[22]	N
152	PowerEdge: 2400, 4300	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F-EMC	FC-AL, FC-SW[22]	N
153	PowerEdge: **2600[20]**, 2650, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[11, 19]	QLogic QLA2200F-EMC[17]	FC-AL, FC-SW[22]	N
154	**PowerEdge 2600[20]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19], v2.4.9-E.12[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2200F-EMC[16, 17]**	FC-AL, FC-SW[22]	N
155	**PowerEdge: 2650, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19], v2.4.9-E.12[11, 19], v2.4.9-E.16[11, 19], v2.4.9-E.3[11, 16];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]**	**QLogic QLA2200F-EMC[16, 17]**	FC-AL, FC-SW[22]	N
156	**PowerEdge 2600[20]**	PCI-X	**Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]**	**QLogic QLA2200F-EMC[16, 17, 18]**	FC-AL, FC-SW[22]	N
157	**PowerEdge: 2650, 6650**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]**	**QLogic QLA2200F-EMC[14, 22, 26, 36]**	**FC-AL, FC-SW[22]**	**N**
158	**PowerEdge: 2600[20], 2650**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2200F-EMC[15, 18]**	FC-AL, FC-SW[22]	N
159	PowerEdge: **2600[20]**, 2650	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F-EMC	FC-AL, FC-SW[22]	N
160	PowerEdge 6650	PCI-X	Red Hat Linux 7.3: (v2.4.18-3)[11], updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2200F-EMC	FC-AL, FC-SW[22]	N

Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
161	PowerEdge: 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[11, 17, 19, 30]	QLogic QLA2340-E-SP[12, 18, 23]	FC-AL, FC-SW[22] 26	N
162	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 16, 24]	QLogic QLA2340-E-SP[18, 23]	FC-AL, FC-SW[22] 26	Y[4, 5, 6, 7, 8, 9, 10, 13, 24]
163	PowerEdge: 1550[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19], v2.4.9-E.9[11, 19]. Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[18, 23]	FC-AL, FC-SW[22] 26	N
164	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.16[11, 19]. Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[12, 18, 23]	FC-AL, FC-SW[22] 26	N
165	PowerEdge: 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[12, 18, 23]	FC-AL, FC-SW[22] 26	Y[4, 5, 6, 7, 8, 9, 10, 13]
166	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[18, 23]	FC-AL, FC-SW[22] 26	Y[4, 5, 6, 7, 8, 9, 10, 13]
167	PowerEdge 1650[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2340-E-SP[14, 18, 35]	FC-AL, FC-SW[22] 26	N
168	PowerEdge: 1550[20], 2300[20], 2400, 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2340-E-SP[14, 18, 35]	FC-AL, FC-SW[22] 26	Y[4, 5, 6, 7, 8, 9, 10, 13]
169	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2340-E-SP[18]	FC-AL, FC-SW[22] 26	N
170	PowerEdge: 6450[20], 8450[20]	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[18, 23]	FC-AL, FC-SW[22] 26	N
171	PowerEdge 1650[20]	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 11, 16, 24], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[18, 23]	FC-AL, FC-SW[22] 26	N
172	PowerEdge 2600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[11, 17, 19, 30]	QLogic QLA2340-E-SP[12, 18, 23]	FC-AL, FC-SW[22] 26	N
173	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[11, 19]	QLogic QLA2340-E-SP[12, 18, 23]	FC-AL, FC-SW[22] 26	Y[4, 5, 6, 7, 8, 9, 10, 13]
174	PowerEdge: 2600[20], 2650, 6600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 16, 24]	QLogic QLA2340-E-SP[18, 23]	FC-AL, FC-SW[22] 26	Y[4, 5, 6, 7, 8, 9, 10, 13, 24]
175	PowerEdge: 1750, 4600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.16[11, 19]. Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[12, 18, 23]	FC-AL, FC-SW[22] 26	N
176	PowerEdge 2650[20]	PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 19], v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[12, 18, 23]	FC-AL, FC-SW[22] 26	Y[4, 5, 6, 7, 8, 9, 10, 13]
177	PowerEdge 2600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 19], ES v2.4.9-e.12[11, 19], ES v2.4.9-e.16[11, 19]	QLogic QLA2340-E-SP[12, 18, 23]	FC-AL, FC-SW[22] 26	Y[4, 5, 6, 7, 8, 9, 10, 13]
178	PowerEdge: 1750, 4600[20]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2340-E-SP[14, 18, 35]	FC-AL, FC-SW[22] 26	N
179	PowerEdge: 2600[20], 2650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 34], ES v2.4.9-e.24[11, 34]	QLogic QLA2340-E-SP[14, 18, 35]	FC-AL, FC-SW[22] 26	Y[4, 5, 6, 7, 8, 9, 10, 13]
180	PowerEdge: 1750, 2600[20], 2650[20], 4600[20], 6600[20]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	QLogic QLA2340-E-SP[18]	FC-AL, FC-SW[22] 26	N
181	PowerEdge: 2600[20], 2650[20]	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[18, 23]	FC-AL, FC-SW[22] 26	N
182	PowerEdge 6600[20]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[11, 17, 19, 30], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[18, 23]	FC-AL, FC-SW[22] 26	N
183	PowerEdge: 1750, 4600[20]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 11, 16, 24], 8.0 updated to v2.4.18-27.8.0[11]	QLogic QLA2340-E-SP[18, 23]	FC-AL, FC-SW[22] 26	N
184	PowerEdge: 1550[20], 1650[20], 2300[20], 2450[20], 2500[20], 2550[20, 21], 4400[20], 6100[20], 6300[20], 6350[20], 6400[20], 6450[20], 8450[20]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19]. Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	Emulex LP982-E[1, 18]	FC-AL, FC-SW[22] 31	N
185	PowerEdge: 1750, 2600[20], 2650[20], 4600[20]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 17, 19, 30], v2.4.9-E.12[11, 19]. Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	Emulex LP982-E[1, 18]	FC-AL, FC-SW[22] 31	N
186	PowerEdge 6600[20]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[11, 17, 19, 30], 7.3 updated w/ v2.4.18-27.7.x rpm[3, 11]	Emulex LP982-E[1, 18]	FC-AL, FC-SW[22] 31	N

1. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
2. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
3. Requires v6.2.1 or higher Navisphere host agent/CLI.
4. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
5. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
6. No MirrorView or SnapView used on boot LUNs.
7.

EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.

8. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation
9. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
10. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
11. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
12. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
13. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
14. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
15. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
16. Supported with QLogic driver v6.04.02 or v6.05.00.
17. Requires v6.0.5 or higher Navisphere host Agent/CLI.
18. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
19. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
20. **An RPM from Dell may be used to install the QLogic v6.04.02 or v6.05.00 drivers and may be obtained from the QLogic website at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
21. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
22. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
23. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
24. This kernel is limited to 110 devices, not 128
25. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
26. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
27. Requires QLogic driver 4.47.18 and BIOS 1.83.
28. Install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.
29. **Requires v6.05 or higher Navisphere host agent/CLI.**
30. This system is supported with Red Hat 2.1 Advanced Server v2.4.9-E.3 and updated with v2.4.9-E.9, E.10, and E.12 RPMs.
31. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.
32. **Single HBA zoning is required regardless of the switch being utilized.**
33. **Host must be offline for interfamily Symmetrix microcode upgrade.**
34. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
35. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.

Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC-approved driver after installation.

HPQ

HPQ - Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 23, 30]**	**QLogic QLA2200F-EMC[15, 22]**	FC-AL, FC-SW	N
2	**Netserver LH (LH Pro)**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[12, 22]**	**QLogic QLA2200F[15, 17, 18, 22, 23]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 26, 31, 32]
3	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**	**Emulex LP9002-E (LP9002L-E)[15, 27]**	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 26]
4	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 26]
	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**	**Emulex: LP9802-E[1, 15], LP982-E[1, 15]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 26]
6	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**	**QLogic QLA2200F[15, 17, 18, 22, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 31, 32]
7	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**	**QLogic QLA2310F-E-SP[15, 25]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16, 26]
8	Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	N
9	**Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], ML350[13]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW	N

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
10	Proliant: DL580(G2)[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26], v2.4.9-E.9[12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[14]	FC-AL, FC-SW	N
11	Netserver LC: 2000 U3, 2000r Netserver LH: 3, 3000, 4, 6000, II, PRO, III, Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26], v2.4.9-E.9[12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]; Red Hat Linux: 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[14]	FC-AL, FC-SW	N
12	Netserver LC: 2000 U3, 2000r Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8, Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26], v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2202F-EMC[15, 17, 18, 22, 23, 24, 28, 35, 51]	FC-AL, FC-SW	N
13	Proliant: 1600[13, 21], 1850[13], 2500[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 800, 8000[13, 20], 850[13]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26], v2.4.9-E.9[3, 12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]; Red Hat Linux: 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[14]	FC-AL, FC-SW	N
14	Proliant: 3000[13], 6500[13, 20], 7000[13, 20], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.9[3, 12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2342-E-SP[14, 15]	FC-AL, FC-SW	N
15	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	N
16	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2310F-E-SP[15, 25]	FC-AL, FC-SW	N
17	Proliant DL380(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2200F-EMC[15, 22, 23]	FC-AL, FC-SW	N
18	Netserver LH (LH Pro)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[12, 22], v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2202F-EMC[15, 17, 18, 22, 23, 24, 28, 35, 51]	FC-AL, FC-SW	N

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HPQ – Red Hat Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
19	**Netserver LP 2000r**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26], v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2202F-EMC[15, 17, 18, 22, 23, 24, 28, 35, 51]**	**FC-AL, FC-SW**	**N**
20	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26], v2.4.9-E.9[12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19];** **Red Hat Linux: 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
21	**Proliant ML750[13]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.9[3, 12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]**	**QLogic QLA2342-E-SP[14, 15]**	FC-AL, FC-SW	N
22	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13] 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13]**, DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	Emulex LP9002-E (LP9002L-E)[15, 27]; **QLogic QLA2200F[15, 17, 18]**	FC-AL, FC-SW	N
23	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]**	**Emulex: LP9002-E (LP9002L-E)[15, 27], LP9802-E[1, 15], LP982-E[1, 15];** **QLogic QLA2200F[15, 17, 18]**	FC-AL, FC-SW	N
24	**Netserver LH: (LH Pro), 3, 4, II, PRO, III; Netserver: LP 2000r, LX PRO, LXR PRO, LXR PRO8; Proliant: 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 7000[13, 20], 8000[13, 20]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]**	**QLogic QLA2200F[15, 17, 18]**	FC-AL, FC-SW	N
25	**Proliant ML750[13]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[3, 12, 19]**	**QLogic QLA2340-E-SP[14, 15]**	FC-AL, FC-SW	N
26	**Proliant 800**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]**	**QLogic QLA2200F-EMC[15, 22, 23]**	FC-AL, FC-SW	N
27	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 8000[13, 20] 850[13] 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[15, 22, 23]**	FC-AL, FC-SW	N
28	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Proliant: 6500[13, 20], DL580(G2)[13], ML370(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	N
29	**Proliant: ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.9[3, 12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW	N
30	**Netserver LP 2000r**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19];** **Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
31	**Netserver LH PRO, Proliant ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F[15, 17, 18, 22, 23]**	FC-AL, FC-SW	N
32	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[3, 12, 22, 26], v2.4.9-E.9[12, 19]**	**QLogic QLA2200F-EMC[15, 23]**	FC-AL, FC-SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
33	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 8500[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], **ES v2.4.9-e.12[12, 19]**, ES v2.4.9-e.16[12, 19]	Emulex LP9002-E (LP9002L-E)[15, 27]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
34	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 8500[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], **ES v2.4.9-e.12[12, 19]**, ES v2.4.9-e.16[12, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
35	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 8500[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], **ES v2.4.9-e.12[12, 19]**, ES v2.4.9-e.16[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
36	**Netserver LC: 2000 U3, 2000r** **Netserver LH: 3, 3000, 4, 6000, II, PRO, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2310F-E-SP[15, 25]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16]
37	**Proliant ML750[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2340-E-SP[14, 15]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 11, 16]
38	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic: QLA2310F-E-SP[15, 25], QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16]
39	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**QLogic QLA2200F[15, 17, 18, 22, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
40	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3000, 6000;** **Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 8500[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex LP9002-E (LP9002L-E)[15, 17, 24, 27, 28]**	**FC-AL, FC-SW**	Y[2, 4, 5, 6, 7, 8, 9, 10]
41	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3000, 6000;** **Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 8500[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex LP9802DC-E[1, 15, 17, 24, 28]**	**FC-AL, FC-SW**	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
42	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3000, 6000;** **Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 8500[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex: LP9802-E[1, 15, 17, 24, 28], LP982-E[1, 15, 17, 24, 28]**	**FC-AL, FC-SW**	Y[4, 5, 6, 7, 8, 9, 10]
43	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2200F[15, 17, 24, 28, 33, 51]**	**FC-AL, FC-SW**	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
44	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3, 3000, 4, 6000, II, PRO, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2310F-E-SP[15, 17, 24, 28, 50]**	**FC-AL, FC-SW**	Y[4, 5, 6, 7, 8, 9, 10, 16]
45	**Proliant ML750[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2340-E-SP[15, 17, 50]**	**FC-AL, FC-SW**	Y[4, 5, 6, 7, 8, 9, 10, 11, 16]
46	**Proliant ML750[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2342-E-SP[15, 17, 24, 28, 33, 50]**	**FC-AL, FC-SW**	N
47	**Netserver LP 2000r**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2342-E-SP[17, 24, 28, 33, 50]**	**FC-AL, FC-SW**	N
48	**Proliant: 3000[13], 6500[13, 20], 7000[13, 20], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic: QLA2200F-EMC[15, 17, 24, 28, 51]** **QLA2342-E-SP[15, 17, 24, 28, 33, 50]**	**FC-AL, FC-SW**	**N**

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
49	**Netserver LC. 2000 U3, 2000r. Netserver LH: 3, 3000 4, 6000, II, III; Netserver. LT 6000R. LX PRO, LXR 8000. LXR 8500, LXR PRO. LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 800, 8000[13, 20], 850[13], DL580(G2)[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic: QLA2200F-EMC[15, 17, 24, 28, 51], QLA2342-E-SP[17, 24, 28, 33, 50]**	**FC-AL, FC-SW**	**N**
50	**Netserver LH PRO, Proliant ML750[11]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic: QLA2200F[15, 17, 24, 28, 33, 51], QLA2200F-EMC[15, 17, 24, 28, 51], QLA2342-E-SP[17, 24, 28, 33, 50]**	**FC-AL, FC-SW**	**N**
51	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic: QLA2310F-E-SP[15, 17, 24, 28, 50], QLA2340-E-SP[15, 17, 50]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 16]**
52	Netserver LC. 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]
53	Proliant ML750[13]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10, 11]
54	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
55	Proliant ML750[13]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]
56	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 6500[13, 20], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]
57	Proliant ML750[13]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10, 11]
58	**Proliant ML370(G3)**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic QLA2200F-EMC[15, 18]**	FC-AL, FC-SW	N
59	**Proliant ML750[13]**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2200F-EMC[15] QLA2202F-EMC[15, 17, 18, 22, 23, 24, 28, 35, 51], QLA2342-E-SP[14]**	FC-AL, FC-SW	N
60	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000. LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 16]
61	**Proliant ML750[13]**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 16]
62	**Netserver LH (LH Pro)**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18], QLA2342-E-SP[14]**	FC-AL, FC-SW	N
63	Proliant ML750[13]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F	FC-AL, FC-SW	N
64	Proliant ML370(G3)	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic: QLA2200F-EMC[15], QLA2310F-E-SP[15] **QLA2342-E-SP[14, 15, 17, 33, 34]**	FC-AL, FC-SW	N
65	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R. LX PRO, LXR 8000, LXR 8500. LXR PRO. LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic: QLA2310F-E-SP[15], **QLA2342-E-SP[14, 15, 17, 33, 34]**	FC-AL, FC-SW	N
66	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000. II, PRO, III; Netserver: LT 6000R, LX PRO. LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13], DL380(G3)**, DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 7.3: **(v2.4.18-3)[12]** updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F-EMC[15]	FC-AL, FC-SW	N
67	**Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R. LX PRO, LXR 8000, LXR 8500. LXR PRO. LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]**	PCI	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F[15, 17, 18, 22, 23]**	FC-AL, FC-SW	N
68	**Proliant 800**	PCI	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic: QLA2200F[15, 17, 18, 22, 23], QLA2200F-EMC[15, 22, 23, 35]**	FC-AL, FC-SW	N

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
69	Proliant: 3000[13], 6500[13, 20], 7000[13, 20], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26], 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[14]	FC-AL, FC-SW	N
70	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 23, 30]	QLogic QLA2200F-EMC[15, 22]	FC-AL, FC-SW	N
71	Proliant: DL360(G3), DL560, DL560 (G2), DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]	Emulex LP9002-E (LP9002L-E)[15, 27]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 26]
72	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]	Emulex LP9002-E (LP9002L-E)[15, 27]; IBM: 00N6881 (QLA2200)[17, 18, 43], 19K1246(QLA2310)[17, 18, 42]; QLogic QLA2200F[15, 17, 18, 22, 23]	FC-AL, FC-SW	N
73	Proliant: DL360(G3), DL560, DL560 (G2), DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 26]
74	Proliant: DL360(G3), DL560, DL560 (G2), DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 26]
75	Proliant: DL360(G3), DL560, DL560 (G2), DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]	QLogic QLA2200F[15, 17, 18, 22, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 31, 32]
76	Proliant: DL360(G3), DL560, DL560 (G2), DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]	QLogic QLA2310F-E-SP[15, 25]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16, 26]
77	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26, 36]	QLogic: QLA2200F-EMC[15, 17, 18, 23], QLA2310F-E-SP[15, 17, 18, 25], QLA2342-E-SP[14]	FC-AL, FC-SW	N
78	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26, 36, 40]	QLogic QLA2200F[14, 15, 17, 18, 22, 23, 37]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 31, 32]
79	Proliant: DL360(G3), DL560, DL560 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	N
80	Proliant: DL760[13], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 19]	QLogic QLA2200F-EMC[23]	FC-AL, FC-SW	N
81	Proliant: DL360(G3), DL560, DL560 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 12, 19]	QLogic QLA2340-E-SP[14, 15, 25]	FC-AL, FC-SW	N
82	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26] v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2202F-EMC[15, 17, 18, 22, 23, 24, 28, 35, 51]	FC-AL, FC-SW	N
83	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.9[3, 12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2342-E-SP[14, 15]	FC-AL, FC-SW	N
84	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	N
85	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2310F-E-SP[15, 25]	FC-AL, FC-SW	N
86	Proliant: DL760[13], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23] v2.4.9-E.12[12, 19]	QLogic QLA2200F-EMC[22, 23]	FC-AL, FC-SW	N
87	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2200F-EMC[22, 23]	FC-AL, FC-SW	N
88	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2202F-EMC[15, 17, 18, 22, 23, 24, 28, 35, 51]	FC-AL, FC-SW	N

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
89	Proliant: DL760[13], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26], v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2202F-EMC[15, 17, 18, 22, 23, 24, 28, 35, 51]	FC-AL, FC-SW	N
90	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19]	QLogic: QLA2200F[15, 17, 18], QLA2340-E-SP[14, 15]	FC-AL, FC-SW	N
91	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2342-E-SP[14, 15]	FC-AL, FC-SW	N
92	Proliant: DL760[13], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.9[3, 12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2342-E-SP[14, 15]	FC-AL, FC-SW	N
93	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	Emulex LP9002-E (LP9002L-E)[15, 27]; QLogic QLA2200F[15, 17, 18]	FC-AL, FC-SW	N
94	Proliant: DL760[13], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	QLogic QLA2200F[15, 17, 18]	FC-AL, FC-SW	N
95	Proliant: DL760[13], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[3, 12, 19]	QLogic QLA2340-E-SP[14, 15]	FC-AL, FC-SW	N
96	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2200F-EMC[15, 22, 23]	FC-AL, FC-SW	N
97	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-e.24[12]	QLogic QLA2200F[14, 15, 17, 18, 37]	FC-AL, FC-SW	N
98	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-e.24[12]; Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[12], v2.4.20-18.8[12]	Emulex LP9002-E (LP9002L-E)[15, 17, 27]; IBM: 00N6881 (QLA2200)[17, 18, 43, 44], 19K1246(QLA2310)[15, 17, 18, 42]; QLogic: QLA2200F-EMC[15, 17, 18, 22, 23], QLA2310F-E-SP[14, 15, 17, 18, 25], QLA2340-E-SP[14, 15, 17, 18, 25], QLA2342-E-SP[14, 15]	FC-AL, FC-SW	N
99	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.3[3, 12, 22, 26, 36], v2.4.9-e.24[12]; Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[12], v2.4.20-18.8[12]	Emulex LP9802DC-E; QLogic QLA2202F-EMC[15, 17, 18, 22, 23, 24, 28, 35, 51]	FC-AL, FC-SW	N
100	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.3[3, 12, 22, 26], v2.4.9-e.24[12]; Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[12], v2.4.20-18.8[12]	IBM 24P0960(QLA2340)[17, 18, 41]	FC-AL, FC-SW	N
101	Proliant ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	N
102	Proliant ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.9[3, 12, 19]	QLogic QLA2340-E-SP[14, 15, 25]	FC-AL, FC-SW	N
103	Proliant: DL760[13], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2200F-EMC[15, 22, 23]	FC-AL, FC-SW	N
104	Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[3, 12, 22, 26], v2.4.9-E.9[12, 19]	QLogic QLA2200F-EMC[15, 23]	FC-AL, FC-SW	N
105	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], **ES** v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]	Emulex LP9002-E (LP9002L-E)[15, 27]	FC-AL, FC-SW	Y[4, 6, 7, 8, 9, 10]

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
106	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], **ES v2.4.9-e.12[12, 19]**, ES v2.4.9-e.16[12, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
107	Proliant: DL560, **DL560 (G2)**, DL740, DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES **v2.4.9-e.12[12, 19]**, ES v2.4.9-e.16[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
108	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2200F-EMC[15, 22, 23]**	FC-AL, FC-SW	N
109	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2200F[15, 17, 18]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
110	**Proliant DL360(G3)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2200F[15, 17, 18, 22, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
111	**Proliant: DL360(G3) DL560, DL560 (G2), DL760 (G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic QLA2310F-E-SP[15, 25]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16]
112	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic: QLA2310F-E-SP[15, 25], QLA2340-E-SP[14, 15]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16]
113	**Proliant: DL760[13], ML570(G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]**	**QLogic: QLA2310F-E-SP[15, 25], QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16]
114	**Proliant: DL560 DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**QLogic QLA2200F[15, 17, 18, 22, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
115	**Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex LP9002-E (LP9002L-E)[15, 17, 24, 27, 28]**	**FC-AL, FC-SW**	**Y[2, 4, 5, 6, 7, 8, 9, 10]**
116	**Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex LP9802DC-E[1, 15, 17, 24, 28]**	**FC-AL, FC-SW**	**Y[1, 2, 4, 5, 6, 7, 8, 9, 10]**
117	**Proliant: DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex: LP9802-E[1, 15, 17, 24, 28], LP982-E[1, 15, 17, 24, 28]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10]**
118	**Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2200F[15, 17, 24, 28, 33, 51]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 31, 32]**
119	**Proliant: DL360(G3), DL560, DL560 (G2), DL760 (G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2310F-E-SP[15, 17, 24, 28, 50]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 16]**
120	**Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic: QLA2200F-EMC[15, 17, 24, 28, 51], QLA2342-E-SP[15, 17, 24, 28, 33, 50]**	**FC-AL, FC-SW**	**N**
121	**Proliant: DL740, DL760[13], ML570(G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic: QLA2310F-E-SP[15, 17, 24, 28, 50], QLA2340-E-SP[15, 17, 50]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 16]**
122	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]
123	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
124	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]
125	**Proliant: DL760[13], DL760 (G2)**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic QLA2200F-EMC[15, 18]**	FC-AL, FC-SW	N
126	**Proliant DL740**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2200F-EMC[15, 18], QLA2342-E-SP[14]**	FC-AL, FC-SW	N
127	**Proliant: DL360(G3), DL560, DL560 (G2), DL740, DL760[13], DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 16]
128	Proliant DL360(G3)	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
129	**Proliant: DL740, DL760[13], DL760 (G2)**	PCI-X	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**QLogic QLA2200F-EMC[17, 18]**	FC-AL, FC-SW	N
130	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic: QLA2310F-E-SP[15], **QLA2342-E-SP[14, 15, 17, 33, 34]**	FC-AL, FC-SW	N
131	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 7.3: **(v2.4.18-3)[12]** updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F-EMC[15]	FC-AL, FC-SW	N
132	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F[15, 17, 18, 22, 23]**	FC-AL, FC-SW	N
133	**Proliant: DL760[13], DL760 (G2)**	PCI-X	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic: QLA2200F[15, 17, 18, 22, 23], QLA2200F-EMC[17, 18, 22, 23]**	FC-AL, FC-SW	N
134	**Proliant BL40p**	PCI-X	**Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[12], v2.4.20-18.8[12]**	**QLogic QLA2200F[14, 15, 17, 18, 22, 23, 37]**	FC-AL, FC-SW	N, Y[3, 4, 5, 6, 7, 8, 9, 10, 26, 31, 32]

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
135	**Proliant BL40p**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26, 36] 8.0 updated to v2.4.18-19.8.0[12], 8.0 updated to v2.4.20-18.8[12]**	**Emulex: LP9802-E[1, 15, 17], LP982-E[1, 15, 17]**	FC-AL, FC-SW	N
136	**Proliant BL40p**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26, 40] 8.0 updated to v2.4.18-19.8.0[12] 8.0 updated to v2.4.20-18.8[12]**	**QLogic QLA2310F-E-SP[14, 15, 17, 25]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16, 26, 38, 39]
137	**Proliant: DL760[13], DL760 (G2)**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26], 7.3 (v2.4.18-3)[12]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
138	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26], 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
139	Proliant BL40p	PCI-X	Red Hat Linux: **2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**, 8.0 updated to v2.4.18-19.8.0[12], **8.0 updated to v2.4.20-18.8[12]**	Emulex LP9002-E (LP9002L-E)[15, 27]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 26, 38, 39]
140	Proliant BL40p	PCI-X	Red Hat Linux: **2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**, 8.0 updated to v2.4.18-19.8.0[12], **8.0 updated to v2.4.20-18.8[12]**	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 26, 38, 39]
141	Proliant BL40p	PCI-X	Red Hat Linux: **2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**, 8.0 updated to v2.4.18-19.8.0[12], **8.0 updated to v2.4.20-18.8[12]**	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 26, 38, 39]
142	**Proliant BL40p**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26], 8.0 updated to v2.4.18-19.8.0[12], 8.0 updated to v2.4.20-18.8[12]**	**IBM: 00N6881 (QLA2200)[17, 18, 43, 44] 19K1246(QLA2310)[17, 18, 42] 24P0960(QLA2340)[17, 18, 41]**	FC-AL, FC-SW	Y[5, 6, 7, 8, 9, 10, 26, 38]
143	Proliant BL20p (G2)[45, 48]	PCI-X[47]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19, 45], v2.4.9-E.3[12, 45]	HPQ Dual-port mezzanine controller card[46]	FC-AL, FC-SW	N
144	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 23, 30]**	**QLogic QLA2200F-EMC[15, 22]**	FC-AL, FC-SW	N
145	**Proliant DL580(G2)[13]**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[12, 22]**	**QLogic QLA2200F[15, 17, 18, 22, 23]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 26, 31, 32]
146	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[12, 22, 26]**	**QLogic QLA2200F[15, 17, 18, 22, 23]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 26, 31, 32]
147	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**	**Emulex LP9002-E (LP9002L-E)[15, 27]**	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 26]
148	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 26]
149	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**	**Emulex: LP9802-E[1, 15], LP982-E[1, 15]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 26]
150	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**	**QLogic QLA2200F-EMC[15, 23]**	FC-AL, FC-SW	N
151	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**	**QLogic QLA2310F-E-SP[15, 25]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16, 26]
152	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	FC-AL, FC-SW	N
153	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26], v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2202F-EMC[15, 17, 18, 22, 23, 24, 28, 35, 51]**	FC-AL, FC-SW	N
154	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.9[3, 12, 19];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]**	**QLogic QLA2342-E-SP[14, 15]**	FC-AL, FC-SW	N
155	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	N
156	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30] v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2310F-E-SP[15, 25]**	FC-AL, FC-SW	N

HPQ - Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
157	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[12, 22], v2.4.9-E.9[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19], v2.4.9-e.24[12, 49]; Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[3, 12]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2202F-EMC[15, 17, 18, 22, 23, 24, 28, 35, 51]	FC-AL, FC-SW	N
158	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.9[3, 12, 19]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2342-E-SP[14, 15]	FC-AL, FC-SW	N
159	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	Emulex LP9002-E (LP9002L-E)[15, 27]; QLogic QLA2200F[15, 17, 18]	FC-AL, FC-SW	N
160	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	QLogic QLA2200F[15, 17, 18]	FC-AL, FC-SW	N
161	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[3, 12, 19]	QLogic QLA2340-E-SP[14, 15]	FC-AL, FC-SW	N
2	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	N
163	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]	QLogic QLA2340-E-SP[14, 15, 25]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16]
164	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19] ES v2.4.9-e.16[12, 19]	Emulex LP9002-E (LP9002L-E)[15, 27]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
165	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19] ES v2.4.9-e.16[12, 19]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
166	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19] ES v2.4.9-e.16[12, 19]	Emulex: LP9802-E[1, 15], LP982-E[1, 15]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
167	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19] ES v2.4.9-e.16[12, 19]	QLogic QLA2200F-EMC[15, 22, 23]	FC-AL, FC-SW	N
168	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19] ES v2.4.9-e.16[12, 19]	QLogic QLA2310F-E-SP[15, 25]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16]
169	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19] ES v2.4.9-e.16[12, 19]	QLogic QLA2340-E-SP[14, 15]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16]
170	Proliant: DL580(G2)[13], DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19] ES v2.4.9-e.16[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F[15, 17, 18, 22, 23]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
171	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	Emulex LP9002-E (LP9002L-E)[15, 17, 24, 27, 28]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
172	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	Emulex LP9802DC-E[1, 15, 17, 24, 28]	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
173	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	Emulex: LP9802-E[1, 15, 17, 24, 28], LP982-E[1, 15, 17, 24, 28]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
174	Proliant: DL580(G2)[13], DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	QLogic QLA2200F[15, 17, 24, 28, 33, 51]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 31, 32]
175	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	QLogic QLA2310F-E-SP[15, 17, 24, 28, 50]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16]
176	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	QLogic QLA2340-E-SP[15, 17, 50]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 16]
177	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	QLogic QLA2342-E-SP[15, 17, 24, 28, 33, 50]	FC-AL, FC-SW	N
178	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]	QLogic: QLA2200F-EMC[15, 17, 24, 28, 51] QLA2342-E-SP[15, 17, 24, 28, 33, 50]	FC-AL, FC-SW	N
179	Proliant: DL580(G2)[13], DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
180	Proliant: DL580(G2)[13], **DL580(G3)**	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
181	Proliant: DL580(G2)[13], **DL580(G3)**	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]
182	**Proliant DL580(G2)[13]**	PCI, PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
183	**Proliant: DL580(G2)[13], DL580(G3)**	PCI, PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18]**	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 16]
184	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**QLogic: QLA2200F-EMC[15], QLA2310F-E-SP[15], QLA2342-E-SP[14, 15, 17, 33, 34]**	**FC-AL, FC-SW**	**N**
185	**Proliant: DL580(G2)[13], DL580(G3)**	PCI, PCI-X	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F[15, 17, 18, 22, 23]**	FC-AL, FC-SW	N
186	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26], 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2342-E-SP[14]**	**FC-AL, FC-SW**	**N**
187	Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13]**, DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30], v2.4.9-E.12[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP9802-E[1, 15]	FC-AL, FC-SW[1, 15, 24, 29]	N
188	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Proliant: 6500[13, 20], **DL380(G3)**, DL580(G2)[13], ML370(G3)	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 23, 30], 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP9802-E[1, 15]	FC-AL, FC-SW[1, 15, 24, 29]	N
189	Proliant: DL360(G3), DL560, **DL560 (G2)**	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30], v2.4.9-E.12[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP9802-E[1, 15]	FC-AL, FC-SW[1, 15, 24, 29]	N
190	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-e.24[12]**	**Emulex LP9802-E[1, 15, 17]**	FC-AL, FC-SW[1, 15, 24, 29]	N
191	Proliant DL360(G3)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], ES v2.4.9-e.12[12, 19], ES v2.4.9-e.16[12, 19]	Emulex LP9802-E[1, 15]	FC-AL, FC-SW[1, 15, 24, 29]	Y[4, 5, 6, 7, 8, 9, 10]
192	**Proliant DL360(G3)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex LP9802-E[1, 15, 17, 24, 28]**	**FC-AL, FC-SW[1, 15, 24, 29]**	**Y[4, 5, 6, 7, 8, 9, 10]**
193	Proliant ML570(G2)	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 23, 30], 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP9802-E[1, 15]	FC-AL, FC-SW[1, 15, 24, 29]	N
194	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 23, 30], 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**Emulex LP9802-E[1, 15]**	**FC-AL, FC-SW[1, 15, 24, 29]**	**N**
195	Netserver: LH (LH Pro), LP 2000r	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 19]	QLogic QLA2200F-EMC[23]	FC-AL, FC-SW[24]	N
196	**Netserver LP 2000r**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23], v2.4.9-E.12[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[22, 23]**	FC-AL, FC-SW[24]	N
197	**Netserver LH (LH Pro)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23] v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[12, 22]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[22, 23]**	FC-AL, FC-SW[24]	N
198	**Netserver LP 2000r**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 19], v2.4.9-E.3[3, 12, 22, 26]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]**	**QLogic QLA2200F-EMC[15, 22, 23]**	FC-AL, FC-SW[24]	N
199	**Netserver LP 2000r**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2200F-EMC[15, 17, 24, 28, 51]**	**FC-AL, FC-SW[24]**	**N**
200	**Netserver LH (LH Pro)**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2200F-EMC[17, 24, 28, 51]**	**FC-AL, FC-SW[24]**	**N**
201	**Netserver: LH (LH Pro), LP 2000r**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[12]**	**QLogic QLA2200F-EMC[15, 18]**	FC-AL, FC-SW[24]	N
202	Netserver: LH (LH Pro), LP 2000r	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F-EMC	FC-AL, FC-SW[24]	N
203	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 19]**	**QLogic QLA2200F-EMC[15, 23]**	**FC-AL, FC-SW[24]**	**N**
204	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 19]	QLogic QLA2200F-EMC[23]	FC-AL, FC-SW[24]	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
205	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23], v2.4.9-E.12[12, 19], v2.4.9-E.16[12, 19], v2.4.9-E.3[12, 22]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 19], v2.4.9-e.16[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2200F-EMC[22, 23]	FC-AL, FC-SW[24]	N
206	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49] ES v2.4.9-e.24[12, 49]	QLogic QLA2200F-EMC[17, 24, 28, 51]	FC-AL, FC-SW[24]	N
207	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	QLogic QLA2200F-EMC	FC-AL, FC-SW[24]	N
208	Proliant DL580(G2)[13]	PCI, PCI-X	Red Hat Linux 7.3: (v2.4.18-3)[12] updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2200F-EMC	FC-AL, FC-SW[24]	N
209	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.12[12, 19], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2200F-EMC[15, 22, 23]	FC-AL, FC-SW[24]	N
210	Proliant: ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 23, 30]	QLogic QLA2340-E-SP[14, 15, 25]	FC-AL, FC-SW[24, 28]	N
211	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]	QLogic QLA2340-E-SP[15, 25]	FC-AL, FC-SW[24, 28]	Y[4, 5, 6, 7, 8, 9, 10, 16, 26]
212	Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], ML350[13]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30], v2.4.9-E.12[12, 19]	QLogic QLA2340-E-SP[14, 15, 25]	FC-AL, FC-SW[24, 28]	N
213	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III, Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: DL580(G2)[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2340-E-SP[15, 25]	FC-AL, FC-SW[24, 28]	N
214	Proliant DL380(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19], v2.4.9-E.12[12, 19], v2.4.9-E.9[12, 19]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2340-E-SP[15, 25]	FC-AL, FC-SW[24, 28]	N
215	Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19] ES v2.4.9-e.12[12, 19] ES v2.4.9-e.16[12, 19]	QLogic QLA2340-E-SP[14, 15, 25]	FC-AL, FC-SW[24, 28]	Y[4, 5, 6, 7, 8, 9, 10, 16]
216	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: DL380(G3), DL580(G2)[13], ML750[11]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19] ES v2.4.9-e.12[12, 19] ES v2.4.9-e.16[12, 19]	QLogic QLA2340-E-SP[15, 25]	FC-AL, FC-SW[24, 28]	Y[4, 5, 6, 7, 8, 9, 10, 16]
217	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49] ES v2.4.9-e.24[12, 49]	QLogic QLA2340-E-SP[15, 17, 50]	FC-AL, FC-SW[24, 28]	Y[4, 5, 6, 7, 8, 9, 10, 16]
218	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL380(G3), DL580[13], DL580(G2)[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2340-E-SP[15]	FC-AL, FC-SW[24, 28]	N
219	Proliant: 1600[13, 21], 1850[13], 2500[13], 3000[13], 5000[13], 5500[13, 20], 6000[13, 20], 6400R[13], 6500[13, 20], 7000[13, 20], 800, 8000[13, 20], 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], DL380[13], DL380(G2)[13], DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML370(G3), ML530[13], ML530(G2)[13], ML570[13]	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2340-E-SP[15, 25]	FC-AL, FC-SW[24, 28]	N
220	Proliant ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 23, 30]	QLogic QLA2340-E-SP[14, 15, 25]	FC-AL, FC-SW[24, 28]	N
221	Proliant: DL360(G3), DL560, DL560 (G2), DL760[13], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]	QLogic QLA2340-E-SP[15, 25]	FC-AL, FC-SW[24, 28]	Y[4, 5, 6, 7, 8, 9, 10, 16, 26]
222	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26, 36]	QLogic QLA2340-E-SP[15, 17, 18, 25]	FC-AL, FC-SW[24, 28]	N
223	Proliant: DL360(G3), DL560, DL560 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30], v2.4.9-E.12[12, 19]	QLogic QLA2340-E-SP[14, 15, 25]	FC-AL, FC-SW[24, 28]	N
224	Proliant: DL360(G3), DL560, DL560 (G2), DL760 (G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19] ES v2.4.9-e.12[12, 19] ES v2.4.9-e.16[12, 19]	QLogic QLA2340-E-SP[14, 15, 25]	FC-AL, FC-SW[24, 28]	Y[4, 5, 6, 7, 8, 9, 10, 16]
225	Proliant: DL360(G3), DL560, DL560 (G2), DL760 (G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49] ES v2.4.9-e.24[12, 49]	QLogic QLA2340-E-SP[15, 17, 50]	FC-AL, FC-SW[24, 28]	Y[4, 5, 6, 7, 8, 9, 10, 16]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
226	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	QLogic QLA2340-E-SP[15]	FC-AL, FC-SW[24, 28]	N
227	**Proliant: DL360(G3), DL560, DL560 (G2) ML570(G2)**	PCI-X	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2340-E-SP[15, 25]**	FC-AL, FC-SW[24, 28]	N
228	**Proliant BL40p**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26], 8.0 updated to v2.4.18-19.8.0[12], 8.0 updated to v2.4.20-18.8[12]**	**QLogic QLA2340-E-SP[15, 25]**	FC-AL, FC-SW[24, 28]	Y[4, 5, 6, 7, 8, 9, 10, 16, 26, 38, 39]
229	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	**FC-AL, FC-SW[24, 28]**	**Y[4, 5, 6, 7, 8, 9, 10, 16]**
230	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 12, 22, 26]**	**QLogic QLA2340-E-SP[15, 25]**	**FC-AL, FC-SW[24, 28]**	**Y[4, 5, 6, 7, 8, 9, 10, 16, 26]**
231	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30], v2.4.9-E.12[12, 19]**	**QLogic QLA2340-E-SP[14, 15, 25]**	**FC-AL, FC-SW[24, 28]**	**N**
232	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**QLogic QLA2340-E-SP[15, 17, 50]**	**FC-AL, FC-SW[24, 28]**	**Y[4, 5, 6, 7, 8, 9, 10, 16]**
233	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**QLogic QLA2340-E-SP[15]**	**FC-AL, FC-SW[24, 28]**	**N**
234	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2340-E-SP[15, 25]**	**FC-AL, FC-SW[24, 28]**	**N**
235	Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[13, 21], 1850[13], 2500[13], 6400R[13], 800, 850[13], 8500, DL320[13], DL360[13], DL360(G2)[13], **DL380[13], DL380(G2)[13]**, DL580[13], ML350[13], ML350(G2)[13], ML370[13], ML370(G2), ML530[13], ML530(G2)[13], ML570[13], ML750[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30], v2.4.9-E.12[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP982-E[1, 15]	FC-AL, FC-SW[24, 29]	N
236	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Proliant: 6500[13, 20], **DL380(G3)**, DL580(G2)[13], ML370(G3)	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 23, 30], 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP982-E[1, 15]	FC-AL, FC-SW[24, 29]	N
237	Proliant: DL360(G3), DL560, **DL560 (G2)**	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 23, 30], v2.4.9-E.12[12, 19]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP982-E[1, 15]	FC-AL, FC-SW[24, 29]	N
238	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 19], v2.4.9-e.24[12]**	**Emulex LP982-E[1, 15, 17]**	FC-AL, FC-SW[24, 29]	N
239	Proliant DL360(G3)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 19], **ES v2.4.9-e.12[12, 19]**, ES v2.4.9-e.16[12, 19]	Emulex LP982-E[1, 15]	FC-AL, FC-SW[24, 29]	Y[4, 5, 6, 7, 8, 9, 10]
240	**Proliant DL360(G3)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 49], ES v2.4.9-e.24[12, 49]**	**Emulex LP982-E[1, 15, 17, 24, 28]**	**FC-AL, FC-SW[24, 29]**	**Y[4, 5, 6, 7, 8, 9, 10]**
241	Proliant ML570(G2)	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 23, 30], 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]	Emulex LP982-E[1, 15]	FC-AL, FC-SW[24, 29]	N
242	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 23, 30], 7.3 updated w/ v2.4.18-27.7.x rpm[3, 12]**	**Emulex LP982-E[1, 15]**	**FC-AL, FC-SW[24, 29]**	**N**

1. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
2. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
3. Requires v6.2.1 or higher Navisphere host agent/CLI.
4. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
   Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)
   No MirrorView or SnapView used on boot LUNs
7. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group.
   Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
8. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
9. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
10. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
11. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
12. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
13. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
14. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
15. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
16. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
17. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
18. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
19. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath.
    Booting from EMC storage arrays is NOT supported with PowerPath.
20. Includes both Pentium PRO and XEON models
21. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
22. **Supported with QLogic driver v6.04.02 or v6.05.00.**
23. Requires v6.0.5 or higher Navisphere host Agent/CLI
24. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
25. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
26. This kernel is limited to 110 devices, not 128.
27. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
28. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
29. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.
30. This system is supported with Red Hat 2.1 Advanced Server v2.4.9-E.3 and updated with v2.4.9-E.9, E.10, and E.12 RPMs.
31. Requires QLogic driver 4.47.18 and BIOS 1.83.
32. Install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.
33. **Single HBA zoning is required regardless of the switch being utilized.**
34. **Host must be offline for interfamily Symmetrix microcode upgrade.**

35. **Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC-approved driver after installation.**
36. **The kernel version listed is included in the corresponding standard distributed release.**
37. **For fabric boot support, install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.**
38. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable)
39. PowerPath v3.02 not supported on this system.
40. **Requires v6.05 or higher Navisphere host agent/CLI.**
41. **This HBA is equivalent to the qLogic QLA2340.**
42. **This HBA is equivalent to the qLogic QLA2310.**
43. **(QLA2200) For IBM xSeries and Netfinity servers only.**
44. **Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.**
45. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
46. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
47. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.
48. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
49. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
50. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
51. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

IBM

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 18, 19, 20, 22]**	**QLogic QLA2200F-EMC[9, 10, 17]**	FC-AL, FC-SW	N
2	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 20, 22]**	**QLogic QLA2200F-EMC[17, 18]**	FC-AL, FC-SW	N
3	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**Emulex LP9002-E (LP9002L-E)[17, 25]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 26, 28, 29]
4	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**Emulex LP9002-E (LP9002L-E)[17, 25]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 28, 29]
5	**xSeries X335**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**Emulex LP9802-E[17, 27]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29]
6	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 26, 27, 28, 29]
7	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 27, 28, 29]
8	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**Emulex: LP9802-E[17, 27], LP982-E[17, 27]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 26, 29]
9	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**Emulex: LP9802-E[17, 27], LP982-E[17, 27]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29]
10	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**IBM: 00N6881 (QLA2200)[8, 9, 10, 34], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26]
11	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**IBM: 00N6881 (QLA2200)[8, 9, 10], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 26]
12	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**IBM: 00N6881 (QLA2200)[8, 9, 10], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26]
13	**xSeries X335**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**IBM: 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]; QLogic QLA2200F**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26]
14	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**QLogic QLA2200F-EMC[17, 18, 19]**	FC-AL, FC-SW	N
15	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15, 21], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**QLogic QLA2200F[8, 10, 17, 18, 19]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 38, 39]
16	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 26, 29, 31]
17	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600 8500R; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 31]
18	**Netfinity 6000R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[12]**	**QLogic QLA2200F[8, 10, 17]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 18, 26, 29, 38, 39]
19	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[1, 12, 20]**	**QLogic QLA2310F-E-SP[8, 17]**	FC-AL, FC-SW	N
20	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[1, 12, 20]**	**QLogic QLA2340-E-SP[17, 24, 30]**	FC-AL, FC-SW	N

IBM – Red Hat Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
21	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27], QLogic QLA2200F-EMC[17, 19]	FC-AL, FC-SW	N
22	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 18, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20], v2.4.9-e.24[12, 43];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20] v2.4.9-e.24[12, 43];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	QLogic QLA2202F-EMC[8, 10, 17, 18, 19, 32, 33, 41, 42]	**FC-AL, FC-SW**	**N**
23	**xSeries x345**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]	QLogic QLA2310F-E-SP[8, 17, 24]	FC-AL, FC-SW	N
24	**xSeries x345**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	N
25	**xSeries x345**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[30]	FC-AL, FC-SW	N
26	**xSeries X335**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]	QLogic QLA2342-E-SP[30]	FC-AL, FC-SW	N
27	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	N
28	**Netfinity 7000 M10[21]**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[30]	FC-AL, FC-SW	N
29	**Netfinity 8500**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic: QLA2310F-E-SP[17, 24], QLA2342-E-SP[30]	FC-AL, FC-SW	N
30	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]; Red Hat Linux: 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2342-E-SP[30]	FC-AL, FC-SW	N
31	**Netfinity 8500**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]	IBM: 00N6881 (QLA2200)[8, 9, 10], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]	FC-AL, FC-SW	N
32	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342 x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20], v2.4.9-e.24[12, 43];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20], v2.4.9-e.24[12, 43];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	QLogic QLA2202F-EMC[8, 10, 17, 18, 19, 32, 33, 41, 42]	**FC-AL, FC-SW**	**N**
33	**xSeries x345**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[12, 18], v2.4.9-E.9[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2200F-EMC[17]	FC-AL, FC-SW	N

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
34	**xSeries x345**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[12, 18], v2.4.9-E.9[12, 20], v2.4.9-e.24[12, 43];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20], v2.4.9-e.24[12, 43];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2202F-EMC[8, 10, 17, 18, 19, 32, 33, 41, 42]**	**FC-AL, FC-SW**	**N**
35	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.9[1, 12, 20];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]**	**QLogic QLA2342-E-SP[17, 30]**	FC-AL, FC-SW	N
36	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	**IBM: 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13];** QLogic: QLA2200F, **QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	N
37	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	N
38	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**IBM 00N6881 (QLA2200)[8, 9, 10, 34];** **QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	N
39	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600;** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**IBM 00N6881 (QLA2200)[8, 9, 10];** **QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	N
40	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500R,** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**IBM: 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]**	FC-AL, FC-SW	N
41	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 20], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], **v2.4.9-E.3[1, 12, 18, 26]**, v2.4.9-E.9[12, 20]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[12, 20]**, v2.4.9-e.16[12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	N
42	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 20], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.9[1, 12, 20];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]**	**IBM 19K1246(QLA2310)[8, 16, 17]**	FC-AL, FC-SW	N
43	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 20], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.9[12, 20];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]**	**Emulex LP9002-E (LP9002L-E)[17, 25]**	FC-AL, FC-SW	N
44	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 20], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	N
45	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 20], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25], **QLogic QLA2200F[8, 10, 17]**	FC-AL, FC-SW	N
	Netfinity: 6000R, 7000 M10[15, 21], 8500	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 20], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]**	**QLogic QLA2200F[8, 10, 17]**	FC-AL, FC-SW	N
47	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500;** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[17, 18, 19]**	FC-AL, FC-SW	N
48	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F-EMC[8, 10, 17, 18, 19]**	FC-AL, FC-SW	N
49	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], **v2.4.9-E.3[1, 12, 18, 26]**, v2.4.9-E.9[12, 20]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[12, 20]**, v2.4.9-e.16[12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	N
50	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW	N
51	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
52	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 20], v2.4.9-E.3[12, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2200F[8, 10, 17, 18, 19]**	FC-AL, FC-SW	N
53	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20]**	**QLogic QLA2200F-EMC[17, 19]**	FC-AL, FC-SW	N
54	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 28, 29]
55	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]
56	xSeries X335	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
57	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 27, 28, 29]
58	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 27, 28, 29]
59	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 29]
60	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
61	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]**	**IBM: 00N6881 (QLA2200)[8, 9, 10, 34], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
62	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]**	**IBM: 00N6881 (QLA2200)[8, 9, 10], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15]
63	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]**	**IBM: 00N6881 (QLA2200)[8, 9, 10], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
64	xSeries X335	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	**IBM: 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13];** QLogic QLA2200F	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
65	**Netfinity 6000R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]**	**QLogic QLA2200F[8, 10, 17]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
66	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]**	**QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 29, 31]
67	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600: xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]**	**QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
68	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]**	**QLogic: QLA2310F-E-SP[17, 24], QLA2340-E-SP[17, 24, 30]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
69	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15, 21], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**QLogic QLA2200F[8, 10, 17, 18, 19]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
70	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9002-E (LP9002L-E)[10, 17, 25, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 28, 29]
71	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9002-E (LP9002L-E)[10, 17, 25, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]
72	**xSeries X335**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9802-E[10, 17, 27, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
73	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9802DC-E[10, 17, 27, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 27, 28, 29]
74	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP9802DC-E[10, 17, 27, 32, 33]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 27, 28, 29]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
75	**Netfinity 8500**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**Emulex: LP9002–E (LP9002L–E)[10, 17, 25, 32, 33], LP9802–E[10, 17, 27, 32, 33], LP9802DC–E[10, 17, 27, 32, 33], LP982–E[10, 17, 27, 32, 33]** **IBM: 00N6881 (QLA2200)[9, 10, 17, 32, 33, 40, 42, 45], 19K1246(QLA2310)[10, 16, 32, 33, 40, 44], 24P0960(QLA2340)[10, 13, 17, 32, 33, 40, 44]** **QLogic: QLA2200F–EMC[10, 17, 32, 33, 42], QLA2310F–E–SP[10, 17, 32, 33, 44], QLA2342–E–SP[10, 32, 33, 40, 44]**	FC–AL, FC–SW	N
76	**xSeries x345**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**Emulex: LP9002–E (LP9002L–E)[10, 17, 25, 32, 33], LP9802DC–E[10, 17, 27, 32, 33]** **IBM 19K1246(QLA2310)[10, 16, 17, 32, 33, 40, 44], QLogic: QLA2200F[10, 17, 32, 33, 40, 42], QLA2200F–EMC[10, 17, 32, 33, 42], QLA2310F–E–SP[10, 17, 32, 33, 44], QLA2342–E–SP[10, 32, 33, 40, 44]**	FC–AL, FC–SW	N
77	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**Emulex: LP9802–E[10, 17, 27, 32, 33], LP982–E[10, 17, 27, 32, 33]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 15, 29]
78	**Netfinity: 5000, 5500, 5500 M10 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**Emulex: LP9802–E[10, 17, 27, 32, 33], LP982–E[10, 17, 27, 32, 33]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 29]
79	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**IBM: 00N6881 (QLA2200)[9, 10, 17, 32, 33, 40, 42, 45], 19K1246(QLA2310)[10, 16, 32, 33, 40, 44], 24P0960(QLA2340)[10, 13, 17, 32, 33, 40, 44]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 15]
80	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R, xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**IBM: 00N6881 (QLA2200)[9, 10, 17, 32, 33, 40, 42, 45], 19K1246(QLA2310)[10, 16, 32, 33, 40, 44], 24P0960(QLA2340)[10, 13, 17, 32, 33, 40, 44]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7]
81	**xSeries X335**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**IBM: 19K1246(QLA2310)[10, 16, 32, 33, 40, 44], 24P0960(QLA2340)[10, 13, 17, 32, 33, 40, 44]** **QLogic QLA2200F[10, 32, 33, 40, 42]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7]
82	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 6000R, 7000, 7000 M10[15, 21], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic QLA2200F[10, 17, 32, 33, 40, 42]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
83	**Netfinity 7000 M10[21]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic QLA2310F–E–SP[10, 17, 32, 33, 44]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 15, 29, 31]
84	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic QLA2310F–E–SP[10, 17, 32, 33, 44]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
85	**xSeries X335**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic QLA2342–E–SP[10, 32, 33, 40, 44]**	FC–AL, FC–SW	N
86	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic: QLA2200F–EMC[10, 17, 32, 33, 42], QLA2342–E–SP[10, 17, 32, 33, 40, 44]**	FC–AL, FC–SW	N
87	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic: QLA2200F–EMC[10, 17, 32, 33, 42], QLA2342–E–SP[10, 32, 33, 40, 44]**	FC–AL, FC–SW	N
88	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[12, 43], ES v2.4.9–e.24[12, 43]**	**QLogic: QLA2310F–E–SP[10, 17, 32, 33, 44], QLA2340–E–SP[10, 17, 44]**	FC–AL, FC–SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15], 7100, 7600, 8500R, xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18–3)[12]	Emulex LP9002–E (LP9002L–E)	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7, 28, 29]
90	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15], 7100, 7600, 8500R, xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18–3)[12]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7, 27, 28, 29]
91	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15], 7100, 7600, 8500R, xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18–3)[12]	Emulex: LP9802–E, LP982–E	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7, 27, 29]
92	**Netfinity 8500R**	PCI	**Red Hat Linux 7.3 (v2.4.18–3)[12]**	**IBM: 00N6881 (QLA2200)[8, 9, 10, 11, 34], 19K1246(QLA2310)[8, 10, 11, 16], 24P0960(QLA2340)[8, 10, 11, 13]**	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7]
93	**Netfinity 8500**	PCI	**Red Hat Linux 7.3 (v2.4.18–3)[12]**	**IBM: 00N6881 (QLA2200)[8, 9, 10, 11], 19K1246(QLA2310)[8, 10, 11, 16], 24P0960(QLA2340)[8, 10, 11, 13]**	FC–AL, FC–SW	N
94	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x240, x250, x350 (6000R), x370**	PCI	**Red Hat Linux 7.3 (v2.4.18–3)[12]**	**IBM: 00N6881 (QLA2200)[8, 9, 10, 11], 19K1246(QLA2310)[8, 10, 11, 16], 24P0960(QLA2340)[8, 10, 11, 13]**	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7]
95	**xSeries x255[14]**	PCI	**Red Hat Linux 7.3 (v2.4.18–3)[12]**	**IBM: 00N6881 (QLA2200)[8, 9, 10, 17], 19K1246(QLA2310)[8, 10, 16, 17], 24P0960(QLA2340)[8, 10, 13, 17]**	FC–AL, FC–SW	Y[1, 2, 3, 4, 5, 6, 7]

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
96	xSeries x232	PCI	Red Hat Linux 7.3 (v2.4.18–3)[12]	IBM: 00N6881 (QLA2200)[9, 17], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7]
97	Netfinity 8500R	PCI	Red Hat Linux 7.3 (v2.4.18–3)[12]	QLogic QLA2200F-EMC[17]	FC-AL, FC-SW	N
98	Netfinity 7000 M10[15]	PCI	Red Hat Linux 7.3 (v2.4.18–3)[12]	QLogic QLA2342-E-SP[30]	FC-AL, FC-SW	N
99	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[15], 7100, 7600, 8500R, xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18–3)[12]	QLogic: QLA2310F-E-SP[8, 10], QLA2340-E-SP[8, 10]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 29, 31]
100	Netfinity 7000 M10[21]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[1, 12]	IBM 00N6881 (QLA2200)[8, 9, 10]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 15, 38, 41]
101	Netfinity: 5000, 5500, 5500 M10 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[1, 12]	IBM 00N6881 (QLA2200)[8, 9, 10]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 38, 41]
102	Netfinity 8500R	PCI	Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[1, 12]	IBM 00N6881 (QLA2200)[8, 9, 10, 34]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 38, 41]
103	Netfinity 6000R	PCI	Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[1, 12]	QLogic QLA2200F	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
104	Netfinity 8500R	PCI	Red Hat Linux 7.3 updated w/ v2 4.18–27.7.x rpm[1, 12]	QLogic: QLA2200F-EMC[8, 17], QLA2310F-E-SP[17], QLA2342-E-SP[10, 11, 17, 30, 40]	FC-AL, FC-SW	N
105	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14] x345, x350 (6000R), x370	PCI	Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[1, 12]	QLogic: QLA2310F-E-SP[17], QLA2342-E-SP[10, 11, 17, 30, 40]	FC-AL FC-SW	N
106	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 7.3, (v2.4.18–3)[12], updated w/ v2.4.18–27.7.x rpm[1, 12]	QLogic QLA2200F-EMC[17]	FC-AL, FC-SW	N
107	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 8.0 updated to v2.4.18–27.8.0[12]	QLogic QLA2200F[8, 10, 17, 18, 19]	FC-AL, FC-SW	N
108	xSeries x345	PCI	Red Hat Linux 8.0 updated to v2.4.18–27.8.0[12]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	N
109	Netfinity 8500R	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9–E.3[1, 12, 18, 26], 7.3 (v2.4.18–3)[12], 8.0 updated to v2.4.18–27.8.0[12]	QLogic QLA2342-E-SP[30]	FC-AL, FC-SW	N
110	xSeries: x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.10[12, 19, 20, 22]	QLogic QLA2200F-EMC[17, 18]	FC-AL, FC-SW	N
111	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 28, 29]
112	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 27, 28, 29]
113	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]; QLogic QLA2200F[10, 17, 18, 19, 30, 35]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29]
114	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18]	IBM: 00N6881 (QLA2200)[8, 9, 10], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26]
115	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 31]
116	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18, 26]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	N
117	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18, 26]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 26, 28, 29]
118	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18, 26]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 28, 29]
119	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18, 26]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 26, 27, 28, 29]
120	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18, 26]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 27, 28, 29]
121	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18, 26]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 26, 29]
122	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18, 26]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29]
123	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18, 26]	IBM: 00N6881 (QLA2200)[8, 9, 10], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26]
124	xSeries: x255[14], x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[1, 12, 18, 26]	QLogic QLA2200F[8, 10, 17, 18, 19]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 38, 39]

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
125	**xSeries x255**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 26, 29, 31]
126	**xSeries x360[14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]**	**QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 31]
127	**xSeries x235**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26, 37]**	**QLogic QLA2200F[8, 10, 17, 18, 19]**	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 38, 39]
128	**xSeries x440[22, 23]**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[12]**	**QLogic QLA2200F[10, 17, 30, 35]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 18, 26, 29]
129	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	N
130	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20] v2.4.9-E.16[12, 20] v2.4.9-E.3[1, 12, 18, 26, 37], v2.4.9-E.9[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802DC-E	FC-AL, FC-SW	N
131	**xSeries x235**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20] v2.4.9-E.3[1, 12, 18, 26, 37], v2.4.9-E.9[12, 20];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2342-E-SP[30]**	FC-AL, FC-SW	N
132	**xSeries x235**	**PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26, 37], v2.4.9-E.9[12, 20], v2.4.9-e.24[12, 43];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20], v2.4.9-e.24[12, 43];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2202F-EMC[8, 10, 17, 18, 19, 32, 33, 41, 42]**	**FC-AL, FC-SW**	**N**
133	**xSeries x360[14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20];** **Red Hat Linux: 7.3 (v2.4.18-3)[12], 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2342-E-SP[30]**	FC-AL, FC-SW	N
134	**xSeries x360[14]**	**PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20], v2.4.9-e.24[12, 43];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20], v2.4.9-e.24[12, 43];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2202F-EMC[8, 10, 17, 18, 19, 32, 33, 41, 42]**	**FC-AL, FC-SW**	**N**
135	**xSeries x440[22, 23]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18], v2.4.9-E.9[12, 20];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]**	**QLogic QLA2342-E-SP[30]**	FC-AL, FC-SW	N
136	**xSeries x440[22, 23]**	**PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18], v2.4.9-E.9[12, 20], v2.4.9-e.24[12, 43];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20], v2.4.9-e.24[12, 43]**	**QLogic QLA2202F-EMC[8, 10, 17, 18, 19, 32, 33, 41, 42]**	**FC-AL, FC-SW**	**N**
137	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	Emulex LP9802DC-E; **IBM: 00N6881 (QLA2200)[8, 9, 10], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13];** **QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	N
138	**xSeries x360[14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	N
139	**xSeries x235**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**Emulex: LP9802-E[10, 27], LP982-E[10, 27]**	FC-AL, FC-SW	N
140	**xSeries x235**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**QLogic QLA2310F-E-SP[8, 10]**	FC-AL, FC-SW	N
141	**xSeries x360[14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]**	**IBM 00N6881 (QLA2200)[8, 9, 10];** **QLogic QLA2310F-E-SP[17, 24]**	FC-AL, FC-SW	N
142	**xSeries x360[14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]**	**IBM: 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]**	FC-AL, FC-SW	N

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
143	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic: QLA2200F-EMC[8, 10], QLA2340-E-SP[8, 10]	FC-AL, FC-SW	N
144	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 20], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.9[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]	IBM 19K1246(QLA2310)[16]	FC-AL, FC-SW	N
145	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 20], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25], QLogic QLA2200F[8, 10, 17]	FC-AL, FC-SW	N
146	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 20], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25], QLogic QLA2200F[10, 17, 30, 35]	FC-AL, FC-SW	N
147	xSeries x235, x255[14]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 20], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	QLogic QLA2200F[8, 10, 17]	FC-AL, FC-SW	N
148	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]	QLogic QLA2200F-EMC[17, 18, 19]	FC-AL, FC-SW	N
149	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2200F-EMC[17, 18, 19]	FC-AL, FC-SW	N
150	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	N
151	xSeries x235	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26, 37]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]	Emulex: LP9802-E[10, 17, 27], LP982-E[10, 17, 27]; QLogic: QLA2200F-EMC[8, 10, 17, 19], QLA2310F-E-SP[8, 10, 17, 24], QLA2340-E-SP[8, 10, 17, 24]	FC-AL, FC-SW	N
152	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]	QLogic: QLA2200F-EMC[17, 19], QLA2342-E-SP[30]	FC-AL, FC-SW	N
153	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26], v2.4.9-e.24[12, 43]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20], v2.4.9-e.24[12, 43]	QLogic QLA2202F-EMC[8, 10, 17, 18, 19, 32, 33, 41, 42]	FC-AL, FC-SW	N
154	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20]	QLogic QLA2200F-EMC[17, 19]	FC-AL, FC-SW	N
155	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 12, 18], v2.4.9-E.9[12, 20]	QLogic QLA2200F-EMC[17, 19]	FC-AL, FC-SW	N
156	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 28, 29]
157	xSeries: x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]
158	xSeries x235	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9002-E (LP9002L-E)[10, 17, 25]	FC-AL, FC-SW	N
159	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 27, 28, 29]
160	xSeries: x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 27, 28, 29]
161	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 29]
162	xSeries x360[14]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
163	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]; QLogic QLA2200F[10, 17, 30, 35]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
164	xSeries: x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	IBM: 00N6881 (QLA2200)[8, 9, 10], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
165	xSeries x255[14]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	QLogic QLA2200F[8, 10, 17, 18, 19]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
166	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 29, 31]
167	xSeries: x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
168	xSeries: x235, x360[14]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic QLA2200F[8, 10, 17, 18, 19]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
169	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex LP9002-E (LP9002L-E)[10, 17, 25, 32, 33]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 28, 29]
170	xSeries: x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex LP9002-E (LP9002L-E)[10, 17, 25, 32, 33]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]
171	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex LP9802DC-E[10, 17, 27, 32, 33]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 27, 28, 29]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
172	xSeries: x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex LP9802DC-E[10, 17, 27, 32, 33]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 27, 28, 29]
173	xSeries x235	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex: LP9002-E (LP9002L-E)[10, 17, 25, 32, 33], LP9802-E[10, 17, 27, 32, 33], LP9802DC-E[10, 17, 27, 32, 33], LP982-E[10, 17, 27, 32, 33]; IBM 19K1246(QLA2310)[10, 16, 32, 33, 40, 44]; QLogic: QLA2200F-EMC[10, 17, 32, 33, 42], QLA2310F-E-SP[10, 17, 32, 33, 44], QLA2340-E-SP[10, 17, 44], QLA2342-E-SP[10, 32, 33, 40, 44]	FC-AL, FC-SW	N
174	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex: LP9802-E[10, 17, 27, 32, 33], LP982-E[10, 17, 27, 32, 33]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 29]
175	xSeries x360[14]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex: LP9802-E[10, 17, 27, 32, 33], LP982-E[10, 17, 27, 32, 33]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
176	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex: LP9802-E[10, 17, 27, 32, 33], LP982-E[10, 17, 27, 32, 33]; QLogic QLA2200F[10, 17, 32, 33, 40, 42]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
177	xSeries: x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	IBM: 00N6881 (QLA2200)[9, 10, 17, 32, 33, 40, 42, 45], 19K1246(QLA2310)[10, 16, 32, 33, 40, 44], 24P0960(QLA2340)[10, 13, 17, 32, 33, 40, 44]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
178	xSeries: x235, x255[14], x360[14]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic QLA2200F[10, 17, 32, 33, 40, 42]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 38, 39]
179	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic QLA2310F-E-SP[10, 17, 32, 33, 44]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 29, 31]
180	xSeries: x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic QLA2310F-E-SP[10, 17, 32, 33, 44]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
181	xSeries: x255, x360[14], x440[22, 23]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic: QLA2200F-EMC[10, 17, 32, 33, 42], QLA2342-E-SP[10, 32, 33, 40, 44]	FC-AL, FC-SW	N
182	xSeries x360[14]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 28, 29]
183	xSeries x360[14]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 27, 28, 29]
184	xSeries x360[14]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 27, 29]
185	xSeries x360	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	IBM: 00N6881 (QLA2200)[8, 9, 10, 11, 17], 19K1246(QLA2310)[8, 10, 11, 16, 17], 24P0960(QLA2340)[8, 10, 11, 13, 17]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 14]
186	xSeries x255	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	IBM: 00N6881 (QLA2200)[8, 9, 10, 11], 19K1246(QLA2310)[8, 10, 11, 16], 24P0960(QLA2340)[8, 10, 11, 13]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 14]
187	xSeries x360[14]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[12]	QLogic: QLA2310F-E-SP[8, 10], QLA2340-E-SP[8, 10]	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 29, 31]
188	xSeries x360[14]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	IBM 00N6881 (QLA2200)[8, 9, 10]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 38, 41]
189	xSeries x255	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic QLA2200F	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 14, 29, 38, 39]
190	xSeries x235	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic QLA2342-E-SP[10, 11, 17, 30, 40]	FC-AL, FC-SW	N
191	xSeries x360[14]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic: QLA2310F-E-SP[17], QLA2342-E-SP[10, 11, 17, 30, 40]	FC-AL, FC-SW	N
192	xSeries x360[14]	PCI-X	Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic QLA2200F-EMC[17]	FC-AL, FC-SW	N
193	xSeries: x235, x360[14]	PCI-X	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2200F[8, 10, 17, 18, 19]	FC-AL, FC-SW	N
194	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 20, 22]	QLogic QLA2200F-EMC[17, 18]	FC-AL, FC-SW	N
195	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 28, 29]
196	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 27, 28, 29]
197	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]; QLogic QLA2200F[10, 17, 18, 19, 30, 35]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29]
198	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18]	IBM: 00N6881 (QLA2200)[8, 9, 10], 19K1246(QLA2310)[8, 10, 16], 24P0960(QLA2340)[8, 10, 13]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26]
199	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 26, 29, 31]
200	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]	FC-AL, FC-SW	N
201	xSeries x345	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex: LP9002-E (LP9002L-E)[17, 25], LP9802DC-E	FC-AL, FC-SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
202	xSeries x345	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20] v2.4.9-E.16[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	N
203	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18], v2.4.9-E.9[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]	QLogic QLA2342-E-SP[30]	FC-AL, FC-SW	N
204	xSeries x445	PCI PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18], v2.4.9-E.9[12, 20], v2.4.9-e.24[12, 43]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20], v2.4.9-e.24[12, 43]	QLogic QLA2202F-EMC[8, 10, 17, 18, 19, 32, 33, 41, 42]	FC-AL, FC-SW	N
205	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	Emulex LP9802DC-E; IBM: 00N6881 (QLA2200)[8, 9, 10], 19K1246(QLA2310)[8, 10, 16] 24P0960(QLA2340)[8, 10, 13]; QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	N
206	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 20], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25]; QLogic QLA2200F[10, 17, 30, 35]	FC-AL, FC-SW	N
207	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20]; Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20]	QLogic QLA2200F-EMC[17, 18, 19]	FC-AL, FC-SW	N
	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 12, 18], v2.4.9-E.9[12, 20]	QLogic QLA2200F-EMC[17, 19]	FC-AL, FC-SW	N
209	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9002-E (LP9002L-E)[17, 25]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]
210	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 27, 28, 29]
211	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex: LP9802-E[17, 27], LP982-E[17, 27]; QLogic QLA2200F[10, 17, 18, 19, 30, 35]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
212	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	IBM: 00N6881 (QLA2200)[8, 9, 10], 19K1246(QLA2310)[8, 10, 16] 24P0960(QLA2340)[8, 10, 13]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
213	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	QLogic QLA2310F-E-SP[17, 24]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
214	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex LP9002-E (LP9002L-E)[10, 17, 25, 32, 33]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 28, 29]
215	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex LP9802DC-E[10, 17, 27, 32, 33]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 27, 28, 29]
216	xSeries x345	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex: LP9002-E (LP9002L-E)[10, 17, 25, 32, 33], LP9802DC-E[10, 17, 27, 32, 33]; QLogic QLA2310F-E-SP[10, 17, 32, 33, 44]	FC-AL, FC-SW	N
217	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex: LP9802-E[10, 17, 27, 32, 33], LP982-E[10, 17, 27, 32, 33]; QLogic QLA2200F[10, 17, 32, 33, 40, 42]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29]
218	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	IBM: 00N6881 (QLA2200)[9, 10, 17, 32, 33, 40, 42, 45], 19K1246(QLA2310)[10, 16, 32, 33, 40, 44], 24P0960(QLA2340)[10, 13, 17, 32, 33, 40, 44]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7]
	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic QLA2310F-E-SP[10, 17, 32, 33, 44]	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 29, 31]
220	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic: QLA2200F-EMC[10, 17, 32, 33, 42], QLA2342-E-SP[10, 32, 33, 40, 44]	FC-AL, FC-SW	N
221	xSeries x345	PCI, PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic QLA2310F-E-SP[17]	FC-AL, FC-SW	N
222	xSeries x345	PCI, PCI-X	Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12], 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2200F[8, 10, 17, 18, 19]	FC-AL, FC-SW	N
223	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[12, 19, 20, 22]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	N
224	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	N
225	Netfinity 8500R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	Y[2, 3, 4, 5, 6, 7, 29]
226	Netfinity 8500R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex LP9802-E[10, 17, 27, 32, 33]	FC-AL, FC-SW[17, 27, 33, 36]	Y[2, 3, 4, 5, 6, 7, 29]
227	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250 x255[14], x350 (6000R), x370	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 20, 22], 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	N
228	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	N

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
229	xSeries x360[14]	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 20, 22], 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	N
230	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	N
231	xSeries x345	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20] Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20] Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP9802-E[17, 27]	FC-AL, FC-SW[17, 27, 33, 36]	N
232	xSeries x345	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	Emulex LP9802-E[10, 17, 27, 32, 33]	FC-AL, FC-SW[17, 27, 33, 36]	N
233	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	Y[2, 3, 4, 5, 6, 7, 15, 26, 29, 31]
234	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600, 8500R: xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	Y[2, 3, 4, 5, 6, 7, 26, 29, 31]
235	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20]	QLogic QLA2340-E-SP[17, 24, 30]	FC-AL, FC-SW[32, 33]	N
236	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20] Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20] Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	N
237	Netfinity 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20], v2.4.9-E.3[1, 12, 18, 26], v2.4.9-E.9[12, 20] Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20] Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	N
238	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	N
239	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20] Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	N
240	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	Y[2, 3, 4, 5, 6, 7, 15, 29, 31]
241	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	Y[2, 3, 4, 5, 6, 7, 29, 31]
242	Netfinity 7000 M10[21]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic QLA2340-E-SP[10, 17, 44]	FC-AL, FC-SW[32, 33]	Y[2, 3, 4, 5, 6, 7, 15, 29, 31]
243	Netfinity 8500: xSeries x345	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic QLA2340-E-SP[10, 17, 44]	FC-AL, FC-SW[32, 33]	N
	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]	QLogic QLA2340-E-SP[10, 17, 44]	FC-AL, FC-SW[32, 33]	Y[2, 3, 4, 5, 6, 7, 29, 31]
245	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500, 8500R: xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[14], x345, x350 (6000R), x370	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	QLogic QLA2340-E-SP[17]	FC-AL, FC-SW[32, 33]	N
246	Netfinity 8500R	PCI	Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	N
247	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	Y[2, 3, 4, 5, 6, 7, 26, 29, 31]
248	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	Y[2, 3, 4, 5, 6, 7, 14, 26, 29, 31]
249	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18, 26]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	Y[2, 3, 4, 5, 6, 7, 26, 29, 31]
250	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	N
251	xSeries x360[14]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20] Red Hat Linux 8.0 updated to v2.4.18-27.8.0[12]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	N
252	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	QLogic QLA2340-E-SP[17, 24]	FC-AL, FC-SW[32, 33]	Y[2, 3, 4, 5, 6, 7, 14, 29, 31]

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
253	**xSeries: x360[14], x440[22, 23]**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]**	**QLogic QLA2340-E-SP[17, 24]**	FC-AL, FC-SW[32, 33]	Y[2, 3, 4, 5, 6, 7, 29, 31]
254	**xSeries x255**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**QLogic QLA2340-E-SP[10, 17, 44]**	**FC-AL, FC-SW[32, 33]**	Y[2, 3, 4, 5, 6, 7, 14, 29, 31]
255	**xSeries: x360[14], x440[22, 23]**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**QLogic QLA2340-E-SP[10, 17, 44]**	**FC-AL, FC-SW[32, 33]**	Y[2, 3, 4, 5, 6, 7, 29, 31]
256	**xSeries x360[14]**	PCI-X	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**QLogic QLA2340-E-SP[17]**	FC-AL, FC-SW[32, 33]	N
257	**xSeries x445**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 12, 18]**	**QLogic QLA2340-E-SP[17, 24]**	**FC-AL, FC-SW[32, 33]**	Y[2, 3, 4, 5, 6, 7, 26, 29, 31]
258	**xSeries x445**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.9[12, 20]**	**QLogic QLA2340-E-SP[17, 24]**	**FC-AL, FC-SW[32, 33]**	**N**
259	**xSeries x445**	**PCI, PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]**	**QLogic QLA2340-E-SP[17, 24]**	**FC-AL, FC-SW[32, 33]**	Y[2, 3, 4, 5, 6, 7, 29, 31]
260	**xSeries x445**	**PCI, PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**QLogic QLA2340-E-SP[10, 17, 44]**	**FC-AL, FC-SW[32, 33]**	Y[2, 3, 4, 5, 6, 7, 29, 31]
261	Netfinity 8500R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP982-E[17, 27]	FC-AL, FC-SW[33, 36]	N
262	Netfinity 8500R	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[12, 20], ES v2.4.9-e.12[12, 20], ES v2.4.9-e.16[12, 20]	Emulex LP982-E[17, 27]	FC-AL, FC-SW[33, 36]	Y[2, 3, 4, 5, 6, 7, 29]
263	**Netfinity 8500R**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP982-E[10, 17, 27, 32, 33]**	**FC-AL, FC-SW[33, 36]**	Y[2, 3, 4, 5, 6, 7, 29]
264	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[21], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[14]**, x350 (6000R), x370	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 20, 22], 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]	Emulex LP982-E[17, 27]	FC-AL, FC-SW[33, 36]	N
265	xSeries x440[22, 23]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20]	Emulex LP982-E[17, 27]	FC-AL, FC-SW[33, 36]	N
266	**xSeries x360[14]**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[12, 19, 20, 22], 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**Emulex LP982-E[17, 27]**	FC-AL, FC-SW[33, 36]	N
267	**xSeries x445**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20]**	**Emulex LP982-E[17, 27]**	**FC-AL, FC-SW[33, 36]**	**N**
268	**xSeries x345**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20], v2.4.9-E.16[12, 20];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[12, 20], v2.4.9-e.16[12, 20];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 12]**	**Emulex LP982-E[17, 27]**	FC-AL, FC-SW[33, 36]	N
269	**xSeries x345**	**PCI, PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[12, 43], ES v2.4.9-e.24[12, 43]**	**Emulex LP982-E[10, 17, 27, 32, 33]**	**FC-AL, FC-SW[33, 36]**	**N**
270	**xSeries x235**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[12, 19, 20, 22], v2.4.9-E.12[12, 20];** **Red Hat Linux 7.3: (v2.4.18-3)[12], updated w/ v2.4.18-27.7.x rpm[1, 12]**	**Emulex LP9002-E (LP9002L-E)[10, 25]**	FC-AL, FC-SW[40]	N

1. Requires v6.2.1 or higher Navisphere host agent/CLI.
2. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
3. No MirrorView or SnapView used on boot LUNs.
4. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
5. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
6. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
7. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
8. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
9. (QLA2200) For IBM xSeries and Netfinity servers only.
10. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
11. **Host must be offline for interfamily Symmetrix microcode upgrade.**
12. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
13. **This HBA is equivalent to the qLogic QLA2340.**
14. PowerPath v3.02 not supported on this system
15. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
16. This HBA is equivalent to the qLogic QLA2310.
17. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
18. Supported with QLogic driver v6.04.02 or v6 05.00.
19. Requires v6.0.5 or higher Navisphere host Agent/CLI.
20. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
21. This server only supports 5 Volt HBAs. qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
22. This system is supported with Red Hat 2.1 Advanced Server v2.4.9-E.3 and updated with v2.4.9-E.9, E.10, and E.12 RPMs.
23. PowerPath v3.0.2 b069 is not supported on this system.
24. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
25. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
26. This kernel is limited to 110 devices, not 128.
27. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
28. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
29. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
30. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
31. Requires QLogic driver 4.47 18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65

32. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
33. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
34. **Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.**
35. **For fabric boot support, install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.**
36. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.
37. **The kernel version listed is included in the corresponding standard distributed release.**
38. Requires QLogic driver 4.47.18 and BIOS 1.83.
39. Install with driver provided by RedHat Installer and upgrade to the EMC-approved driver after installation.
40. Single HBA zoning is required regardless of the switch being utilized.
41. Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC-approved driver after installation.
42. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
43. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
44. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
45. **This HBA is equivalent to the QLogic QLA2200.**

NEC

NEC – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**Emulex LP9002-E (LP9002L-E)[13, 19]**	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10, 17]
2	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 17]
3	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**Emulex: LP9802-E[1, 13], LP982-E[1, 13]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 17]
4	**Express 5800: 120Rd-1, 120Rf-2, 140Hd, 140Rc-4, 180Rc-4**	**PCI**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**NEC N8190-105[27]**	**FC-AL, FC-SW**	**Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 14, 17, 25, 26]**
5	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**QLogic QLA2200F[13, 15, 16, 18, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 17, 25, 26]
6	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 11, 17, 18]**	**QLogic QLA2310F-E-SP[13, 22]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 14, 17]
7	**Express 5800: 120Rd-1, 120Rf-2 140Hd, 140Rc-4, 180Rc-4**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 24] v2.4.9-E.12[11, 24], v2.4.9-E.16[11, 24], v2.4.9-E.3[3, 11, 17, 18], v2.4.9-E.9[11, 24], v2.4.9-e.24[11, 28];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 24], v2.4.9-e.16[11, 24], v2.4.9-e.24[11, 28];** **Red Hat Linux 7.3 (v2.4.18-3)[11]**	**NEC N8190-105[27]**	**FC-AL, FC-SW**	**N**
8	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[11, 24], v2.4.9-E.12[11, 24], v2.4.9-E.9[11, 24]**	**QLogic QLA2200F[13, 15, 16]**	FC-AL, FC-SW	N
9	**Express 5800: 120Rd-1, 120Rf-2, 140Hd, 140Rc-4, 180Rc-4**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 24], v2.4.9-e.24[11, 28];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 24], v2.4.9-e.16[11, 24], v2.4.9-e.24[11, 28]**	**NEC N8190-105[27]**	**FC-AL, FC-SW**	**Y[1, 2, 4, 5, 6, 7, 8, 9, 10, 14, 25, 26]**
10	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 24], v2.4.9-E.3[3, 11, 17, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 24], v2.4.9-e.16[11, 24]**	**QLogic QLA2200F-EMC[13, 23]**	FC-AL, FC-SW	N
11	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 24], v2.4.9-E.3[3, 11, 17, 18];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 24], v2.4.9-e.16[11, 24];** **Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2342-E-SP[12]**	FC-AL, FC-SW	N
12	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[11, 24], v2.4.9-E.3[3, 11, 17, 18], v2.4.9-e.24[11, 28];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[11, 24], v2.4.9-e.16[11, 24], v2.4.9-e.24[11, 28];** **Red Hat Linux 7.3 (v2.4.18-3)[11]**	**QLogic QLA2202F-EMC[13, 15, 16, 18, 20, 21, 23, 30, 32]**	**FC-AL, FC-SW**	**N**
13	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 24], ES v2.4.9-e.12[11, 24] ES v2.4.9-e.16[11, 24]	Emulex LP9002-E (LP9002L-E)[13, 19]	FC-AL, FC-SW	Y[2, 4, 5, 6, 7, 8, 9, 10]
14	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 24], ES v2.4.9-e.12[11, 24], ES v2.4.9-e.16[11, 24]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 4, 5, 6, 7, 8, 9, 10]
15	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 24], ES v2.4.9-e.12[11, 24] ES v2.4.9-e.16[11, 24]	Emulex: LP9802-E[1, 13], LP982-E[1, 13]	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10]
16	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 24], ES v2.4.9-e.12[11, 24], ES v2.4.9-e.16[11, 24]**	**QLogic QLA2200F[13, 15, 16, 18, 23]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 25, 26]
17	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[11, 24], ES v2.4.9-e.12[11, 24], ES v2.4.9-e.16[11, 24]**	**QLogic QLA2310F-E-SP[13, 22]**	FC-AL, FC-SW	Y[4, 5, 6, 7, 8, 9, 10, 14]
18	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**Emulex LP9002-E (LP9002L-E)[13, 15, 19, 20, 21]**	**FC-AL, FC-SW**	**Y[2, 4, 5, 6, 7, 8, 9, 10]**
19	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**Emulex LP9802DC-E[1, 13, 15, 20, 21]**	**FC-AL, FC-SW**	**Y[1, 2, 4, 5, 6, 7, 8, 9, 10]**
20	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**Emulex: LP9802-E[1, 13, 15, 20, 21], LP982-E[1, 13, 15, 20, 21]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10]**
21	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**QLogic QLA2200F[13, 15, 20, 21, 29, 30]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 25, 26]**
22	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**QLogic QLA2310F-E-SP[13, 15, 20, 21, 31]**	**FC-AL, FC-SW**	**Y[4, 5, 6, 7, 8, 9, 10, 14]**
23	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[11, 28], ES v2.4.9-e.24[11, 28]**	**QLogic: QLA2200F-EMC[13, 15, 20, 21, 30], QLA2342-E-SP[15, 20, 21, 29, 31]**	**FC-AL, FC-SW**	**N**
24	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2.4 18-3)[11]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[2, 3, 4, 5, 6, 7, 8, 9, 10]
25	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2.4.18-3)[11]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
26	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2 4 18-3)[11]	Emulex: LP9802-E. LP982-E	FC-AL, FC-SW	Y[1, 3, 4, 5, 6, 7, 8, 9, 10]

NEC – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
27	**Express 5800: 120Rd–1, 120Rf–2, 140Hd, 140Rc–4, 180Rc–4**	**PCI**	**Red Hat Linux 7.3 (v2.4.18–3)[11]**	**NEC N8190–105[27]**	**FC–AL, FC–SW**	**Y[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14]**
28	**Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 7.3 (v2.4.18–3)[11]**	**QLogic QLA2200F–EMC[13]**	FC–AL, FC–SW	N
29	**Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 7.3 (v2.4.18–3)[11]**	**QLogic: QLA2310F–E–SP[15, 16], QLA2340–E–SP[15, 16]**	FC–AL, FC–SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 14]**
30	**Express 5800: 120Rd–1, 120Rf–2, 140Hd, 140Rc–4, 180Rc–4**	**PCI**	**Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11]**	**NEC N8190–105[27]**	**FC–AL, FC–SW**	**Y[4, 5, 6, 7, 8, 9, 10, 25, 26]**
31	Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[3, 11]	QLogic QLA2200F	FC–AL, FC–SW	**Y[4, 5, 6, 7, 8, 9, 10, 25, 26]**
32	**Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9–E.3[3, 11, 17, 18]**	**QLogic QLA2340–E–SP[13, 22]**	**FC–AL, FC–SW[20, 21]**	**Y[4, 5, 6, 7, 8, 9, 10, 14, 17]**
33	**Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[11, 24], ES v2.4.9–e.12[11, 24], ES v2.4.9–e.16[11, 24]**	**QLogic QLA2340–E–SP[13, 22]**	**FC–AL, FC–SW[20, 21]**	**Y[4, 5, 6, 7, 8, 9, 10, 14]**
34	**Express 5800: 120Ra–2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[11, 28], ES v2.4.9–e.24[11, 28]**	**QLogic QLA2340–E–SP[13, 15, 31]**	**FC–AL, FC–SW[20, 21]**	**Y[4, 5, 6, 7, 8, 9, 10, 14]**

1. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
2. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
3. Requires v6.2.1 or higher Navisphere host agent/CLI.
4. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
5. Access Logic required, direct connect or fabric. (no booting through switch inter–switch links)
6. No MirrorView or SnapView used on boot LUNs.
7. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
8. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
10. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
11. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
12. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340–E–SP, and QLA2342–E–SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
13. Host must be offline for CLARiiON–licensed (Flare) upgrade and Storage Processor replacement.
14. Requires QLogic driver 4.47.18 driver disk, dd.img–i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
15. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
16. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340–E–SP, and QLA2342–E–SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
17. This kernel is limited to 110 devices, not 128.
18. **Supported with QLogic driver v6.04.02 or v6.05.00.**
19. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
20. FC–AL and FC–SW topologies can co–exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
21. FC–SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC–SW available from selected channels.
22. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
23. Requires v6.0.5 or higher Navisphere host Agent/CLI.
24. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
25. Requires QLogic driver 4.47.18 and BIOS 1.83.
26. Install with driver provided by RedHat Installer and upgrade to the EMC–approved driver after installation.
27. **Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.**
28. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
29. **Single HBA zoning is required regardless of the switch being utilized.**
30. **Requires QLogic driver v6.04.01 (included in 2.4.9–e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
31. **Requires QLogic driver v6.04.01 (included in 2.4.9–e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
32. **Install with driver provided by Red Hat 7.2 Installer and upgrade to the EMC–approved driver after installation.**

SGI IRIX

SGI

SGI – SGI IRIX						
	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Origin 2000	PCI, XIO	SGI IRIX: 6.5.11, 6.5.12, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.18, 6.5.8[7, 8]	SGI: XT–FC–1P–COP–A[1, 7], XT–FC–1P–OPT–A[1, 5, 6]	FC–AL	N
2	Ongin 2000	PCI, XIO	SGI IRIX 6.5.17	SGI PCI–FC–1P–OPT–A	FC–AL, FC–SW	N
3	Origin: 200[2], 3000	PCI	SGI IRIX: 6.5.11, 6.5.12, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI PCI–FC–1P–OPT–A[1]	FC–AL[3] FC–SW[3]	N
4	Origin 3000	PCI	SGI IRIX: 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI PCI–FC–1P–OPT–B[1, 4]	FC–AL[3] FC–SW[3]	N
5	Origin 2000	PCI, XIO	SGI IRIX: 6.5.11, 6.5.12, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.18, 6.5.8[7, 8]	SGI PCI–FC–1P–OPT–A[1]	FC–AL[3] FC–SW[3]	N

1. Uses native HBA driver and firmware
2. RPQ only.
3. FC–AL and FC–SW can run concurrently on separate HBAs on the same Host.
4. PCI–FC–1P–OPT–B supports a data rate of 2 Gb/sec.
5. CX600, CX400, and FC4700 do not require a MIA and are both FC–AL and FC–SW.
6. A MIA is required for FC5500
7. No support for CX600, CX400, and FC4700.
8. FC5500 and Origin 2000 only.

SuSE Linux

Dell

Dell – SuSE Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[1, 2]**	**QLogic QLA2310F–E–SP[3, 10]**	FC–AL, FC–SW	N

Dell – SuSE Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
2	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	PCI	**SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[1, 2]**	**QLogic QLA2200F-EMC[3]**	FC-AL, FC-SW	N
3	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	**PCI**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[18, 19]**	**QLogic: QLA2200F-EMC[3, 21, 22], QLA2310F-E-SP[3, 20, 21]**	**FC-AL, FC-SW**	**N**
4	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	PCI	**SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]**	**QLogic: QLA2200F-EMC[3, 17], QLA2310F-E-SP[3, 16]**	FC-AL, FC-SW	N
5	**PowerEdge: 1750, 2600[4], 4600[4], 6600[4]**	PCI-X	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[1, 2]**	**QLogic QLA2310F-E-SP[3, 10]**	FC-AL, FC-SW	N
6	PowerEdge 6650	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[1, 2]	QLogic QLA2200F-EMC	FC-AL, FC-SW	N
7	**PowerEdge: 1750, 2600[4], 4600[4], 6600[4]**	PCI-X	**SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[1, 2]**	**QLogic QLA2200F-EMC[3]**	FC-AL, FC-SW	N
8	**PowerEdge 6650**	**PCI-X**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[18, 19]**	**QLogic QLA2200F-EMC[21, 22]**	**FC-AL, FC-SW**	**N**
9	**PowerEdge: 1750, 2600[4], 4600[4], 6600[4]**	**PCI-X**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[18, 19]**	**QLogic: QLA2200F-EMC[3, 21, 22], QLA2310F-E-SP[3, 20, 21]**	**FC-AL, FC-SW**	**N**
10	PowerEdge 6650	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic QLA2200F-EMC[17]	FC-AL, FC-SW	N
11	PowerEdge: 1750, **2600[4], 4600[4], 6600[4]**	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic: QLA2200F-EMC[3, 17], QLA2310F-E-SP[3, 16]	FC-AL, FC-SW	N
12	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[1, 2]**	**QLogic QLA2340-E-SP[3, 10]**	FC-AL, FC-SW[11, 12]	N
13	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	**PCI**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[18, 19]**	**QLogic QLA2340-E-SP[3, 20, 21]**	**FC-AL, FC-SW[11, 12]**	**N**
14	**PowerEdge: 1550[4], 1650[4], 2300[4], 2450[4], 2500[4], 2550[4, 9], 4400[4], 6100[4], 6300[4], 6350[4], 6400[4], 6450[4], 8450[4]**	PCI	**SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]**	**QLogic QLA2340-E-SP[3, 16]**	FC-AL, FC-SW[11, 12]	N
15	**PowerEdge: 1750, 2600[4], 4600[4], 6600[4]**	PCI-X	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[1, 2]**	**QLogic QLA2340-E-SP[3, 10]**	FC-AL, FC-SW[11, 12]	N
16	**PowerEdge: 1750, 2600[4], 4600[4], 6600[4]**	**PCI-X**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[18, 19]**	**QLogic QLA2340-E-SP[3, 20, 21]**	**FC-AL, FC-SW[11, 12]**	**N**
17	PowerEdge: 1750, **2600[4], 4600[4], 6600[4]**	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic QLA2340-E-SP[3, 16]	FC-AL, FC-SW[11, 12]	N

1. Requires rev2_sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
2. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
3. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
4. **An RPM from Dell may be used to install the QLogic v6.04.02 or v6.05.00 drivers and may be obtained from the QLogic website at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
5. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
6. Supported with QLogic driver v6.04.02.
7. Requires rev1_sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
8. Requires v6.2.1 or higher Navisphere host agent/CLI.
9. **PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.**
10. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
11. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
12. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
13. Requires QLogic driver v6.04.00 or above.
14. Requires rev3_sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
15. Requires QLogic v6.04.02 driver.
16. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
17. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
18. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
19. **Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
20. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
21. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
    Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65

HPQ

HPQ – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Proliant 6500[4, 5]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]	Emulex: **LP9802DC-E[16, 17, 18]**, LP982-E	FC-AL, FC-SW	N	See[1]
2	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[5, 15], 1850[5], 2500[5], 3000[5], 5000[5], 5500[4, 5], 6000[4, 5], 6400R[5], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[5], 8500, DL320[5], DL360[5], DL360(G2)[5], DL380[5], DL380(G2)[5], DL380(G3), DL580[5], DL580(G2)[5], ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML750[14]**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2310F-E-SP[6, 13]**	FC-AL, FC-SW	N	
3	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[5, 15], 1850[5], 2500[5], 3000[5], 5000[5], 5500[4, 5], 6000[4, 5], 6400R[5], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[5], 8500, DL320[5], DL360[5], DL360(G2)[5], DL380[5], DL380(G2)[5], DL380(G3), DL580[5], DL580(G2)[5], ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML750[14]**	PCI	**SuSE Linux SLES 7: (v2.4.7)[7, 8, 9, 10] updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2200F-EMC[6]**	FC-AL, FC-SW	N	
4	Proliant 6500[4, 5]	PCI	SuSE Linux SLES 7: (v2.4.7)[7, 8, 10] updated with SuSE v2.4.18 rpm[2, 3]	Emulex LP9802-E	FC-AL, FC-SW	N	See[1]
5	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[5, 15], 1850[5], 2500[5], 3000[5], 5000[5], 5500[4, 5], 6000[4, 5], 6400R[5], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[5], 8500, DL320[5], DL360[5], DL360(G2)[5], DL380[5], DL380(G2)[5], DL380(G3), DL580[5], DL580(G2)[5], ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML750[14]**	**PCI**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]**	**QLogic QLA2200F-EMC[6, 17, 27] QLA2310F-E-SP[6, 17, 26]**	**FC-AL, FC-SW**	**N**	

HPQ – SuSE Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
6	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[5, 15], 1850[5], 2500[5], 3000[5], 5000[5], 5500[4, 5], 6000[4, 5], 6400R[5], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[5], 8500, DL320[5], DL360[5], DL360(G2)[5], **DL380[5], DL380(G2)[5], DL380(G3)**, DL580[5], DL580(G2)[5], ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML750[14]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic: QLA2200F-EMC[6, 23]; QLA2310F-E-SP[6, 19]	FC-AL, FC-SW	N	
7	**Proliant: DL560, DL560 (G2), ML570(G2)**	PCI-X	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2310F-E-SP[6, 13]**	FC-AL, FC-SW	N	
8	**Proliant: DL560, DL560 (G2), ML570(G2)**	PCI-X	**SuSE Linux SLES 7: (v2.4.7)[7, 8, 9, 10], updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2200F-EMC[6]**	FC-AL, FC-SW	N	
9	**Proliant: DL560, DL560 (G2), ML570(G2)**	**PCI-X**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]**	**QLogic: QLA2200F-EMC[6, 17, 27]; QLA2310F-E-SP[6, 17, 26]**	**FC-AL, FC-SW**	**N**	
10	Proliant: DL560, **DL560 (G2)**, ML570(G2)	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic: QLA2200F-EMC[6, 23]; QLA2310F-E-SP[6, 19]	FC-AL, FC-SW	N	
11	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2310F-E-SP[6, 13]**	**FC-AL, FC-SW**	**N**	
12	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 7: (v2.4.7)[7, 8, 9, 10], updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2200F-EMC[6]**	**FC-AL, FC-SW**	**N**	
	Proliant DL580(G3)	**PCI, PCI-X**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]**	**QLogic QLA2200F-EMC[6, 17, 27]; QLA2310F-E-SP[6, 17, 26]**	**FC-AL, FC-SW**	**N**	
14	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]**	**QLogic: QLA2200F-EMC[6, 23]; QLA2310F-E-SP[6, 19]**	**FC-AL, FC-SW**	**N**	
15	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[5, 15], 1850[5], 2500[5], 3000[5], 5000[5], 5500[4, 5], 6000[4, 5], 6400R[5], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[5], 8500, DL320[5], DL360[5], DL360(G2)[5], DL380[5], DL380(G2)[5], DL380(G3), DL580[5], DL580(G2)[5], ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML750[14]**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2340-E-SP[6, 13]**	FC-AL, FC-SW[11, 12]	N	
16	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[5, 15], 1850[5], 2500[5], 3000[5], 5000[5], 5500[4, 5], 6000[4, 5], 6400R[5], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[5], 8500, DL320[5], DL360[5], DL360(G2)[5], DL380[5], DL380(G2)[5], DL380(G3), DL580[5], DL580(G2)[5], ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML750[14]**	PCI	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]**	**QLogic QLA2340-E-SP[6, 17, 26]**	**FC-AL, FC-SW[11, 12]**	N	
17	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[5, 15], 1850[5], 2500[5], 3000[5], 5000[5], 5500[4, 5], 6000[4, 5], 6400R[5], 6500[4, 5], 7000[4, 5], 800, 8000[4, 5], 850[5], 8500, DL320[5], DL360[5], DL360(G2)[5], **DL380[5], DL380(G2)[5], DL380(G3)**, DL580[5], DL580(G2)[5], ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML750[14]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic QLA2340-E-SP[6, 19]	FC-AL, FC-SW[11, 12]	N	
18	**Proliant: DL560, DL560 (G2), ML570(G2)**	PCI-X	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2340-E-SP[6, 13]**	FC-AL, FC-SW[11, 12]	N	
19	**Proliant: DL560, DL560 (G2), ML570(G2)**	**PCI-X**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]**	**QLogic QLA2340-E-SP[6, 17, 26]**	**FC-AL, FC-SW[11, 12]**	**N**	
20	Proliant: DL560, **DL560 (G2)**, ML570(G2)	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic QLA2340-E-SP[6, 19]	FC-AL, FC-SW[11, 12]	N	
21	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[2, 3]**	**QLogic QLA2340-E-SP[6, 13]**	**FC-AL, FC-SW[11, 12]**	**N**	
22	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]**	**QLogic QLA2340-E-SP[6, 17, 26]**	**FC-AL, FC-SW[11, 12]**	**N**	
23	**Proliant DL580(G3)**	**PCI, PCI-X**	**SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]**	**QLogic QLA2340-E-SP[6, 19]**	**FC-AL, FC-SW[11, 12]**	**N**	

1. Linux v2.4.x Kernels support a maximum of 128 devices per system.
2. Requires rev2. sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
3. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
4. Includes both Pentium PRO and XEON models
5. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
6. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
7. Supported with QLogic driver v6.04.02.
8. Requires rev1_sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
9. Requires v6.2.1 or higher Navisphere host agent/CLI.
10. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
11. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
12. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
13. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
14. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
15. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
16. **Host must be offline for interfamily Symmetrix microcode upgrade.**
17. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
18. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**

19. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
20. Requires QLogic driver v6.04.00 or above.
21. Requires QLogic v6.04.02 driver.
22. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
23. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
24. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
25. **Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
26. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
27. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

IBM

IBM – SuSE Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2310F-E-SP[14, 20]	FC-AL, FC-SW	N	
2	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2200F-EMC[14]	FC-AL, FC-SW	N	
3	Netfinity 8500R	PCI	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]; SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23]	IBM 00N6881 (QLA2200)[9, 13]	FC-AL, FC-SW	N	
4	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]; SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23]	IBM: 00N6881 (QLA2200)[6, 7, 9], 19K1246(QLA2310)[6, 7, 8], 24P0960(QLA2340)[5, 6, 7]	FC-AL, FC-SW	N	
5	Netfinity 8500R	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic QLA2200F-EMC[7, 14, 30]	FC-AL, FC-SW	N	
6	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic: QLA2200F-EMC[7, 14, 30], QLA2310F-E-SP[7, 14, 27]	FC-AL, FC-SW	N	
7	xSeries x345	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 25]	QLogic: QLA2200F-EMC[14, 26], QLA2310F-E-SP[14, 24], QLA2342-E-SP	FC-AL, FC-SW	N	
8	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 25]	QLogic: QLA2200F-EMC[7, 14, 21, 26], QLA2310F-E-SP[7, 14, 21, 24], QLA2342-E-SP[7, 14, 21, 24]	FC-AL, FC-SW	N	
9	Netfinity 8500R	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 25]	QLogic: QLA2200F-EMC[7, 14, 21, 26], QLA2310F-E-SP[7, 21, 24], QLA2340-E-SP[7, 21, 24], QLA2342-E-SP[7, 14, 21, 24]	FC-AL, FC-SW	N	
10	xSeries x235	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	Emulex LP9002-E (LP9002L-E)[7]	FC-AL, FC-SW	N	See[16]
11	xSeries x235	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	Emulex: LP9802DC-E[7, 17, 21], LP982-E[7, 17]	FC-AL, FC-SW	N	
12	xSeries x440	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2310F-E-SP[14, 20]	FC-AL, FC-SW	N	
13	xSeries x440	PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2200F-EMC[14]	FC-AL, FC-SW	N	
14	xSeries x440	PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]; SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23]	IBM: 00N6881 (QLA2200)[6, 7, 9], 19K1246(QLA2310)[6, 7, 8], 24P0960(QLA2340)[5, 6, 7]	FC-AL, FC-SW	N	
15	xSeries x235	PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 3, 4, 15], updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2200F-EMC[6, 7]	FC-AL, FC-SW	N	
16	xSeries x235	PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 3, 4, 15], updated with SuSE v2.4.18 rpm[11, 12]	QLogic: QLA2310F-E-SP[6, 7], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]	FC-AL, FC-SW	N	See[16]
17	xSeries x235	PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]	Emulex LP9802-E[7, 17]	FC-AL, FC-SW	N	
18	xSeries x235	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic QLA2200F-EMC[7, 30]	FC-AL, FC-SW	N	
19	xSeries x440	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic: QLA2200F-EMC[7, 14, 30], QLA2310F-E-SP[7, 14, 27]	FC-AL, FC-SW	N	
20	xSeries x235	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic: QLA2310F-E-SP[7, 27], QLA2340-E-SP[7, 27], QLA2342-E-SP[7, 14, 27, 31]	FC-AL, FC-SW	N	See[16]
21	xSeries x235	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 25]	QLogic QLA2200F-EMC[7, 26]	FC-AL, FC-SW	N	
22	xSeries x440	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 25]	QLogic: QLA2200F-EMC[7, 14, 21, 26], QLA2310F-E-SP[7, 14, 21, 24], QLA2342-E-SP[7, 14, 21, 24]	FC-AL, FC-SW	N	
23	xSeries x235	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 25]	QLogic: QLA2310F-E-SP[7, 24], QLA2340-E-SP[7, 24], QLA2342-E-SP[7, 14, 24]	FC-AL, FC-SW	N	See[16]
24	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2310F-E-SP[14, 20]	FC-AL, FC-SW	N	

IBM – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
25	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7. (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2200F-EMC[14]	FC-AL, FC-SW	N	
26	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7: (v2.4.7)[1, 2, 3, 4], updated with SuSE v2.4.18 rpm[11, 12]. SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23]	IBM 00N6881 (QLA2200)[6, 7, 9], 19K1246(QLA2310)[6, 7, 8], 24P0960(QLA2340)[5, 6, 7]	FC-AL, FC-SW	N	
27	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic: QLA2200F-EMC[7, 14, 30], QLA2310F-E-SP[7, 14, 27]	FC-AL, FC-SW	N	
28	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 25]	QLogic: QLA2200F-EMC[7, 14, 21, 26], QLA2310F-E-SP[7, 14, 21, 24], QLA2342-E-SP[7, 14, 21, 24]	FC-AL, FC-SW	N	
29	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2340-E-SP[14, 20]	FC-AL, FC-SW[18, 19]	N	
30	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic QLA2340-E-SP[7, 14, 27]	FC-AL, FC-SW[18, 19]	N	
31	xSeries x345	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 25]	QLogic QLA2340-E-SP[14, 24]	FC-AL, FC-SW[18, 19]	N	
32	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 25]	QLogic QLA2340-E-SP[7, 14, 21, 24]	FC-AL, FC-SW[18, 19]	N	
33	xSeries x440	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2340-E-SP[14, 20]	FC-AL, FC-SW[18, 19]	N	
34	xSeries x440	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic QLA2340-E-SP[7, 14, 27]	FC-AL, FC-SW[18, 19]	N	
35	xSeries x440	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 25]	QLogic QLA2340-E-SP[7, 14, 21, 24]	FC-AL, FC-SW[18, 19]	N	
36	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[11, 12]	QLogic QLA2340-E-SP[14, 20]	FC-AL, FC-SW[18, 19]	N	
37	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[28, 29]	QLogic QLA2340-E-SP[7, 14, 27]	FC-AL, FC-SW[18, 19]	N	
38	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[22, 23, 25]	QLogic QLA2340-E-SP[7, 14, 21, 24]	FC-AL, FC-SW[18, 19]	N	

1. Supported with QLogic driver v6.04.02.
2. Requires v6.2.1 or higher Navisphere host agent/CLI.
3. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
4. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
5. **This HBA is equivalent to the qLogic QLA2340.**
6. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
7. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
8. **This HBA is equivalent to the qLogic QLA2310.**
9. (QLA2200) For IBM xSeries and Netfinity servers only.
10. This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
11. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
12. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
13. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
14. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
15. **The kernel version listed is included in the corresponding standard distributed release.**
16. Linux v2.4.x Kernels support a maximum of 128 devices per system.
17. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
18. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
19. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
20. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
21. **Host must be offline for interfamily Symmetrix microcode upgrade.**
22. Requires QLogic v6.04.02 driver
23. Requires rev3_sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
24. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
25. Requires QLogic driver v6.04.00 or above
26. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
27. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
28. **Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
29. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
30. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
31. **Single HBA zoning is required regardless of the switch being utilized.**

Sun Solaris

Sun

Sun – Sun Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Sun Fire 4800**	cPCI	**Sun Solaris: 8[11, 12], 9[12, 20]**	**Emulex LP9002C-E[8, 9]**	FC-AL[13] FC-SW[14, 15, 16]	Y[4]	See[1, 2, 3]

Sun – Sun Solaris

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
2	**Sun Fire 4800**	cPCI	**Sun Solaris: 8[11, 12], 9[12, 20]**	**QLogic QCP2202F-E-SP[8, 18]**	FC-AL[13] FC-SW[14, 15, 16]	Y	See[1, 2, 3]
3	**Sun Fire: 3800[10, 25], 6800**	cPCI	**Sun Solaris: 8[11, 12], 9[20]**	**Emulex LP9002C-E[9]**	FC-AL[13] FC-SW[14, 15, 16]	Y[4, 8]	See[1, 2, 3]
4	**Sun Fire: 3800[10, 25], 6800**	cPCI	**Sun Solaris: 8[11, 12], 9[20]**	**QLogic QCP2202F-E-SP[8]**	FC-AL[13] FC-SW[14, 15, 16]	Y[18]	See[1, 2, 3]
5	Netra: 1120, 1125, 1400, 1405; Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris 2.6[12, 29]	Emulex: LP8000-EMC[8, 9, 19] LP9002-E (LP9002L-E)[8, 9, 10, 30] LP9802-E[8, 10, 21]; QLogic: QLA2340-E-SP[17], QLA2342-E-SP[17]	FC-AL[13] FC-SW[14, 15, 16]	N	See[1, 2, 3]
6	Netra T1	PCI	Sun Solaris: 2.6[12, 29], 7[12, 23], 8[11, 12], 9[12, 20]	Emulex LP8000-EMC[8, 9, 19]	FC-AL[13] FC-SW[14, 15, 16]	N	See[1, 2, 3]
7	Netra T1	PCI	Sun Solaris: 2.6[12, 29], 7[12, 23], 8[11, 12], 9[20]	Emulex: LP9002-E (LP9002L-E)[8, 9, 10, 30], LP9802-E[8, 10, 21]; QLogic: QLA2340-E-SP[17], QLA2342-E-SP[17]	FC-AL[13] FC-SW[14, 15, 16]	N	See[1, 2, 3]
8	Netra: 1120, 1125, 1400, 1405; Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[12, 23], 8[11, 12], 9[12, 20]	Emulex LP8000-EMC[8, 9, 19]	FC-AL[13] FC-SW[14, 15, 16]	Y	See[1, 2, 3]
9	Netra: 1120, 1125, 1400, 1405; Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[12, 23], 8[11, 12], 9[20]	Emulex: LP9002-E (LP9002L-E)[8, 9, 10, 30], LP9802-E[8, 10, 21]	FC-AL[13] FC-SW[14, 15, 16]	Y[4]	See[1, 2, 3]
10	Netra: 1120, 1125, 1400, 1405; Ultra: 220R[24], 250, 30, 420R[24], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[12, 23], 8[11, 12], 9[20]	QLogic: QLA2340-E-SP[17], QLA2342-E-SP[17]	FC-AL[13] FC-SW[14, 15, 16]	Y[18]	See[1, 2, 3]
11	**Netra: 120, 1280;** **Sun Blade: 1000, 150, 2000;** **Sun Fire: V100, V1280, V210, V240**	PCI	**Sun Solaris: 8[11, 12], 9[20]**	**Emulex LP8000-EMC[8, 9, 19]**	FC-AL[13] FC-SW[14, 15, 16]	Y[5, 6, 7]	See[1, 2, 3]
12	**Sun Fire 12K**	PCI	**Sun Solaris: 8[11, 12], 9[20]**	**Emulex LP8000-EMC[8, 9, 19]**	FC-AL[13] FC-SW[14, 15, 16]	Y	See[1, 2, 3]
13	**Sun Fire 15K**	PCI	**Sun Solaris: 8[11, 12], 9[20]**	**Emulex LP8000-EMC[8, 9, 19]**	FC-AL[13] FC-SW[14, 15, 16]	N	See[1, 2, 3]
14	**Sun Fire: 280R, 4800, 4810, 6800, V120, V480, V880**	PCI	**Sun Solaris: 8[11, 12], 9[20]**	**Emulex LP8000-EMC[8, 9, 19]**	FC-AL[13] FC-SW[14, 15, 16]	Y[5, 6, 7, 10]	See[1, 2, 3]
15	**Netra 20**	PCI	**Sun Solaris: 8[11, 12], 9[20]**	**Emulex: LP8000-EMC[8, 9, 19] LP9002-E (LP9002L-E)[8, 9, 10] LP9002DC-E[8, 9, 10] LP9802-E[8, 10, 21];** **QLogic: QLA2340-E-SP[17], QLA2342-E-SP[17]**	FC-AL[13] FC-SW[14, 15, 16]	N	See[1, 2, 3]
16	**Netra: 120, 1280;** **Sun Blade: 1000, 150, 2000;** **Sun Fire: 280R, 4800, 4810, 6800, V100, V120, V1280, V210, V240, V480, V880**	PCI	**Sun Solaris: 8[11, 12], 9[20]**	**Emulex: LP9002-E (LP9002L-E)[8, 9, 10] LP9002DC-E[8, 9, 10] LP9802-E[8, 10, 21]**	FC-AL[13] FC-SW[14, 15, 16]	Y[4, 5, 6, 7]	See[1, 2, 3]
17	**Netra: 120, 1280;** **Sun Blade: 1000, 150, 2000;** **Sun Fire: V100, V1280, V210, V240**	PCI	**Sun Solaris: 8[11, 12], 9[20]**	**QLogic: QLA2340-E-SP[17], QLA2342-E-SP[17]**	FC-AL[13] FC-SW[14, 15, 16]	Y[5, 6, 7, 18]	See[1, 2, 3]
18	**Sun Fire: 280R, 4800, 4810, 6800, V120, V480, V880**	PCI	**Sun Solaris: 8[11, 12], 9[20]**	**QLogic: QLA2340-E-SP[17], QLA2342-E-SP[17]**	FC-AL[13] FC-SW[14, 15, 16]	Y[5, 6, 7, 10, 18]	See[1, 2, 3]
19	Ultra Enterprise: 10000[31], 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	SBUS	Sun Solaris: 2.6[12, 29], 7[12, 28], 8[11, 12], 9[20]	Emulex LP9002S-E[8, 9, 10, 27]	FC-AL[13] FC-SW[14, 15, 16]	Y[4, 26]	See[1, 2, 3]
20	Ultra: 60, 80	PCI	Sun Solaris 7[12, 23]	Emulex LP9002DC-E	FC-AL[13] FC-SW[15, 16]	Y[4]	See[1, 2, 3]
21	**Sun Fire 12K**	PCI	**Sun Solaris 8[11, 12]**	**QLogic: QLA2340-E-SP[17, 32], QLA2342-E-SP[17, 32]**	FC-AL[13] FC-SW[15, 16]	Y	See[1, 2, 3]
22	**Sun Fire 15K**	PCI	**Sun Solaris 8[11, 12]**	**QLogic: QLA2340-E-SP[17, 32], QLA2342-E-SP[17, 32]**	FC-AL[13] FC-SW[15, 16]	N	See[1, 2, 3]
23	**Sun Fire 12K**	PCI	**Sun Solaris 9[20]**	**QLogic: QLA2340-E-SP[17], QLA2342-E-SP[17]**	FC-AL[13] FC-SW[15, 16]	Y	See[1, 2, 3]
24	**Sun Fire 15K**	PCI	**Sun Solaris 9[20]**	**QLogic: QLA2340-E-SP[17], QLA2342-E-SP[17]**	FC-AL[13] FC-SW[15, 16]	N	See[1, 2, 3]
25	Ultra: 30, Enterprise 10000	PCI	Sun Solaris: 7[12, 23], 8[11, 12], 9[12, 20]	Emulex LP9002DC-E	FC-AL[13] FC-SW[15, 16]	Y[4]	See[1, 2, 3]
26	Netra T1	PCI	Sun Solaris: 7[12, 23], 8[11, 12], 9[20]	Emulex LP9002DC-E	FC-AL[13] FC-SW[15, 16]	N	See[1, 2, 3]
27	Netra: 1120, 1125, 1400, 1405; Ultra: 220R[24], 250, 420R[24], 450, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[12, 23], 8[11, 12], 9[20]	Emulex LP9002DC-E	FC-AL[13] FC-SW[15, 16]	Y[4]	See[1, 2, 3]
28	**Ultra: 60, 80**	PCI	**Sun Solaris: 8[11, 12], 9[12, 20]**	**Emulex LP9002DC-E[8, 9, 10]**	FC-AL[13] FC-SW[15, 16]	Y[4]	See[1, 2, 3]
29	**Sun Fire 12K**	PCI	**Sun Solaris: 8[11, 12], 9[20]**	**Emulex: LP9002-E (LP9002L-E)[8, 9, 10, 22], LP9802-E[8, 10, 21]**	FC-AL[13] FC-SW[15, 16]	Y	See[1, 2, 3]

Sun – Sun Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
30	**Sun Fire 15K**	PCI	**Sun Solaris: 8[11, 12], 9[20]**	**Emulex: LP9002-E (LP9002L-E)[8, 9, 10, 22], LP9802-E[8, 10, 21]**	FC-AL[13] FC-SW[15, 16]	N	**See[1, 2, 3]**

1. Optical cables apply to CX600, CX400, FC4500 and FC4700.
2. Sun "clone" hosts are not supported
3. Veritas DMP coexistence with EMC CLARiiON failover packages:
   VERITAS DMP can be enabled and coexist on the same host with ATF or PowerPath. VERITAS Volume Manager 3.5 is the curently recommended version.
   VERITAS DMP, as part of Volume Manager 3.2, can be used to manage CLARiiON arrays without ATF or PowerPath by using CLR-ASL.
4. Emulex LP8000-EMC/LP9002-E/LP9002L-E/LP9002DC-E/LP9802-E requires fcode 1.33a1 Emulex LP9002S-E requires fcode 2.33a0.
5. Requires at least Rev 03 of LP8000-N1 HBA (part # 118031355-03)
6. PCI Boot support is from 1 or 2 servers for FC-AL and from 1 to 4 servers for FC-SW.
7. Note: Boot with DS-8B/DS-16B switches using 2.2.1a or 2.3 switch firmware requires HBA fcode v1.12a1 or higher.
8. See the EMC price book for HBA vendor ordering information. This HBA is not sold by EMC.
9. Requires driver lpfc-SPARC V5.01e. Emulex LP8000-EMC/LP9002-E/LP9002L-E/LP9002C-E/LP9002DC-E/LP9002S-E requires firm-ware 3.90A7, LP9802-E requires firmware 1.00A4, all available at http://www.emulex.com. Supports SNIA HBA API.
10. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
11. **EMC required Sun patches for Solaris 8:**
    108528-21 SunOS 5.8: kernel update patch.
    108974-30 SunOS 5.8: data, uata, dad, sd, and scsi patch.
    109657-09 SunOS 5.8: isp driver patch (for X1062A and X1065A HBAs only).
    109885-12 SunOS 5.8: glm driver patch (for X6541A HBA only).
12. For new installations, core software minimum requirement with
    CX600
    Array software - Access Logix 02.02.1.60.5.005
    Array software - Non-Access Logix 02.02.0.60.5.005
    CX400
    Array software - Access Logix 02.02.1.40.5.006
    Array software Non-Access Logix 02.02.0.40.5.006
13. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
14. FC-AL and FC-SW topologies can co-exist on the same server but not on the same HBA, provided that the different topologies are attached to different HBAs
15. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.
16. FC-SW applies only to CX600, CX400, FC4500 and FC4700
17. Requires Qlogic GUI 1.26 and driver 4.09.
    QCP2202F-E-SP/QLA234x-E-SP requires fcode v2.00.06. Fcode should be loaded on all HBA's at the time of installation.
    The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
20. **EMC required Sun patches for Solaris 9:**
    112233-06 Sun OS 5.9: kernel patch
    112834-02 Sun OS 5.9: patch SCSI
    113277-11 Sun OS 5.9: sd and ssd patch
21. Requires driver rev lpfc-SPARC v5.01e and firmware V1.00a4.
22. **The LP9002-E now ships with LP9002L-E low profile adapter. The older full form factor LP9002-E will not fit into the Sun Fire 12K or 15K.**
23. EMC required Sun patches for PCI at Solaris 7: 106541-24 SunOS 5.7: kernel update patch
24. 64-bit HBAs will not fit into the 32-bit slot due to a physical obstruction.
25. **If ATF is used, requires at least v3.3.0 ATF.**
26. Support for FC-AL or FC-SW.
27. Mixing JNI and Emulex SBUS HBAs on the same host connected to the same storage system is not supported. If there is a business reason to do so, submit an RPQ.
28. EMC required Sun patches for SBUS at Solaris 7: 106541-24 SunOS 5.7: kernel update patch
29. EMC required Sun patches for Solaris 2.6:
    105181-34 SunOS 5.6: kernel update patch
    105356-21 SunOS 5.6: /kernel/drv/ssd and /kernel/drv/sd patch.
    105580-19 SunOS 5.6: /kernel/drv/glm patch (for X6541 HBA only).
30. The Emulex LP9002L-F2 HBA requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can be either 3.3 VDC or 5.0 VDC signaling interface.
31. Dynamic Reconfiguration is supported (Enterpnse 10000 SBus only); requires ATF v3.1.2 or higher
32. **Supports DR on Sun 12K and 15K.**

Clustered Host

HPQ HP-UX

HPQ

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	HP 9000 rp7400[27, 28]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[1]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ A5158A[21]	
2	HP 9000 rp7400[27, 28]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ A6795A[21]	
3	HP 9000 D290	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1, 24]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ A6684A[21]	
4	HP 9000 K-Class[19]	HPQ HP-UX 11.0[1, 7]	HPQ MC/Service Guard: 11.09[5, 6, 8], 11.12[5, 8]	HA: 8	HPQ A3404A[3]	FC-AL
5	HP 9000 rp2450: (A500/440MHz), (A500/550MHz) HP 9000 rp5470 (L3000)[12, 18]	HPQ HP-UX 11.0[1, 7]	HPQ MC/Service Guard: 11.09[5, 6, 8], 11.12[5, 8], 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]; Legato Automated Availability Manager (LAAM) 5.0 (Base)[8]	HA: 8	HPQ A3740A[3]	FC-AL
6	HP 9000: R380, R390	HPQ HP-UX 11.0[1, 7]	HPQ MC/Service Guard: 11.09[5, 6], 11.12[5]	HA: 8[8]	HPQ A3591B	FC-AL
7	HP 9000: D270, D280, D290, D370, D380, D390	HPQ HP-UX 11.0[1, 7]	HPQ MC/Service Guard: 11.09[5, 6], 11.12[5], 11.13[4, 5, 6], 11.14[4, 5, 6]	HA: 8[8]	HPQ A3591B[3]	FC-AL
8	HP 9000: R380, R390	HPQ HP-UX 11.0[1, 7]	HPQ MC/Service Guard: 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]	HA: 8	HPQ A3591B	FC-AL
9	HP 9000: V2200, V2250, V2500, V2600, rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	HPQ MC/Service Guard: 11.09[5, 6, 8], 11.12[5, 8], 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]; Legato Automated Availability Manager (LAAM) 5.0 (Base)[8]	HA: 8	HPQ A3740A[3]	FC-AL
10	HP 9000 N-Class (N4000)[18]	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1, 15]	HPQ MC/Service Guard: 11.09[5, 6, 8], 11.12[4, 5, 8], 11.13[4, 5, 6, 8]	HA: 8	HPQ A3740A	FC-AL
11	HP 9000: R380, R390	HPQ HP-UX 11.0[1, 7]	HPQ MC/Service Guard: 11.09[5, 6], 11.12[5]	HA: 8[8]	HPQ A6684A	FC-AL, FC-SW
12	HP 9000, R380, R390	HPQ HP-UX 11.0[1, 7]	HPQ MC/Service Guard: 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]	HA: 8	HPQ A6684A	FC-AL, FC-SW

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
13	HP 9000 SUPERDOME	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[1, 15]	HPQ MC/Service Guard: 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]; Legato Automated Availability Manager (LAAM) 5.0 (Base)[8]	HA: 8	HPQ: A5158A[9, 10], A6795A[11]	FC-AL, FC-SW
14	HP 9000: rp7405[2], **rp7410[14]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[1]	HPQ MC/Service Guard: 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]	HA: 8	HPQ: A5158A[9, 10], A6795A[11]	FC-AL, FC-SW
15	HP 9000: rp7405[2, 32], **rp7410[14, 32]**	HPQ HP-UX 11i v1.0 (HP-UX 11 11) March 2002[1]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ: A5158A[21], A6795A[21]	FC-AL, FC-SW
16	**HP 9000 rp5430[31]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[1]	**Veritas Cluster Server (VCS) 3.5[22, 23]**	HA: 8	**HPQ A5158A[21]**	FC-AL, FC-SW
17	HP 9000 rp5430	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1]	HPQ MC/Service Guard: 11.09[5, 6, 8] 11.12[5, 8], 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]; Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A5158A[9, 10]	FC-AL, FC-SW
18	HP 9000: R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1]	HPQ MC/Service Guard: 11.09[5, 6], 11.12[5], 11.13[4, 5, 6], 11.14[4, 5, 6]	HA: 8 [8]	HPQ A6684A[20]	FC-AL, FC-SW
19	HP 9000: rp7405[2], **rp7410[14]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1]	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ: A5158A, A6795A	FC-AL, FC-SW
20	HP 9000: V2200, V2250, V2500, V2600[25], rp2405[16], rp2470	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1, 24]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ A5158A[21]	FC-AL, FC-SW
21	HP 9000: D270, D280, D370, D380, D390, R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1, 24]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ A6684A[21]	FC-AL, FC-SW
22	HP 9000: K260, K360, K370, K380, K460, K570, K580	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1, 24]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ A6685A[21]	FC-AL, FC-SW
23	HP 9000: N-Class (N4000), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp7405[2], **rp7410[14]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1, 24]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ: A5158A[21], A6795A[21]	FC-AL, FC-SW
24	HP 9000 SUPERDOME	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[1, 24], 11.11) Feb 2001 CD[1]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ: A5158A[21], A6795A[21]	FC-AL, FC-SW
25	HP 9000: K220, K250, K420, K450	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[1, 24], 11.11) June 2001[1]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ A6685A[21]	FC-AL, FC-SW
26	HP 9000: rp2405[16], rp2470	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[1, 24], 11 11) March 2002[1]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ A6795A[21]	FC-AL, FC-SW
27	HP 9000 rp5430	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[1, 24], 11.11) Sept 2001[1]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ: A5158A[21], A6795A[21]	FC-AL, FC-SW
28	**HP 9000 rp5430[31]**	HPQ HP-UX 11i v1.0 (HP-UX: **11.11)[1]**, 11.11) Sept 2001[1]	**Veritas Cluster Server (VCS) 3.5[22, 23]**	HA: 8	**HPQ A6795A[21]**	FC-AL, FC-SW
29	HP 9000: K220, K250, K420, K450	HPQ HP-UX: 11.0 June 2001[1], 11i v1.0 (HP-UX 11.11) June 2001[1]	HPQ MC/Service Guard: 11.09[5, 6, 8] 11.12[5, 8], 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]	HA: 8	HPQ A6685A[9]	FC-AL, FC-SW
30	HP 9000 rp2405[16]	HPQ HP-UX: 11.0 March 2002[1, 7], 11i v1.0 (HP-UX 11.11) March 2002[1]	HPQ MC/Service Guard: 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]; Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A6795A[11]	FC-AL, FC-SW
31	HP 9000 rp2470	HPQ HP-UX: 11.0 March 2002[1, 7], 11i v1.0 (HP-UX 11.11) March 2002[1]	HPQ MC/Service Guard: 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]; Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ: A5158A[9, 10], A6795A[11]	FC-AL, FC-SW
32	HP 9000 N-Class (N4000)	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	HPQ MC/Service Guard 11.14[4, 5, 6, 8]; Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ: A5158A[9, 10], A6795A[11]	FC-AL, FC-SW
33	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	HPQ MC/Service Guard: 11.09[5, 6, 8] 11.12[5, 8], 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]	HA: 8	HPQ A5158A[3, 9, 10]	FC-AL, FC-SW
34	HP 9000: D270, D280, D370, D380, D390	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	HPQ MC/Service Guard: 11.09[5, 6, 8] 11.12[5, 8], 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]	HA: 8	HPQ A6684A[9]	FC-AL, FC-SW
5	HP 9000 rp5430	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	HPQ MC/Service Guard: 11.09[5, 6, 8] 11.12[5, 8], 11 13[4, 5, 6, 8], 11.14[4, 5, 6, 8]	HA: 8	HPQ A6795A[11]	FC-AL, FC-SW
36	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	HPQ MC/Service Guard: 11.09[5, 6, 8] 11.12[5, 8], 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]	HA: 8	HPQ: A5158A[3, 9, 10], A6795A[11]	FC-AL FC-SW
37	HP 9000: K260, K360, K370, K380, K460, K570, K580	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	HPQ MC/Service Guard: 11.09[5, 6, 8], 11.13[5, 6, 8], 11.14[5, 6, 8]	HA: 8	HPQ A6685A[9]	FC-AL, FC-SW
38	HP 9000 rp2450: (A500/440MHz), (A500/550MHz); HP 9000 rp5430	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A6795A[11]	FC-AL, FC-SW
39	HP 9000: V2200, V2250, V2500, V2600, rp2450 (A500/440MHz), rp2450 (A500/550MHz)	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[8]	HA: 8	HPQ A5158A[3, 9, 10]	FC-AL, FC-SW
40	HP 9000 N-Class (N4000)[18]	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1, 15]	HPQ MC/Service Guard: 11.09[5, 6, 8], 11.12[4, 5, 8], 11.13[4, 5, 6, 8]	HA: 8	HPQ: A5158A[9, 10], A6795A[11]	FC-AL, FC-SW
41	HP 9000 rp5430	HPQ HP-UX 11.0[1, 7]	HPQ MC/Service Guard: 11.09[5, 6, 8] 11.12[5, 8], 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]; Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A5158A[9, 10]	FC-AL, FC-SW[13]
42	HP 9000 rp8400[29, 30]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[1]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ: A5158A[21], A6795A[21]	FC-AL, FC-SW[13]
43	HP 9000 rp8400[17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[1, 18]	HPQ MC/Service Guard: 11.09[5, 6, 8], 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]; Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ: A5158A[9, 10], A6795A[11]	FC-AL, FC-SW[13]
44	HP 9000: rp5405[27], rp5470 (L3000)[12, 26, 27]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1, 24]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ A5158A[21]	FC-AL, FC-SW[13]
45	HP 9000 rp7400	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1, 24]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ A6795A[21]	FC-AL, FC-SW[13]
46	HP 9000: rp5400 (L1000), rp5450 (L2000), rp8400[17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1, 24]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ: A5158A[21], A6795A[21]	FC-AL, FC-SW[13]
47	HP 9000 rp7400	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[1, 24], 11.11) Sept 2001[1]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ A5158A[21]	FC-AL, FC-SW[13]

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
48	HP 9000: rp5405[27], rp5470 (L3000)[12, 26, 27]	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[1, 24], 11.11) Sept 2001[1]	Veritas Cluster Server (VCS) 3.5[22, 23]	HA: 8	HPQ A6795A[21]	FC-AL, FC-SW[13]
49	HP 9000 rp5470 (L3000)[12, 18]	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	HPQ MC/Service Guard: 11.09[5, 6, 8] 11.12[5, 8], 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]	HA: 8	HPQ A5158A[3, 9, 10]	FC-AL, FC-SW[13]
50	HP 9000 rp5470 (L3000)[12]	HPQ HP-UX, 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	HPQ MC/Service Guard: 11.09[5, 6, 8] 11.12[5, 8], 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]	HA: 8	HPQ A6795A[11]	FC-AL, FC-SW[13]
51	HP 9000: rp5400 (L1000), rp5405, rp5450 (L2000)	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	HPQ MC/Service Guard: 11.09[5, 6, 8] 11.12[5, 8], 11.13[4, 5, 6, 8], 11.14[4, 5, 6, 8]	HA: 8	HPQ: A5158A[3, 9, 10], A6795A[11]	FC-AL, FC-SW[13]
52	HP 9000: rp5400 (L1000), rp5405, rp5450 (L2000), rp5470 (L3000)[12]	HPQ HP-UX, 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A6795A[11]	FC-AL, FC-SW[13]
53	HP 9000, rp5400 (L1000), rp5405, rp5450 (L2000), rp5470 (L3000)[12, 18]	HPQ HP-UX: 11.0[1, 7], 11i v1.0 (HP-UX 11.11)[1]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[8]	HA: 8	HPQ A5158A[3, 9, 10]	FC-AL, FC-SW[13]

1. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
2. Virtual Partitions (VPAR) is supported on the rp7405 server with 4.x and 5.x Symmetrix models. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later. Partition Manager B.11.11.01.05 or later. Online Diagnostic revision B.11.11.07.23 or later. server PDC firmware 4.0 or later.
3. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
4. HP-UX 11.0: MC/SG 11.13 and 11.14 LVM only.
   HP-UX 11i: MC/SG 11.13 and 11.14 can be used with LVM, VxVM 3.1 and VxVM 3.2. No DMP node failover supported at this time.
5. Refer to MC/Service Guard Release Notes at www.docs.hp.com for patch requirements.
6. Can mix HP-UX 11.00 and HP-UX 11i in same cluster. all nodes must be MC/SG 11.09, 11.13 or later.
7. See Technical Bulletin T010820 for supported patch levels.
8. 2-node clusters require special configurations. See Support Note S010106A on Customer Service web site.
9. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
10. HP A5158A is enabled in March 2000 HWCR Bundle XSWHWR1100.48 Additional patches may be required for support.
11. Supported with CX600, CX400, FC4500 and FC4700.
12. PA-8700 processors: Initial support with HP-UX 11.0 Sept 2001, HP-UX 11i Sept 2001.
13. Switched fabric (FC-SW) first supported on FC4500, requires Core Software 6.32.05 or higher, Navisphere Agent 4.3 or higher, and Access Logix enabled (data access control enabled).
14. **Virtual Partitions (VPAR) is supported on the rp7405/7410 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.**
15. Patch PHSS_21996 or patches replaced or superseded by are required with HP-UX 11i.
16. Supported in 2-CPU systems only (2-way).
17. Virtual Partitions (VPAR) is supported on the rp8400 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later. Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.
18. rp5470, rp7400: (PA-8700 processors) : Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001 .
19. K2xx, K3xx, K4xx,K5xx
20. Supported with cx600, cx400,fc4500, fc4700
21. For driver versions refer to Base Connectivity Section
22. GAB disks (membership and service group heartbeat disks) are not supported.
23. Review the single attach table for supported PowerPath versions and volume manager restrictions.
24. Symm 6 is qualified with: HP-UX 11i Support Plus Sept '02 bundle = GOLDAPPS11i June '02, GOLDBASE11i June '02 & HWEnable11i Sept '02.
25. Minimum OS version is HP-UX 11.0 990P.
26. Virtual Partitions (VPAR) is supported on the L-class/rp5470 server.
    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 41.02 or later.
27. rp5405, rp5430, rp5470, rp7400: (PA-8700 processors): Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001. Symmetrix microcode supported: 5266.40.28 or higher. 5566.41.28 or higher. 5267.27.19 or higher. 5567.34.19 or higher.
28. Virtual Partitions (VPAR) is supported on the N-class/rp7400 server with 4.x and 5.x Symmetrix models. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later.
29. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or
30. rp8400 requires minimum PDC firmware 13.10 or higher.
31. **rp5405, rp5430, rp5470, rp7400: (PA-8700 processors): Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001.**
32. For rp7405 and rp7410 required minimum PDC firmware is 15.005

HPQ Tru64 UNIX

HPQ

HPQ – HPQ Tru64 UNIX						
No.	Host System	Operating System	Cluster Software	Host Bus Adapter	Adapter Type	Comments
1	AlphaServer: 1200[7], 4000[7], 4100[7], 8200[7], 8400[7], DS10, DS10L, DS20, DS20E, ES40, GS140[7], GS60[7]	HPQ Tru64 UNIX V5.0A	HPQ TruCluster V5.0A	HPQ: KGPSA-BC (380574-001)[8, 9], KGPSA-CA (168794-B21)[3, 4]	FC-SW	See[1]
2	AlphaServer: DS10, DS10L, DS20, DS20E, ES40	HPQ Tru64 UNIX V5.1	HPQ TruCluster V5.1	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-BC (380574-001)[9], KGPSA-CA (168794-B21)[3], KGPSA-DA (261329-B21)[3, 4]	FC-SW	See[1]
3	AlphaServer: GS160, GS320, GS80	HPQ Tru64 UNIX V5.1	HPQ TruCluster V5.1	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-CA (168794-B21)[3], KGPSA-DA (261329-B21)[3, 4]	FC-SW	See[1]
4	AlphaServer: 1200[7], 4000[7], 4100[7], 8200[7], 8400[7], GS140[7], GS60[7]	HPQ Tru64 UNIX V5.1	HPQ TruCluster V5.1	HPQ: KGPSA-BC (380574-001)[8, 9], KGPSA-CA (168794-B21)[3, 4]	FC-SW	See[1]
5	**AlphaServer: DS10, DS20E, DS25[10], ES40, ES45[12], GS160, GS320, GS80**	**HPQ Tru64 UNIX V5.1A**	**HPQ TruCluster V5.1A**	**HPQ FCA2384 (LP9802)[13, 14]**	**FC-SW**	
6	AlphaServer DS20L	HPQ Tru64 UNIX V5.1A	HPQ TruCluster V5.1A	HPQ KGPSA-CA (168794-B21)[3]	FC-SW	See[1]
7	AlphaServer: DS10, DS10L, DS20, DS20E, ES40	HPQ Tru64 UNIX V5.1A	HPQ TruCluster V5.1A	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-BC (380574-001)[9], KGPSA-CA (168794-B21)[3], KGPSA-DA (261329-B21)[3, 4]	FC-SW	See[1]
8	AlphaServer: DS25[10, 11], ES45[11, 12], GS160, GS320, GS80	HPQ Tru64 UNIX V5.1A	HPQ TruCluster V5.1A	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-CA (168794-B21)[3], KGPSA-DA (261329-B21)[3, 4]	FC-SW	See[1]
9	AlphaServer: 1200[7], 4000[7], 4100[7], 8200[7], 8400[7], GS140[7], GS60[7]	HPQ Tru64 UNIX V5.1A	HPQ TruCluster V5.1A	HPQ: KGPSA-BC (380574-001)[8, 9], KGPSA-CA (168794-B21)[3, 4]	FC-SW	See[1]

HPQ – HPQ Tru64 UNIX						
No.	**Host System**	**Operating System**	**Cluster Software**	**Host Bus Adapter**	**Adapter Type**	**Comments**
10	**AlphaServer: DS10, DS20E, DS25[10], ES40, ES45[12], ES47[6], ES80[6], GS1280[6], GS160, GS320, GS80**	**HPQ Tru64 UNIX V5.1B[5]**	**HPQ TruCluster V5.1B**	**HPQ FCA2384 (LP9802)[13, 14]**	**FC-SW**	
11	**AlphaServer DS20L**	**HPQ Tru64 UNIX V5.1B[5]**	**HPQ TruCluster V5.1B**	**HPQ KGPSA-CA (168794-B21)[3]**	FC-SW	**See[1]**
12	**AlphaServer: DS10, DS10L, DS20, DS20E, ES40**	**HPQ Tru64 UNIX V5.1B[5]**	**HPQ TruCluster V5.1B**	**HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-BC (380574-001)[9], KGPSA-CA (168794-B21)[3], KGPSA-DA (261329-B21)[3, 4]**	FC-SW	**See[1]**
13	**AlphaServer. DS25[10, 11], ES45[11, 12], GS160, GS320, GS80**	**HPQ Tru64 UNIX V5.1B[5]**	**HPQ TruCluster V5.1B**	**HPQ. FCA2354 (LP9002)[2, 3, 4]. KGPSA-CA (168794-B21)[3], KGPSA-DA (261329-B21)[3, 4]**	FC-SW	**See[1]**
14	**AlphaServer: ES47[6], ES80[6], GS1280[6]**	**HPQ Tru64 UNIX V5.1B[5]**	**HPQ TruCluster V5.1B**	**HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-DA (261329-B21)[3, 4]**	FC-SW	**See[1]**
15	**AlphaServer: 1200[7], 4000[7], 4100[7], 8200[7], 8400[7], GS140[7], GS60[7]**	**HPQ Tru64 UNIX V5.1B[5]**	**HPQ TruCluster V5.1B**	**HPQ: KGPSA-BC (380574-001)[8, 9], KGPSA-CA (168794-B21)[3, 4]**	FC-SW	**See[1]**

1. Supported on CX600, CX400 and FC4700-2 only.
2. Identical to KGPSA-DA.
3. KGPSA-CA/KGPSA-DA(FCA2354): Minimum firmware revision 3.81A4.
4. KGPSA-CA/KGPSA-DA(FCA2354): Latest firmware revision 3.82A1.
5. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
6. **AlphaServer GS1280,ES80,ES47: Minimum Tru64 V5.1B with Patch Kit 1 (T64V51BB1AS0001-20021229)**
7. KGPSA-BC/KGPSA-CA supported ONLY.
8. KGPSA-BC: Latest firmware revision 3.20X7.
9. KGPSA-BC: Minimum firmware revision 3.03A1
10. Tru64 UNIX V5.1A minimum requirement for DS25.
11. KGPSA-CA and KGPSA-DA(FCA2354) only supported on this server.
12. Tru64 UNIX V5.1A minimum requirement for ES45.
13. **FCA2384(KGPSA-EA): Latest firmware revision 1.00X6**
14. **FCA2384(KGPSA-EA): Minimum firmware revision 1.00X2**

IBM AIX

IBM

IBM – IBM AIX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	7013-S7A	IBM AIX 4.3.3[3, 9, 16]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM 6227	FC-AL
2	p610 7028-6C1; p630: 7028-6C4, 7028-6E4	IBM AIX 5.1[1, 2, 3]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8	IBM 6239	FC-AL, FC-SW
3	7044-170; 7044-270; p610 7028-6E1, p620: 7025-6F0, 7025-6F1; p660: 7026-6H0, 7026-6H1, 7026-6M1	IBM AIX 5.1[1, 2, 3]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8 [8]	IBM 6239	FC-AL, FC-SW
4	p640 7026-B80	IBM AIX 5.1[1, 2, 10]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8	IBM 6239	FC-AL, FC-SW
5	p670 7040-671[7]; p690: 7040-61D[7], 7040-61R[7], 7040-681[7]	IBM AIX 5.1[1, 3]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8 [8]	IBM 6239	FC-AL, FC-SW
6	p650 7038-6M2; p655 7039-651	IBM AIX 5.1[3, 16, 22]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES. 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8 [8]	IBM 6239	FC-AL, FC-SW
7	SP2 9076 +: 06 50X[8, 20], 07 55X[8, 20], 08 T70[8, 20]	IBM AIX 5.1[2, 11, 18]	IBM HACMP/ES: 4.4.1, 4.5; IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[13, 14, 15]	HA: 32, OPS: 8, RAC: 8 [8]	IBM 6228	FC-AL[12], FC-SW
	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node, p680 7017-S85 as SP2 node	IBM AIX 5.1[2, 3, 11]	IBM HACMP/ES: 4.4.1, 4.5; IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[13, 14, 15]	HA: 32, OPS: 8, RAC: 8 [8]	IBM 6228	FC-AL[12], FC-SW
9	7013-S7A as SP2 node, 7015-S7A as SP2 node, 7017-S7A as SP2 node; 7017-S80 as SP2 node, 7026-H80 as SP2 node, 7026-M80 as SP2 node. SP2 9076 +: 06 50X[20], 07 55X[20], 08 T70[20]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[16, 28, 29, 30]	IBM PSSP 3.5 RVSD 3.5 and GPFS 2.1[15, 24, 25, 26, 27]		IBM 6228[4, 23]	FC-AL[12], FC-SW
10	7017-S80, 7044-170; 7044-270; p620: 7025-6F0, 7025-6F1; p660 7026-6H1; p680 7017-S85	IBM AIX 4.3.3[2, 3, 9]	IBM HACMP 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4], FC-SW[4]
11	7017-S80; 7044-170, 7044-270, SP2 9076 +: 06 50X[8, 20], 07 55X[8, 20], 08 T70[8, 20]; p620: 7025-6F0, 7025-6F1; p660 7026-6H1; p680 7017-S85	IBM AIX 4.3.3[2, 3, 9]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4], FC-SW[4]
12	SP2 9076 +: 06 50X[8, 20], 07 55X[8, 20], 08 T70[8, 20]	IBM AIX 4.3.3[2, 3, 9]	IBM PSSP: 3.2 RVSD 3.2 and GPFS 1.3[21], 3.4 RVSD 3.4 and GPFS 1.5[13, 14, 15]	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4], FC-SW[4]

IBM – IBM AIX						
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
13	p610 7028-6E1	IBM AIX 4.3.3[2, 3, 9]	IBM: HACMP 4.5, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM 6228	FC-AL[4] FC-SW[4]
14	7025-F80	IBM AIX 4.3.3[2, 9, 18]	IBM: HACMP 4 4.1. HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
15	7017-S70	IBM AIX 4.3.3[2, 9, 10]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM 6227	FC-AL[4] FC-SW[4]
16	7013-S7A as SP2 node, 7015-S7A as SP2 node, 7017-S7A as SP2 node, 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node. p680 7017-S85 as SP2 node	IBM AIX 4 3.3[16, 17, 18]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
17	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 4.3 3[16, 17, 18]	IBM PSSP: 3.2 RVSD 3.2 and GPFS 1.3[19], 3.4 RVSD 3.4 and GPFS 1.5[13, 14, 15]	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
18	7013-S70 as SP2 node; 7017-S70 as SP2 node	IBM AIX 4.3.3[16, 17, 18]	IBM: HACMP/ES 4.4.1. PSSP 3.2 RVSD 3.2 and GPFS 1.3[19], PSSP 3.4 RVSD 3.4 and GPFS 1.5[13, 14, 15]	HA: 8, OPS: 8, RAC: 8 [8]	IBM 6227	FC-AL[4] FC-SW[4]
19	7015-S70 as SP2 node	IBM AIX 4.3.3[16, 17, 18]	IBM: HACMP/ES 4.4.1, PSSP 3.2 RVSD 3.2 and GPFS 1.3[21], PSSP 3.4 RVSD 3.4 and GPFS 1.5[13, 14, 15]	HA: 8, OPS: 8	IBM 6227	FC-AL[4] FC-SW[4]
20	7013-S7A	IBM AIX 4.3.3[3, 9, 16]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM 6228	FC-AL[4] FC-SW[4]
21	7015-S7A; 7017-S7A; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; p660: 7026-6H0. 7026-6M1	IBM AIX 4.3.3[3, 9, 16]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
22	7025-F50	IBM AIX 4.3.3[10, 16, 17]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
23	7013-S70	IBM AIX 5.1	Legato Automated Availability Manager (LAAM) 5.0 (Base)[5]	HA: 8	IBM 6227	FC-AL[4] FC-SW[4]
24	p650 7038-6M2; p655 7039-651	IBM AIX 5.1	Legato Automated Availability Manager (LAAM) 5.0 (Base)[5]; Veritas Cluster Server (VCS) 2.0[5, 6]	HA: 8	IBM 6228	FC-AL[4] FC-SW[4]
25	p610 7028-6E1	IBM AIX 5.1[1, 2, 3]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1. 4.5	HA: 8, OPS: 8, RAC: 8 [8]	IBM 6228	FC-AL[4] FC-SW[4]
26	7013-S7A; 7015-S7A; 7017-S7A; 7017-S80; 7044-170; 7044-270; p620: 7025-6F0. 7025-6F1; p660: 7026-6H0, 7026-6H1. 7026-6M1; p680 7017-S85	IBM AIX 5.1[1, 2, 3]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8 [8]	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
27	p610 7028-6C1, p630: 7028-6C4 7028-6E4	IBM AIX 5.1[1, 2, 3]	IBM: HACMP 4.4.1, HACMP/ES 4.5	HA: 8, OPS: 8	IBM 6228	FC-AL[4] FC-SW[4]
28	p630. 7028-6C4, 7028-6E4	IBM AIX 5.1[1, 2, 3]	IBM: HACMP 4.5, HACMP/ES 4.4 1	HA: 8, OPS: 8	IBM 6228	FC-AL[4] FC-SW[4]
29	p610: 7028-6C1 7028-6E1, p630: 7028-6C4 7028-6E4	IBM AIX 5.1[1, 2, 3]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[5]; Veritas Cluster Server (VCS) 2.0[5, 6]	HA: 8	IBM 6228	FC-AL[4] FC-SW[4]
30	7013-S7A; 7015-S7A; 7017-S80, 7044-170; 7044-270; p620: 7025-6F0, 7025-6F1. p660: 7026-6H0. 7026-6H1, 7026-6M1; p680 7017-S85	IBM AIX 5.1[1, 2, 3]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[5]; Veritas Cluster Server (VCS) 2.0[5, 6]	HA: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
31	p640 7026-B80	IBM AIX 5.1[1, 2, 10]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES 4.5	HA: 8, OPS: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
32	7013-S70; 7015-S70; 7017-S70	IBM AIX 5.1[1, 2, 10]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1. 4.5	HA: 8, OPS: 8, RAC: 8 [8]	IBM 6227	FC-AL[4] FC-SW[4]
33	7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80	IBM AIX 5.1[1, 2, 10]	IBM HACMP: 4.4 1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8 [8]	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
34	7015-S70; 7017-S70	IBM AIX 5.1[1, 2, 10]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[5]	HA: 8	IBM 6227	FC-AL[4] FC-SW[4]
35	7025-F50, 7025-F80, 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; p640 7026-B80	IBM AIX 5.1[1, 2, 10]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[5]; Veritas Cluster Server (VCS) 2.0[5, 6]	HA: 8	IBM: 6227, 6228	FC-AL[4] FC-SW[4]
36	7013-S70; 7015-S70, 7017-S70	IBM AIX 5.1[1, 2, 10]	Veritas Cluster Server (VCS) 2.0[5, 6]	HA: 8	IBM 6227	FC-AL[4] FC-SW[4]

IBM – IBM AIX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
37	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node. 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node. 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[20] 07 55X[20], 08 T70[20]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node. 7026-6M1 as SP2 node: p680 7017-S85 as SP2 node	IBM AIX 5.1[1, 16, 31, 32]	IBM PSSP 3.5 RVSD 3.5 and GPFS 2.1[15, 24, 25, 26, 27]		IBM 6227[4, 23]	FC-AL[4] FC-SW[4]
38	p670 7040-671[7], p690. 7040-61D[7], 7040-61R[7], 7040-681[7]	IBM AIX 5.1[1, 3]	IBM HACMP. 4 4 1. 4 5; IBM HACMP/ES. 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8[8]	IBM 6228	FC-AL[4] FC-SW[4]
39	p670 7040-671[7]; p690. 7040-61D[7], 7040-61R[7], 7040-681[7]	IBM AIX 5.1[1, 3]	Legato Automated Availability Manager (LAAM) 5 0 (Base)[5]; Veritas Cluster Server (VCS) 2.0[5, 6]	HA: 8	IBM 6228	FC-AL[4] FC-SW[4]
40	7013-S70 as SP2 node; 7015-S70 as SP2 node; 7017-S70 as SP2 node; SP2 9076 +: 06 50X[8, 20], 07 55X[8, 20], 08 T70[8, 20]	IBM AIX 5.1[2, 11, 18]	IBM HACMP/ES: 4 4.1, 4.5; IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[13, 14, 15]	HA. 32, OPS: 8, RAC: 8[8]	IBM 6227	FC-AL[4] FC-SW[4]
41	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node: 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[2, 3, 11]	IBM HACMP/ES: 4.4.1, 4.5; IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[13, 14, 15]	HA: 32, OPS: 8, RAC: 8[8]	IBM 6227	FC-AL[4] FC-SW[4]
[illegible]	p650 7038-6M2; p655 7039-651	IBM AIX 5.1[3, 16, 22]	IBM HACMP· 4.4.1, 4.5, IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8[8]	IBM 6228	FC-AL[4] FC-SW[4]
43	p610 7028-6C1	IBM AIX· 4.3.3[2, 3, 9], 5.1[1, 2, 3]	IBM: HACMP 4 5, HACMP/ES 4.4.1	HA. 8, OPS: 8	IBM 6228	FC-AL[4] FC-SW[4]
44	p640 7026-B80	IBM AIX: 4.3.3[2, 9, 10], 5.1[1, 2, 10]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8	IBM. 6227, 6228	FC-AL[4] FC-SW[4]

1. AIX 5.1-32/64 bit kernel supported. Requires CLArrayS3.5.1 fileset support.
2. Includes support for the FC4700, FC4700-2, CX600, CX400.
3. Minimum PowerPath 3.0.2 is supported.
4. FC-SW and FC-AL are supported on the same server.
5. PowerPath is supported with LVM and JFS
6. GAB disks (membership and service group heartbeat disks) are not supported.
7. Supported in SMP and LPAR modes.
8. For IBM AIX 4.3.3: requires Oracle RAC9i (9.0.1), HACMP/ES 4.4.x. PowerPath 3.0.2 or greater is supported.
   A SAN implementation with ISLs will observe significant delay in failover times if link failures non-contiguous to host HBA occur.
   For IBM AIX 5.1:requires Oracle RAC9i (9.2), HACMP/ES 4.4.x. PowerPath 3.0.2 or greater is supported.
   A SAN implementation with ISLs will observe significant delay in failover times if link failures non-contiguous to host HBA occur.
9. Minimum CLArrayS3.4.3.0.x fileset is supported. Supports FC4700, FC4700-2, with minimum Flare code 8.46.xx.
10. Minimum Powerpath version 3.0.2 is supported.
11. AIX 5 1 supported with 32-bit kernel. Requires minimum EMC ODM fileset support 5.0.0.0.
12. IBM 6227 and IIBM 6228 adapters are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server.
    6227 Filesets: devices.pci/df1000f7.com, devices.pci/df1000f7.diag, devices.pci/df1000f7.rte ;
    6228 Filesets: devices.pci/df1000f7.com, devices.pci/df1000f7.diag, devices.pci/df1000f9.diag, devices.pci/df1000f9.rte
13. Requires minimum PSSP 3.4 APAR IY33448.
14. Requires minimum AIX 4.3.3 with APAR IY22024, Requires PSSP 3.4 with APAR IY32625
15. Refer to Primus case #1.0.128870403.2749464 for configuration instructions.
16. Includes support for FC4700, FC4700-2, CX600. CX400.
17. Minimum CLArrayS3.4.3.0.x fileset is supported. Supports FC4700, FC4700-2 with minimum Flare code 8.46.xx.
18. Minimum Powerpath version 3.0.2 is supported
19. Requires minimum PSSP 3.2 APAR IY18172, IY31012
20. The following link provides detailed data for all 9076-SP2 models and feature codes:
    http://www1.ibmlink.ibm.com/cgi-bin/master?request=salesmanual&parms=SMS&xh=NTZH*daEMSRi4n1USenGnN9332&xhi=usa.main%7Csalesmanual%5E&type=D&search=9076&title=T&product=
    Requires minimum PSSP 3.2 APAR IY18172
    AIX 5.1 supported with 32/64 bit kernel.
23. IBM Native Fibre Channel drivers with feature code 6227 and with feature code 6228 are supported on the same server. Feature 6228 and 6239 are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server. 6227 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f7.rte; 6228 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f9.diag, devices.pci.df1000f9.rte; 6239 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1080f9.diag, devices.pci.df1080f9.rte
24. Requires minimum PSSP APAR IY38509
25. Requires minimum AIX5 1 with maintenance level 03 APAR IY32749
26. Minimum Powerpath version 3.0.3 is supported.
27. PSSP 3.5 supports a 32 or 64 bit kernel.
28. Requires adapter firmware 3.82A1, CLArrayS3.5.1 fileset support. Supports FC4700 with minimum Flare code 8.46.xx.
29. For minimum Powerpath version 3 0.3, minimum CLArray S3 5 1 0.6 version is required.
30. Requires AIX 5.1 with minimum maintenance level 03 APAR 1Y32749.
31. AIX 5 1 supported only with 32-bit kernel.
32. Requires adapter firmware 3.22A1, CLArrayS3.5.1 fileset support. Supports FC4700 with minimum flare code 8.46.xx.

Microsoft Windows 2000

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.

5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Bull

Bull – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Express 5800 180Rb7	Microsoft Windows 2000: Advanced Server SP3[6] Datacenter SP2[6, 7], Datacenter SP3[6], Datacenter SP4, Server SP4	Microsoft MSCS[5]	HA: 4	Emulex LP8000-EMC[1, 2, 3, 4]	FC-AL, FC-SW

1. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
2. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
6. EMC strongly recommends that HBAs of different vendors not be used in the same host server
7. PowerPath not supported. ATF is supported.

DG

DG – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	AViiON: AV1400, AV2800, AV3700, AV3704, AV3800	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[7]	HA: 2	Emulex LP8000-EMC[2, 4, 5, 9]; QLogic: QLA2310F-E-SP[2, 4, 5, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[2, 3, 4]	FC-AL, FC-SW
2	AViiON: AV2300, AV3704R, AV8950	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[2, 4, 5, 9], LP9002-E (LP9002L-E)[2, 5], LP9002DC-E[2, 5], LP9802-E[2, 3, 4, 5], LP9802DC-E[2, 3, 4, 5], LP982-E[2, 3, 4, 5]; QLogic: QLA2310F-E-SP[2, 4, 5, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[2, 3, 4]	FC-AL, FC-SW
3	AViiON: AV1400, AV2800, AV3700, AV3704, AV3800	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[6]	HA: 4	Emulex LP8000-EMC[2, 4, 5, 9]; QLogic: QLA2310F-E-SP[2, 4, 5, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[2, 3, 4]	FC-AL, FC-SW
4	AViiON: AV2300, AV3704R, AV8950	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[6]	HA: 4	Emulex: LP8000-EMC[2, 4, 5, 9], LP9002-E (LP9002L-E)[2, 5], LP9002DC-E[2, 5], LP9802-E[2, 3, 4, 5], LP9802DC-E[2, 3, 4, 5], LP982-E[2, 3, 4, 5]; QLogic: QLA2310F-E-SP[2, 4, 5, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[2, 3, 4]	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
3. PowerPath supported. ATF/CDE not supported.
4. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
5. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
6. GAB disks (membership and service group heartbeat disks) are not supported.
7. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
8. If using ATF/CDE, requires 2.1.6 or greater..
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Dell

Dell – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[14], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
2	**PowerEdge 8450**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2342-E-SP**	
3	PowerEdge 8450	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
4	**PowerEdge 8450**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4, Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[14], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP**	FC-AL, FC-SW
5	**PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[14], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
6	**PowerEdge 8450**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2342-E-SP**	FC-AL, FC-SW
7	PowerEdge 8450[10]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1]		Emulex: LP8000-EMC[6, 8, 9, 14], LP9002-E (LP9002L-E)[6, 9], LP9002DC-E[6, 9], LP9802-E[4, 6, 8, 9], LP9802DC-E[4, 6, 8, 9], LP982-E[4, 6, 8, 9]; QLogic: QLA2310F-E-SP[5, 6, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[4, 6, 8]	FC-AL, FC-SW

Dell – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
8	PowerEdge. 2300. 6100	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1]	HA: 2	Emulex LP8000-EMC[6, 8, 9, 14]. QLogic: QLA2310F-E-SP[5, 6, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[4, 6, 8]	FC-AL, FC-SW
9	PowerEdge: 1550, 1650, 1750, 2400, 2450. 2500. 2550[13] 2600. 4400, 4600, 6300. 6350. 6400, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server. SP2[3], SP3[3], SP4; Microsoft Windows 2000. Datacenter SP4, Server SP4	Microsoft MSCS[1]	HA: 2	Emulex: LP8000-EMC[6, 8, 9, 14], LP9002-E (LP9002L-E)[6, 9], LP9002DC-E[6, 9], LP9802-E[4, 6, 8, 9], LP9802DC-E[4, 6, 8, 9], LP982-E[4, 6, 8, 9]; QLogic: QLA2310F-E-SP[5, 6, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[4, 6, 8]	FC-AL, FC-SW
10	PowerEdge 2650, PowerVault. 750N. 755N, 770N, 775N	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1]	HA: 2	Emulex: LP9002-E (LP9002L-E)[6, 9], LP9002DC-E[6, 9], LP9802-E[4, 6, 8, 9], LP9802DC-E[4, 6, 8, 9], LP982-E[4, 6, 8, 9]; QLogic: QLA2310F-E-SP[5, 6, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[4, 6, 8]	FC-AL, FC-SW
11	PowerEdge: 2300. 6100	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base): Veritas Cluster Server (VCS) 2.0[12]	HA: 4	Emulex LP8000-EMC[6, 8, 9, 14]. QLogic: QLA2310F-E-SP[5, 6, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[4, 6, 8]	FC-AL, FC-SW
12	PowerEdge: 1550, 1650, 1750, 2400, 2450. 2500. 2550[13], 2600. 4400. 4600, 6300. 6350. 6400, 6450, 6600, 6650. 8450	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base): Veritas Cluster Server (VCS) 2.0[12]	HA: 4	Emulex: LP8000-EMC[6, 8, 9, 14], LP9002-E (LP9002L-E)[6, 9], LP9002DC-E[6, 9], LP9802-E[4, 6, 8, 9], LP9802DC-E[4, 6, 8, 9], LP982-E[4, 6, 8, 9]; QLogic: QLA2310F-E-SP[5, 6, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[4, 6, 8]	FC-AL, FC-SW
13	PowerEdge 2650 PowerVault: 750N, 755N, 770N, 775N	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base): Veritas Cluster Server (VCS) 2.0[12]	HA: 4	Emulex: LP9002-E (LP9002L-E)[6, 9], LP9002DC-E[6, 9], LP9802-E[4, 6, 8, 9], LP9802DC-E[4, 6, 8, 9], LP982-E[4, 6, 8, 9]; QLogic: QLA2310F-E-SP[5, 6, 8, 9], QLA2340-E-SP[4, 6, 8, 9], QLA2342-E-SP[4, 6, 8]	FC-AL, FC-SW
14	PowerEdge 8450	Microsoft Windows 2000 Advanced Server. SP2[3], SP4	Oracle 9i RAC 9.2.0.1.0[10, 11]	RAC: 8	Emulex LP982-E	FC-AL, FC-SW
15	PowerEdge. 1650, 1750, 2600, 2650, 4600. 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Oracle 9i RAC 9.2.0.1.0[10, 11]	RAC: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
16	PowerEdge 8450[10]	Microsoft Windows 2000: Advanced Server SP3[3], Datacenter SP2[2, 3], Datacenter SP3[3], Datacenter SP4, Server SP4	Microsoft MSCS[1]	HA: 4	Emulex: LP9002-E (LP9002L-E)[6, 9] LP9002DC-E[6, 9], QLogic: QLA2310F-E-SP[6, 8, 9], QLA2340-E-SP[4, 5, 6, 7, 8, 9]	FC-AL, FC-SW

1. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
2. PowerPath not supported. ATF is supported.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. PowerPath supported. ATF/CDE not supported.
5. If using ATF/CDE, requires 2.1.6 or greater.
6. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
7. For CX200 direct-connect only, boot from array for clusters not supported.
8. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
9. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
10. Supported on CX600, CX400, CX200 and FC4700-2 only.
11. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0.
    VxVM not supported.
    PowerPath 3.0 supported.
12. GAB disks (membership and service group heartbeat disks) are not supported.
13. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
14. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**Primergy: B210, C200, E200, N200**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
2	**Primergy N800**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4,** **Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP**	
3	**Primergy. F200, H200, H250[10], H400. K400, L200, N400, P200. P250, R450**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
4	**Primergy N800**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	

Fujitsu Siemens – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
5	**Primergy: F200, F250[10], H200, H250[10], H400, H450, K400, L200, N400, P200, P250, R450, T850**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E**	
6	**Primergy: B210, C200, E200, N200**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP982-E**	
7	**Primergy: F250[10], H450, T850**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
8	Primergy: F250, H450, T850	Microsoft Windows 2000 Server SP4	Microsoft MSCS[7]	HA: 2	QLogic: QLA2310F-E-SP[2, 3, 4, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[2, 3, 5]	
9	**Primergy: F250[10], H450, T850**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
10	Primergy: F250, H450, T850	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[7]	HA: 2	QLogic: QLA2310F-E-SP[2, 3, 4, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[2, 3, 5]	FC-AL, FC-SW
11	**Primergy N800**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E**	FC-AL, FC-SW
12	**Primergy: F200, F250[10], H200, H250[10], H400, H450, K400, L200, N400, P200, P250, R450, T850**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E**	FC-AL, FC-SW
13	**Primergy: B210, C200, E200, N200**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP982-E**	FC-AL, FC-SW
14	Primergy: F250, H450, T850	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[7]	HA: 2	Emulex: LP8000-EMC[2, 3, 4, 9], LP9002-E (LP9002L-E)[2, 4], LP9002DC-E[2, 4], LP9802-E[2, 3, 4, 5], LP9802DC-E[2, 3, 4, 5], LP982-E[2, 3, 4, 5]	FC-AL, FC-SW
15	Primergy: F250, H450, T850	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[6]	HA: 4	Emulex: LP8000-EMC[2, 3, 4, 9], LP9002-E (LP9002L-E)[2, 4], LP9002DC-E[2, 4], LP9802-E[2, 3, 4, 5], LP9802DC-E[2, 3, 4, 5], LP982-E[2, 3, 4, 5]; QLogic: QLA2310F-E-SP[2, 3, 4, 8], QLA2340-E-SP[2, 3, 4, 5], QLA2342-E-SP[2, 3, 5]	FC-AL, FC-SW
16	**Primergy N800**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
3. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
4. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
5. PowerPath supported. ATF/CDE not supported.
6. GAB disks (membership and service group heartbeat disks) are not supported.
7. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
8. If using ATF/CDE, requires 2.1.6 or greater..
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
10. **Must use standard PCI 32bit/33MHz slot for SCSI**

HPQ

HPQ – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**Proliant: BL40p, DL320[6], DL360[6], DL360(G2)[6], DL360(G3), DL380[6], DL380(G2)[6], DL380(G3), DL560, DL580[6], DL580(G2)[6], DL580(G3), DL740, DL760[6], DL760 (G2), ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML570(G2), ML750[6]**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000 Datacenter: SP2[5], SP3[5], SP4; Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)**	
2	**Proliant 8500**	**Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)**	

HPQ – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
3	**Proliant: 8500, BL40p, DL320[5], DL360[6], DL360(G2)[6], DL360(G3), DL380[6], DL380(G2)[6], DL380(G3), DL560, DL580[6], DL580(G2)[6], DL580(G3), ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML570(G2), ML750[6]**	**Microsoft Windows 2000 Datacenter: SP2[5], SP3[5]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[13], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E, QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
4	**Proliant: DL740, DL760[6], DL760 (G2)**	**Microsoft Windows 2000 Datacenter: SP2[5], SP3[5]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[13], LP9802-E, LP9802DC-E, LP982-E, QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
5	Proliant 8500	Microsoft Windows 2000 Advanced Server SP2[5]	Oracle 9i RAC 9.2.0.1.0[8, 9]	RAC: 8	QLogic QLA2310F-E-SP[1, 2, 10]	FC-AL, FC-SW
6	Proliant: **8500**, BL40p, DL360[6], **DL380[6]**, DL560, DL580[6], DL740, DL760[6], DL760 (G2)	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E[1, 2], LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP[10, 12], QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
7	Proliant BL20p (G2)[22, 23]	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	HPQ Dual-port mezzanine controller card[24, 25]	FC-AL, FC-SW
8	Proliant 6500[6, 20]	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
9	Proliant 8500	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0[8, 9]	RAC: 8	QLogic QLA2310F-E-SP[1, 2, 10, 11, 12]	FC-AL, FC-SW
10	**Proliant: DL740, DL760[6], DL760 (G2)**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000 Datacenter: SP2[5], SP3[5], SP4; Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E**	FC-AL, FC-SW
11	**Proliant BL20p (G2)[22, 23]**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000 Datacenter: SP2[5], SP3[5], SP4; Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ Dual-port mezzanine controller card[24, 25]**	FC-AL, FC-SW
12	**Proliant: 8500, BL40p, DL320[6], DL360[6], DL360(G2)[6], DL360(G3), DL380[6], DL380(G2)[6], DL380(G3), DL560, DL580[6], DL580(G2)[6], DL580(G3), ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML570(G2), ML750[6]**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5], Server SP3[5], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[13], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E: QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
13	**Proliant: DL740, DL760[6], DL760 (G2)**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[5], Server SP3[5], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[13], LP9802-E, LP9802DC-E, LP982-E: QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
14	Netserver LH 4; Proliant: 3000[6], 6500[6, 20], 7000[6, 20], 8000[6, 20]	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	Emulex LP8000-EMC[1, 2, 10, 13]; QLogic: QLA2310F-E-SP[1, 2, 10, 17], QLA2340-E-SP[1, 2, 10, 15], QLA2342-E-SP[1, 10, 15]	FC-AL, FC-SW

HPQ – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
15	Netserver LC, 2000 U3, 2000r[19]; Netserver LH; 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 8500, BL40p, DL320[6], DL360[6], DL360(G2)[6], DL360(G3), **DL380[6], DL380(G2)[6], DL380(G3)**, DL560, DL580[6], DL580(G2)[6], **DL580(G3)**, DL740, DL760[6], DL760 (G2), ML350[6], ML350(G2)[6], ML370[6], ML370(G2), **ML370(G3)**, ML530[6], ML530(G2)[6], ML570[6], ML570(G2)[16], ML750[18]	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP8000-EMC[1, 2, 10, 13], LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2] LP9802-E[1, 2, 10, 15] LP9802DC-E[1, 2, 10, 15] LP982-E[1, 2, 10, 15]; QLogic: QLA2310F-E-SP[1, 2, 10, 17]; QLA2340-E-SP[1, 2, 10, 15]; QLA2342-E-SP[1, 10, 15]	FC-AL, FC-SW
16	Proliant BL20p (G2)[22, 23]	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	HPQ Dual-port mezzanine controller card[24, 25]	FC-AL, FC-SW
17	Netserver LH 4; Proliant: 3000[6], 6500[6, 20], 7000[6, 20], 8000[6, 20]	Microsoft Windows 2000 Advanced Server: SP2[5], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base), Veritas Cluster Server (VCS) 2.0[14]	HA: 4	Emulex LP8000-EMC[1, 2, 10, 13]; QLogic: QLA2310F-E-SP[1, 2, 10, 17]; QLA2340-E-SP[1, 2, 10, 15]; QLA2342-E-SP[1, 10, 15]	FC-AL, FC-SW
18	Netserver LC, 2000 U3, 2000r[19]; Netserver LH; 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant, 8500, BL40p, DL320[6], DL360[6], DL360(G2)[6], DL360(G3), **DL380[6], DL380(G2)[6], DL380(G3)**, DL560, DL580[6], DL580(G2)[6], **DL580(G3)**, DL740, DL760[6], DL760 (G2), ML350[6], ML350(G2)[6], ML370[6], ML370(G2), **ML370(G3)**, ML530[6], ML530(G2)[6], ML570[6], ML570(G2)[16], ML750[18]	Microsoft Windows 2000 Advanced Server: SP2[5], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[14]	HA: 4	Emulex: LP8000-EMC[1, 2, 10, 13], LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2] LP9802-E[1, 2, 10, 15] LP9802DC-E[1, 2, 10, 15] LP982-E[1, 2, 10, 15]; QLogic: QLA2310F-E-SP[1, 2, 10, 17]; QLA2340-E-SP[1, 2, 10, 15]; QLA2342-E-SP[1, 10, 15]	FC-AL, FC-SW
19	Proliant BL20p (G2)[22, 23]	Microsoft Windows 2000 Advanced Server: SP2[5], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[14]	HA: 4	HPQ Dual-port mezzanine controller card[24, 25]	FC-AL, FC-SW
20	Proliant ML530[6], ML530(G2)[6]	Microsoft Windows 2000 Advanced Server: SP2[5], SP4	Oracle 9i RAC 9.2.0.1.0[21]	RAC: 8	Emulex: LP8000-EMC[1, 2, 10, 13], LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2] LP9802-E[1, 2, 10, 15] LP9802DC-E[1, 2, 10, 15] LP982-E[1, 2, 10, 15]; QLogic: QLA2310F-E-SP[1, 2, 10, 17]; QLA2340-E-SP[1, 2, 10, 15]; QLA2342-E-SP[1, 10, 15]	FC-AL, FC-SW
21	Proliant 8500	Microsoft Windows 2000 Advanced Server: SP2[5], SP4	Oracle 9i RAC 9.2.0.1.0[8, 9]	RAC: 8	Emulex: LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2] LP9802-E, LP9802DC-E[1, 2, 10, 15], LP982-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
22	Proliant: DL740, DL760[6, 7], DL760 (G2)	Microsoft Windows 2000: Advanced Server SP3[5], Datacenter SP2[4, 5], Datacenter SP3[5], Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 4	Emulex: LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2]	FC-AL, FC-SW
23	Proliant BL20p (G2)[22, 23]	Microsoft Windows 2000: Advanced Server SP3[5], Datacenter SP2[4, 5], Datacenter SP3[5], Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 4	HPQ Dual-port mezzanine controller card[24, 25]	FC-AL, FC-SW
24	**Proliant 8500**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter: SP2[5], SP3[5];** **Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)**	**FC-SW**

1. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
2. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
3. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
4. PowerPath not supported. ATF is supported.

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5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
7. CX600 only.
8. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0.
   VxVM not supported.
   PowerPath 3.0 supported
9. Supported on CX600, CX400, CX200 and FC4700-2 only
10. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
11. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
12. Requires QLogic driver v6.04.02 and BIOS v1.34.
13. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
14. GAB disks (membership and service group heartbeat disks) are not supported.
15. PowerPath supported. ATF/CDE not supported.
16. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
17. If using ATF/CDE, requires 2.1.6 or greater..
18. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
19. HP NetServer LC2000 is only supported with two processors.Uni-Processor configurations are not supported
20. Includes both Pentium PRO and XEON models
21. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0
    . VxVm not supported. PowerPath 3.0 supported.
22. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
23. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
24. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
25. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN];817789

IBM

IBM – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**xSeries x440**	**Microsoft Windows 2000 Datacenter: SP2[11], SP3[11]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[3], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **IBM 24P0960(QLA2340)[15];** **QLogic: QLA2340-E-SP, QLA2342-E-SP**	
2	**xSeries: X330, X335, X340 (4500R), X342, x230, x232, x235, x240, x250, x255, x345, x350 (6000R), x360, x370**	**Microsoft Windows 2000 Datacenter: SP2[11], SP3[11]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[3], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **IBM: 19K1246(QLA2310)[9], 24P0960(QLA2340)[15];** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
3	**xSeries x445**	**Microsoft Windows 2000 Datacenter: SP2[11], SP3[11]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[3], LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2340-E-SP, QLA2342-E-SP**	
4	Netfinity 6000R	Microsoft Windows 2000 Server SP4	Microsoft MSCS[6]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 2, 4, 7], LP9802DC-E[1, 2, 4, 7], LP982-E[1, 2, 4, 7]; IBM: 19K1246(QLA2310)[1, 2, 4, 9, 10], 24P0960(QLA2340)[1, 2, 4, 7, 14, 15]; QLogic: QLA2310F-E-SP[1, 2, 4, 8], QLA2340-E-SP[1, 2, 4, 7], QLA2342-E-SP[2, 4, 7]	
5	Netfinity 6000R	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[6]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 2, 4, 7], LP9802DC-E[1, 2, 4, 7], LP982-E[1, 2, 4, 7]; IBM 19K1246(QLA2310)[1, 2, 4, 9, 10]; QLogic: QLA2310F-E-SP[1, 2, 4, 8], QLA2340-E-SP[1, 2, 4, 7], QLA2342-E-SP[2, 4, 7]	FC-AL, FC-SW
6	**xSeries x445**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4;** **Microsoft Windows 2000 Datacenter: SP2[11], SP3[11], SP4;** **Microsoft Windows 2000 Server: SP2[11], SP3[11], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E;** **IBM: 19K1246(QLA2310)[9], 24P0960(QLA2340)[15];** **QLogic QLA2310F-E-SP**	**FC-AL, FC-SW**
7	**xSeries x440**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4;** **Microsoft Windows 2000 Datacenter: SP2[11], SP3[11], SP4;** **Microsoft Windows 2000 Server: SP2[11], SP3[11], SP4**	**Microsoft MSCS**	**HA: 4**	**IBM 19K1246(QLA2310)[9];** **QLogic QLA2310F-E-SP**	FC-AL, FC-SW
8	**xSeries x440**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[11], Server SP3[11], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[3], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **IBM 24P0960(QLA2340)[15];** **QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
9	**xSeries: X330, X335, X340 (4500R), X342, x230, x232, x235, x240, x250, x255, x345, x350 (6000R), x360, x370**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[11], Server SP3[11], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[3], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **IBM: 19K1246(QLA2310)[9], 24P0960(QLA2340)[15];** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
10	**xSeries x445**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[11], Server SP3[11], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[3], LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW

IBM – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
11	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[16], 7100	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6]	HA: 2	Emulex LP8000-EMC[1, 2, 3, 4]; IBM: 19K1246(QLA2310)[1, 2, 4, 9, 10], 24P0960(QLA2340)[1, 2, 4, 7, 14, 15]; QLogic: QLA2310F-E-SP[1, 2, 4, 8], QLA2340-E-SP[1, 2, 4, 7], QLA2342-E-SP[2, 4, 7]	FC-AL, FC-SW
12	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 2, 4, 7], LP9802DC-E[1, 2, 4, 7], LP982-E[1, 2, 4, 7]; IBM 19K1246(QLA2310)[1, 2, 4, 9, 10]; QLogic: QLA2310F-E-SP[1, 2, 4, 8], QLA2340-E-SP[1, 2, 4, 7], QLA2342-E-SP[2, 4, 7]	FC-AL, FC-SW
13	Netfinity: 5600, 7600, 8500, xSeries: X340 (4500R), X342, x230, x235, x240, x250, **x255**, **x345**, x350 (6000R), **x360**, x370, x440, **x445**	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6]	HA: 2	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 2, 4, 7], LP9802DC-E[1, 2, 4, 7], LP982-E[1, 2, 4, 7]; IBM: 19K1246(QLA2310)[1, 2, 4, 9, 10], 24P0960(QLA2340)[1, 2, 4, 7, 14, 15]; QLogic: QLA2310F-E-SP[1, 2, 4, 8], QLA2340-E-SP[1, 2, 4, 7], QLA2342-E-SP[2, 4, 7]	FC-AL, FC-SW
14	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[16], 7100	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 4	Emulex LP8000-EMC[1, 2, 3, 4], IBM: 19K1246(QLA2310)[1, 2, 4, 9, 10], 24P0960(QLA2340)[1, 2, 4, 7, 14, 15]; QLogic: QLA2310F-E-SP[1, 2, 4, 8], QLA2340-E-SP[1, 2, 4, 7], QLA2342-E-SP[2, 4, 7]	FC-AL, FC-SW
15	Netfinity: 5600, 7600, xSeries: X330, X335, X340 (4500R), X342, x230, x235, x240, x250, **x255**, **x345**, x350 (6000R), **x360**, x370, x440, **x445**	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 2, 4, 7], LP9802DC-E[1, 2, 4, 7], LP982-E[1, 2, 4, 7]; IBM: 19K1246(QLA2310)[1, 2, 4, 9, 10], 24P0960(QLA2340)[1, 2, 4, 7, 14, 15]; QLogic: QLA2310F-E-SP[1, 2, 4, 8], QLA2340-E-SP[1, 2, 4, 7], QLA2342-E-SP[2, 4, 7]	FC-AL, FC-SW
16	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[5]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 2, 4, 7], LP9802DC-E[1, 2, 4, 7], LP982-E[1, 2, 4, 7]; IBM 19K1246(QLA2310)[1, 2, 4, 9, 10]; QLogic: QLA2310F-E-SP[1, 2, 4, 8], QLA2340-E-SP[1, 2, 4, 7], QLA2342-E-SP[2, 4, 7]	FC-AL, FC-SW
17	**xSeries x360**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP4**	**Oracle 9i RAC 9.2.0.1.0[12, 13]**	RAC: 8	**Emulex: LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E, LP9802DC-E[1, 2, 4, 7], LP982-E:** **IBM: 19K1246(QLA2310)[1, 2, 4, 9], 24P0960(QLA2340)[15];** **QLogic QLA2310F-E-SP[1, 2, 4]**	FC-AL, FC-SW
18	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[16], 7100	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Veritas Cluster Server (VCS) 2.0[5]	HA: 4	Emulex LP8000-EMC[1, 2, 3, 4], IBM: 19K1246(QLA2310)[1, 2, 4, 9, 10], 24P0960(QLA2340)[15]; QLogic: QLA2310F-E-SP[1, 2, 4, 8], QLA2340-E-SP[1, 2, 4, 7], QLA2342-E-SP[2, 4, 7]	FC-AL, FC-SW
19	xSeries: x440, **x445**	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Veritas Cluster Server (VCS) 2.0[5]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 2, 4, 7], LP9802DC-E[1, 2, 4, 7], LP982-E[1, 2, 4, 7]; IBM: 19K1246(QLA2310)[1, 2, 4, 9, 10], 24P0960(QLA2340)[1, 2, 4, 7, 14, 15, 17]; QLogic: QLA2310F-E-SP[1, 2, 4, 8], QLA2340-E-SP[1, 2, 4, 7], QLA2342-E-SP[2, 4, 7]	FC-AL, FC-SW
20	xSeries: X340 (4500R), X342, x230, x235, x240, x250, **x255**, **x345**, x350 (6000R), **x360**, x370	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Veritas Cluster Server (VCS) 2.0[5]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 2, 4, 7], LP9802DC-E[1, 2, 4, 7], LP982-E[1, 2, 4, 7]; IBM: 19K1246(QLA2310)[1, 2, 4, 9, 10], 24P0960(QLA2340)[1, 2, 4, 7, 14, 15]; QLogic: QLA2310F-E-SP[1, 2, 4, 8], QLA2340-E-SP[1, 2, 4, 7], QLA2342-E-SP[2, 4, 7]	FC-AL, FC-SW
21	Netfinity: 5600, 7600; xSeries: X330, X335	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Veritas Cluster Server (VCS) 2.0[5]	HA: 4	Emulex: LP8000-EMC[1, 2, 3, 4], LP9002-E (LP9002L-E)[1, 4], LP9002DC-E[1, 4], LP9802-E[1, 2, 4, 7], LP9802DC-E[1, 2, 4, 7], LP982-E[1, 2, 4, 7]; IBM: 19K1246(QLA2310)[1, 2, 4, 9, 10], 24P0960(QLA2340)[15]; QLogic: QLA2310F-E-SP[1, 2, 4, 8], QLA2340-E-SP[1, 2, 4, 7], QLA2342-E-SP[2, 4, 7]	FC-AL, FC-SW
22	Netfinity 6000R	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[6]	HA: 2	IBM 24P0960(QLA2340)[1, 2, 4, 7, 14, 15]	FC-AL, FC-SW[4]
23	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6]	HA: 2	IBM 24P0960(QLA2340)[1, 2, 4, 7, 14, 15]	FC-AL, FC-SW[4]
24	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 4	IBM 24P0960(QLA2340)[1, 2, 4, 7, 14, 15]	FC-AL, FC-SW
25	Netfinity 8500R	Microsoft Windows 2000 Advanced Server: SP2[11], SP4	Veritas Cluster Server (VCS) 2.0[5]	HA: 4	IBM 24P0960(QLA2340)[15]	FC-AL, FC-SW[4]

IBM – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
26	**eServer BladeCenter HS20 (Model 8678)[21, 22]**	**Microsoft Windows 2000 Advanced Server: SP2[11], SP3[11], SP4;** **Microsoft Windows 2000 Datacenter: SP2[11], SP3[11], SP4;** **Microsoft Windows 2000 Server: SP2[11], SP3[11], SP4**	**Microsoft MSCS[6, 18, 19]**	HA: 4	**IBM HS20 FC Expansion card 48P7061[20]**	FC-SW

1. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
2. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
3. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
4. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
5. GAB disks (membership and service group heartbeat disks) are not supported.
6. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
7. PowerPath supported. ATF/CDE not supported.
8. If using ATF/CDE, requires 2.1.6 or greater..
9. This HBA is equivalent to the qLogic QLA2310.
10. IBM xSeries Servers only:
11. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
12. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0.
    VxVM not supported.
    PowerPath 3.0 supported.
13. Supported on CX600, CX400, CX200 and FC4700-2 only.
14. For CX200 direct-connect only, boot from array for clusters not supported.
15. This HBA is equivalent to the qLogic QLA2340.
16. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
17. If using ATF/CDE, requires 2.1.6 or greater.
18. **Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.**
    MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
    When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"

    This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.
21. **Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).**
22. **EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.**

NCR

NCR – Microsoft Windows 2000					
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter
1	**Worldmark: 4500, 45xx, 4700, 47XX, 4850, 48XX, 4900, 4950, 5100 Series, 5150, 5250, 52XX, 5300, 5350, 8550, S50**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**

1. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
2. **The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.**

Unisys

Unisys – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**ES7000/230; ES7000/500**	**Microsoft Windows 2000 Datacenter: SP2[5], SP3[5];** **Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
2	**ES7000/100**	**Microsoft Windows 2000 Datacenter: SP2[5], SP3[5];** **Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	HA: 4	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	
3	ES7000/230; ES7000/500	Microsoft Windows 2000 Server SP4	Microsoft MSCS		Emulex LP8000-EMC[1, 2, 6, 7]	
4	ES7000/100; ES7000/200[8]	Microsoft Windows 2000 Server SP4	Microsoft MSCS		Emulex LP8000-EMC[1, 2, 6, 7]; Unisys FCH732213-P64 (LP9002L-F2)[5]	
5	ES7000/100; ES7000/200	Microsoft Windows 2000 Server SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP8000-EMC[1, 2, 6, 7], LP9002-E (LP9002L-E)[1, 2], LP9002DC-E[1, 2], LP9802-E[1, 2, 7, 9], LP9802DC-E[1, 2, 7, 9], LP982-E[1, 2, 7, 9]; QLogic: QLA2310F-E-SP[1, 2, 7, 10], QLA2340-E-SP[1, 2, 7, 9], QLA2342-E-SP[1, 7, 9]; Unisys FCH732213-P64 (LP9002L-F2)[5]	

Unisys – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
6	ES7000/230; ES7000/500	Microsoft Windows 2000 Server SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP8000-EMC[1, 2, 6, 7], LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2], QLogic: QLA2310F-E-SP[1, 2, 7, 10], QLA2340-E-SP[1, 2, 7, 9], QLA2342-E-SP[1, 7, 9]	
7	ES7000/230; ES7000/500	Microsoft Windows 2000 Server SP4	Microsoft MSCS[3]	HA: 4	Emulex: LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2]	
8	ES7000/100; ES7000/200	Microsoft Windows 2000 Server SP4	Microsoft MSCS[3]	HA: 4	Emulex: LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2], Unisys FCH732213-P64 (LP9002L-F2)[5]	
9	**ES7000/230; ES7000/500**	**Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E**	
10	**ES7000/100**	**Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic QLA2310F-E-SP**	
11	**ES7000/200**	**Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
12	**ES7000/230; ES7000/500**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
13	**ES7000/100**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
14	ES7000/100; ES7000/200	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP8000-EMC[1, 2, 6, 7], LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2] LP9802-E[1, 2, 7, 9] LP9802DC-E[1, 2, 7, 9], LP982-E[1, 2, 7, 9]; QLogic: QLA2310F-E-SP[1, 2, 7, 10], QLA2340-E-SP[1, 2, 7, 9], QLA2342-E-SP[1, 7, 9]; Unisys FCH732213-P64 (LP9002L-F2)[5]	FC-AL, FC-SW
15	ES7000/230; ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP8000-EMC[1, 2, 6, 7], LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2]; QLogic: QLA2310F-E-SP[1, 2, 7, 10], QLA2340-E-SP[1, 2, 7, 9], QLA2342-E-SP[1, 7, 9]	FC-AL, FC-SW
16	**ES7000/230; ES7000/500**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E**	FC-AL, FC-SW
17	**ES7000/100**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic QLA2310F-E-SP**	FC-AL, FC-SW

Unisys – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
18	**ES7000/200**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
19	**ES7000/230; ES7000/500**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E, LP982-E**	FC-AL, FC-SW
20	ES7000/500; ES7000/520; ES7000/530; ES7000/540	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5], Server SP3[5], Server SP4	Microsoft MSCS	HA: 2	Unisys FCH732213-P64 (LP9002L-F2)	FC-AL, FC-SW
21	ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP9802-E[1, 2, 7, 9], LP9802DC-E[1, 2, 7, 9], LP982-E[1, 2, 7, 9]	FC-AL, FC-SW
22	ES7000/230	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 2	Emulex: LP9802-E[1, 2, 7, 9], LP9802DC-E[1, 2, 7, 9], LP982-E[1, 2, 7, 9]; Unisys FCH732213-P64 (LP9002L-F2)[5]	FC-AL, FC-SW
23	ES7000/100; ES7000/200; ES7000/230; ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[5], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[11]	HA: 4	Emulex: LP8000-EMC[1, 2, 6, 7], LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2] LP9802-E[1, 2, 7, 9] LP9802DC-E[1, 2, 7, 9], LP982-E[1, 2, 7, 9]; QLogic: QLA2310F-E-SP[1, 2, 7, 10], QLA2340-E-SP[1, 2, 7, 9], QLA2342-E-SP[1, 7, 9]; Unisys FCH732213-P64 (LP9002L-F2)[5]	FC-AL, FC-SW
24	ES7000/230; ES7000/500	Microsoft Windows 2000: Advanced Server SP3[5], Datacenter SP2[3, 4, 5], Datacenter SP3[5], Datacenter SP4	Microsoft MSCS		Emulex LP8000-EMC[1, 2, 6, 7]	FC-AL, FC-SW
25	ES7000/100; ES7000/200[8]	Microsoft Windows 2000: Advanced Server SP3[5], Datacenter SP2[3, 4, 5], Datacenter SP3[5], Datacenter SP4	Microsoft MSCS		Emulex LP8000-EMC[1, 2, 6, 7]; Unisys FCH732213-P64 (LP9002L-F2)[5]	FC-AL, FC-SW
26	ES7000/230; ES7000/500	Microsoft Windows 2000: Advanced Server SP3[5], Datacenter SP2[3, 4, 5], Datacenter SP3[5], Datacenter SP4, Server SP4	Microsoft MSCS		Unisys FCH732213-P64 (LP9002L-F2)[5]	FC-AL, FC-SW
27	ES7000/230; ES7000/500	Microsoft Windows 2000: Advanced Server SP3[5], Datacenter SP2[4, 5], Datacenter SP3[5], Datacenter SP4	Microsoft MSCS[3]	HA: 4	Emulex: LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2]	FC-AL, FC-SW
28	ES7000/100; ES7000/200	Microsoft Windows 2000: Advanced Server SP3[5], Datacenter SP2[4, 5], Datacenter SP3[5], Datacenter SP4	Microsoft MSCS[3]	HA: 4	Emulex: LP9002-E (LP9002L-E)[1, 2] LP9002DC-E[1, 2]; Unisys FCH732213-P64 (LP9002L-F2)[5]	FC-AL, FC-SW
29	ES7000/230; ES7000/500	Microsoft Windows 2000: Advanced Server SP3[5], Datacenter SP2[4, 5], Datacenter SP3[5], Datacenter SP4, Server SP4	Microsoft MSCS[3]	HA: 4	Unisys FCH732213-P64 (LP9002L-F2)[5]	FC-AL, FC-SW

1. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
2. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
3. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
4. PowerPath not supported. ATF is supported.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
8. FC4500, FC4700 only.
9. PowerPath supported ATF/CDE not supported
10. If using ATF/CDE, requires 2.1.6 or greater..
11. GAB disks (membership and service group heartbeat disks) are not supported.

Microsoft Windows 2003

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Dell

Dell – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650, 8450	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. PowerPath is not supported
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Primergy: B210, C200, E200, F200, F250[5], H200, H250[5], H400, H450, K400, L200, N200, N400, N800, P200, P250, R450, T850	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E: QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. Must use standard PCI 32bit/33MHz slot for SCSI

HPQ

HPQ – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Proliant: **8500**, BL40p, DL320[4], DL360[4], DL360(G2)[4], DL360(G3), **DL380[4]**, **DL380(G2)[4]**, **DL380(G3)**, DL560, DL580[4], DL580(G2)[4], **DL580(G3)**, DL740, DL760[4], DL760 (G2), ML350[4], ML350(G2)[4], ML370[4], ML370(G2), ML370(G3), ML530[4], ML530(G2)[4], ML570[4], ML570(G2), ML750[4]	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
2	Proliant BL20p (G2)[7, 8]	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	HPQ Dual-port mezzanine controller card[5, 6]	FC-AL, FC-SW
3	Proliant: **8500**, BL40p, DL320[4], DL360[4], DL360(G2)[4], DL360(G3), **DL380[4]**, **DL380(G2)[4]**, **DL380(G3)**, DL560, DL580[4], DL580(G2)[4], **DL580(G3)**, DL740, DL760[4], DL760 (G2), ML350[4], ML350(G2)[4], ML370[4], ML370(G2), ML370(G3), ML530[4], ML530(G2)[4], ML570[4], ML570(G2), ML750[4]	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)	FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
2. PowerPath is not supported.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
5. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
6. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
   Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
7. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

IBM

IBM – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	xSeries: X330, X335, X340 (4500R), X342, x230, x232, x235, x240, x250, **x255**, **x345**, x350 (6000R), **x360**, x370, x440, **x445**	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E: IBM: 19K1246(QLA2310)[1], 24P0960(QLA2340)[5]: QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
2	**eServer BladeCenter HS20 (Model 8678)[11]**	**Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]**	**Microsoft MSCS[7, 8, 9]**	HA: 4	**IBM HS20 FC Expansion card 48P7061[10]**	**FC-SW**

1. This HBA is equivalent to the qLogic QLA2310
2. PowerPath is not supported.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. This HBA is equivalent to the qLogic QLA2340.
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. **Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.**
8. **Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.**
9. **MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.**
10. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"**

This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.

11. EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.

NCR

NCR – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Worldmark 4500, 45xx, 4700, 47XX, 4850, 48XX, 4900, 4950, 5100 Series, 5150, 5250, 52XX, 5300, 5350, 8550, S50	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. PowerPath is not supported.
2. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Unisys

Unisys – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	ES7000/100; ES7000/200; ES7000/230; ES7000/500	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Microsoft Windows NT

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

DG

DG – Microsoft Windows NT						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	AViiON: AV1400, AV2800, AV3700, AV3800	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex LP8000-EMC[3, 4, 5, 7, 8]; QLogic: QLA2310F-E-SP[3, 4, 5, 6], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
2	AViiON: AV2300, AV3704R, AV8950	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 7, 8], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5]; QLogic: QLA2310F-E-SP[3, 4, 5, 6], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
3. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
4. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
5. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
6. If using ATF/CDE, requires 2.0.9 or greater.
7. LP8000 no longer has removable GBICs for copper cable support.
8. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Dell

Dell – Microsoft Windows NT						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	PowerEdge: 2300, 6100	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex LP8000-EMC[3, 4, 5, 8, 9]; QLogic: QLA2310F-E-SP[3, 4, 5, 7], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
2	PowerEdge: 1550, 1650, 1750, 2400, 2450, 2500, 2550[6], 2600, 4600, 6300, 6350, 6400, 6450, 6650, 8450	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 8, 9], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5]; QLogic: QLA2310F-E-SP[3, 4, 5, 7], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
3	PowerEdge 6600	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 8, 9], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5]; QLogic: QLA2310F-E-SP[3, 4, 5, 7], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
4	PowerEdge 2650	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5]; QLogic: QLA2310F-E-SP[3, 4, 5, 7], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
5	PowerEdge 6600	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex LP982-E[3, 4, 5]	FC-AL, FC-SW[4]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
3. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.

4. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
5. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
6. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
7. If using ATF/CDE, requires 2.0.9 or greater
8. LP8000 no longer has removable GBICs for copper cable support.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

HPQ

HPQ – Microsoft Windows NT						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Netserver LH: 3, 4, II, PRO; Netserver: LX PRO, LXR PRO, LXR PRO8; Proliant: 1600[7, 9], 1850[7], 3000[7], 5000[7], 5500[7, 8], 6000[7, 8], 6500[7, 8], 7000[7, 8], 8000[7, 8], 8000 Pro, 8000 Xeon	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex LP8000-EMC[3, 4, 5, 10, 11]; QLogic: QLA2310F-E-SP[3, 4, 5, 12]; QLA2340-E-SP[3, 4, 5]; QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
2	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 2500[7], 6400R[7], 8500, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), **DL380[7]**, **DL380(G2)[7]**, **DL380(G3)**, DL560, DL580[7], DL580(G2)[7], **DL580(G3)**, DL740, DL760[7], DL760 (G2), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), **ML370(G3)**, ML530[7], ML530(G2)[7], ML750[6]	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 10, 11], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5]; QLogic: QLA2310F-E-SP[3, 4, 5, 12]; QLA2340-E-SP[3, 4, 5]; QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
	Proliant 850[7]	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 10, 11], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5]; QLogic: QLA2310F-E-SP[3, 4, 5, 12]; QLA2340-E-SP[3, 4, 5]; QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
3. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
4. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
5. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
6. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
7. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
8. Includes both Pentium PRO and XEON models
9. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. LP8000 no longer has removable GBICs for copper cable support.
12. If using ATF/CDE, requires 2.0.9 or greater.

IBM

IBM – Microsoft Windows NT						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[8], 7100	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex LP8000-EMC[3, 4, 5, 11, 12], IBM: 19K1246(QLA2310)[3, 4, 5, 9, 10], 24P0960(QLA2340)[3, 4, 5, 7, 8]; QLogic: QLA2310F-E-SP[3, 4, 5, 10], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
2	xSeries: x235, **x345**	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 11, 12], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5]; IBM: 19K1246(QLA2310)[3, 4, 5, 9, 10], 24P0960(QLA2340)[3, 4, 5, 7, 8]; QLogic: QLA2310F-E-SP[3, 4, 5, 10], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
3	Netfinity: 5600, 7600, 8500R; xSeries: X340 (4500R), X342, x230, x240, x250, **x255**, x350 (6000R), **x360**, x370, x440, **x445**	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 11, 12], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5]; IBM: 19K1246(QLA2310)[3, 4, 5, 9, 10], 24P0960(QLA2340)[3, 4, 5, 7, 8]; QLogic: QLA2310F-E-SP[3, 4, 5, 10], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW
4	xSeries: x235, **x345**	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex LP982-E[3, 4, 5]	FC-AL, FC-SW[3]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
5. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
6. This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
7. This HBA is equivalent to the qLogic QLA2340.
8. For CX200 direct-connect only, boot from array for clusters not supported.
9. This HBA is equivalent to the qLogic QLA2310.
10. If using ATF/CDE, requires 2.0.9 or greater.
11. LP8000 no longer has removable GBICs for copper cable support.
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Unisys

Unisys – Microsoft Windows NT						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	ES7000/100; ES7000/200	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 7, 8], LP9002-E (LP9002L-E)[3, 4, 5]	FC-AL, FC-SW
2	ES7000/230; ES7000/500	Microsoft Windows NT 4.0 SP6A[1]	Microsoft MSCS[2]	HA: 2	Emulex: LP8000-EMC[3, 4, 5, 7, 8], LP9002-E (LP9002L-E)[3, 4, 5], LP9802-E[3, 4, 5], LP9802DC-E[3, 4, 5], LP982-E[3, 4, 5, 6]	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows NT Server 4.0 Enterprise Edition.
3. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
4. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
5. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
6. For CX200 direct-connect only, boot from array for clusters not supported.
7. LP8000 no longer has removable GBICs for copper cable support.
8. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support

Novell Netware

Dell

Dell – Novell Netware						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	PowerEdge 8450	Novell Netware 5.10: SP5[1, 2, 3, 7], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic QLA2340-E-SP[4]	FC-AL, FC-SW
2	PowerEdge: 2650, 4600, 6600, 6650	Novell Netware 5.10: SP5[1, 2, 3, 7], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP	FC-AL, FC-SW
3	PowerEdge. 2650, 4600, 6600, 6650	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2310F-E-SP	FC-AL, FC-SW
4	PowerEdge 8450	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[4]	FC-AL, FC-SW
5	PowerEdge: 2650, 4600, 6600, 6650	Novell Netware 5.10: SP5[1, 2, 3, 7], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic QLA2340-E-SP[4]	FC-AL, FC-SW[5]
6	PowerEdge 8450	Novell Netware 5.10: SP5[1, 2, 3, 7], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP	FC-AL, FC-SW[5]
7	PowerEdge: 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[6], 2600, 4300, 4400, 6100, 6300, 6350, 6450	Novell Netware 5.10: SP5[1, 2, 3, 7], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[4]	FC-AL, FC-SW[5]
8	PowerEdge: 2650, 4600, 6600, 6650	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2340-E-SP[4]	FC-AL, FC-SW[5]
9	PowerEdge: 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[6], 2600, 4300, 4400, 6100, 6300, 6350, 6450	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[4]	FC-AL, FC-SW[5]

1. Powerpath & ATF supported.
2. Novell Storage Services supported.
3. Maximum number of NWFS volumes that can be mounted is 64.
4. FC-AL for CX200 requires the following:
   1) QLA2340 driver version 6.50v available at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
   2) If the server is an HPQ Proliant DLxxx or Proliant MLxxx series, then ONLY (G2) and (G3) servers are supported.
5. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
6. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
7. Requires NetWare patches: NWPAPT2A and NSS5J.

HPQ

HPQ – Novell Netware						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Netserver LC 2000r. LH PRO	Novell Netware 5.10: SP5[1, 2, 3, 4], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP	FC-AL, FC-SW
2	Netserver LC 2000 U3; Proliant: 1600[9, 11], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 12], 6000[9, 12], 6400R[9], 6500[9, 12], 7000[9, 12], 8000[9, 12], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL360(G3), **DL380[9], DL380(G2)[9], DL380(G3)**, DL560, DL580[9], DL740, DL760[9], DL760 (G2), ML350[9], ML350(G2)[9], ML370[9], ML370(G2), **ML370(G3)**, ML530[9], ML530(G2)[9], ML570[9], ML570(G2)[5], ML750[10]	Novell Netware 5.10: SP5[1, 2, 3, 4], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[6]	FC-AL, FC-SW
3	Proliant: 1600[9, 11], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 12], 6000[9, 12], 6400R[9], 6500[9, 12], 7000[9, 12], 8000[9, 12], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL360(G3), **DL380[9], DL380(G2)[9], DL380(G3)**, DL560, DL580[9], DL740, DL760[9], DL760 (G2), ML350[9], ML350(G2)[9], ML370[9], ML370(G2), **ML370(G3)**, ML530[9], ML530(G2)[9], ML570[9], ML570(G2)[5], ML750[10]	Novell Netware 6.0: SP1[2, 3, 4, 7], SP2[2, 3, 4, 7], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[6]	FC-AL, FC-SW
4	Netserver LH PRO	Novell Netware 6.0: SP1[2, 3, 4], SP2[2, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2310F-E-SP	**FC-AL, FC-SW**
5	Netserver LC 2000 U3	Novell Netware 6.0: SP1[2, 3, 4], SP2[2, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[6]	FC-AL, FC-SW
6	Netserver LC 2000r. LH PRO	Novell Netware 5.10: SP5[1, 2, 3, 4], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic QLA2340-E-SP[6]	FC-AL, FC-SW

HPQ – Novell Netware						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
7	Netserver LH: 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: DL580(G2)[9], **DL580(G3)**	Novell Netware 5.10: SP5[1, 2, 3, 4], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[6]	FC-AL, FC-SW[8]
8	Proliant: DL580(G2)[9], **DL580(G3)**	Novell Netware 6.0: SP1[2, 3, 4, 7], SP2[2, 3, 4, 7], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[6]	FC-AL, FC-SW[8]
9	Netserver LH PRO	Novell Netware 6.0: SP1[2, 3, 4], SP2[2, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2340-E-SP[6]	**FC-AL, FC-SW[8]**
10	Netserver LH: 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	Novell Netware 6.0: SP1[2, 3, 4], SP2[2, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[6]	FC-AL, FC-SW[8]

1. Requires NetWare patches: NWPAPT2A and NSS5J.
2. Powerpath & ATF supported.
3. Novell Storage Services supported.
4. Maximum number of NWFS volumes that can be mounted is 64.
5. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
6. FC-AL for CX200 requires the following:
   1) QLA2340 driver version 6.50v available at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
   2) If the server is an HPQ Proliant DLxxx or Proliant MLxxx series, then ONLY (G2) and (G3) servers are supported. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.
7. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
8. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
9. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
10. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
11. Includes both Pentium PRO and XEON models

IBM

IBM – Novell Netware						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**xSeries x445**	**Novell Netware 5.10: SP5[1, 2, 3, 8], SP6**	**Novell Netware Cluster Services Server (NCS) v1.01**	**HA: 16**	**IBM 24P0960(QLA2340)[1, 4, 5, 6]; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[4]**	**FC-AL, FC-SW**
2	xSeries: **x345**, **x360**, x440	Novell Netware 5.10: SP5[1, 2, 3, 8], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP	FC-AL, FC-SW
3	Netfinity 8500R	Novell Netware 5.10: SP5[1, 2, 3, 8], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[4]	FC-AL, FC-SW
4	xSeries x440	Novell Netware 6.0 SP1[1, 2, 3]	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	IBM 24P0960(QLA2340)[1, 4, 5, 6]	FC-AL, FC-SW
5	**xSeries x445**	**Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3**	**Novell Netware Cluster Services Server (NCS) v1.6**	**HA: 16**	**IBM 24P0960(QLA2340)[1, 4, 5, 6]; QLogic: QLA2310F-E-SP, QLA2340-E-SP[4]**	**FC-AL, FC-SW**
6	xSeries: **x345**, **x360**, x440	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2310F-E-SP	FC-AL, FC-SW
7	Netfinity 8500R	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[4]	FC-AL, FC-SW
	xSeries x440	Novell Netware 5.10: SP5[1, 2, 3, 8], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	IBM 24P0960(QLA2340)[1, 4, 5, 6]; QLogic QLA2340-E-SP[4]	FC-AL, FC-SW[7]
9	**xSeries: x345, x360**	**Novell Netware 5.10: SP5[1, 2, 3, 8], SP6**	**Novell Netware Cluster Services Server (NCS) v1.01**	HA: 16	**QLogic QLA2340-E-SP[4]**	FC-AL, FC-SW[7]
10	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x240, x250, **x255**, x350 (6000R), x370	Novell Netware 5.10: SP5[1, 2, 3, 8], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP[4]	FC-AL, FC-SW[7]
11	xSeries X335	Novell Netware 5.10: SP5[1, 2, 3, 8], SP6	Novell Netware Cluster Services Server (NCS) v1.01	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[4]	FC-AL, FC-SW[7]
12	xSeries: **x345**, **x360**, x440	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic QLA2340-E-SP[4]	FC-AL, FC-SW[7]
13	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x240, x250, **x255**, x350 (6000R), x370	Novell Netware 6.0: SP1[1, 2, 3], SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	QLogic: QLA2310F-E-SP, QLA2340-E-SP[4]	FC-AL, FC-SW[7]
14	xSeries x440	Novell Netware 6.0: SP2[1, 2, 3], SP3	Novell Netware Cluster Services Server (NCS) v1.6	HA: 16	IBM 24P0960(QLA2340)[1, 4, 5, 6]	FC-AL, FC-SW[7]

1. Powerpath & ATF supported.
2. Novell Storage Services supported.
3. Maximum number of NWFS volumes that can be mounted is 64.
4. FC-AL for CX200 requires the following:
   1) QLA2340 driver version 6.50v available at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
   2) If the server is an HPQ Proliant DLxxx or Proliant MLxxx series, then ONLY (G2) and (G3) servers are supported.
5. This HBA is equivalent to the qLogic QLA2340.
6. If using ATF/CDE, requires 2.1.6 or greater.
7. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
8. Requires NetWare patches: NWPAPT2A and NSS5J.
9. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).

Red Hat Linux
Dell

Dell – Red Hat Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[5, 13, 15]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic QLA2342-E-SP[1, 14]	FC-AL, FC-SW
2	PowerEdge 8450[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[5, 13, 15]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic: QLA2310F-E-SP[1, 14], QLA2342-E-SP[1, 14]	FC-AL, FC-SW
3	PowerEdge: 2650[8, 9], 6650[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[5, 13, 15]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic: QLA2340-E-SP[1, 14], QLA2342-E-SP[1, 14]	FC-AL, FC-SW
4	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 2650[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9], 6650[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[5, 13]	Oracle 9i RAC 9.2.0.1.0[7, 10, 11, 12]	RAC: 8	QLogic QLA2342-E-SP[1]	FC-AL, FC-SW
5	PowerEdge 8450[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[5, 13]	Oracle 9i RAC 9.2.0.1.0[7, 10, 11, 12]	RAC: 8	QLogic: QLA2340-E-SP[1, 2], QLA2342-E-SP[1]	FC-AL, FC-SW
6	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 2650[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9], 6650[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[5, 13]	Veritas Cluster Server (VCS) 2.0[19, 20, 21]	HA: 8	QLogic: QLA2310F-E-SP[1, 2, 14], QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW
7	PowerEdge 8450[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[5, 13]	Veritas Cluster Server (VCS) 2.0[19, 20, 21]	HA: 8	QLogic: QLA2310F-E-SP[1], QLA2340-E-SP[1, 2], QLA2342-E-SP[1]	FC-AL, FC-SW
8	**PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 2650[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9], 6650[8, 9]**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 4, 5, 6]**	**Oracle 9i RAC 9.2.0.1.0[7]**	RAC: 8	**QLogic QLA2310F-E-SP[1, 2]**	FC-AL, FC-SW
9	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 2650[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9], 6650[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[5, 13]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic: QLA2310F-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW
10	PowerEdge 8450[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[5, 13]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW
11	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 2650[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9], 6650[8, 9]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[5, 13, 15], v2.4.9-E.12[5, 13]	Oracle 9i RAC 9.2.0.1.0[7, 10, 11, 12]	RAC: 8	QLogic QLA2310F-E-SP[1, 2, 14]	FC-AL, FC-SW
12	PowerEdge 8450[8, 9]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[5, 13], v2.4.9-E.9[5, 13]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic QLA2310F-E-SP[1]	FC-AL, FC-SW
13	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 2650[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9], 6650[8, 9]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[5, 13], v2.4.9-E.9[5, 13]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic QLA2340-E-SP[1]	FC-AL, FC-SW
14	**PowerEdge: 1750, 2600, 2650, 4600, 6450, 8450**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[5, 22], ES v2.4.9-e.24[5, 22]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2342-E-SP**	**FC-AL, FC-SW**
15	**PowerEdge: 6600, 6650**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[5, 22], ES v2.4.9-e.24[5, 22]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	**FC-AL, FC-SW**
16	PowerEdge 8450[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[5, 13, 15]	Oracle 9i RAC 9.2.0.1.0[7, 10, 11, 12]	RAC: 8	QLogic QLA2340-E-SP[1, 2, 14]	FC-AL, FC-SW[16, 17]
17	PowerEdge: 1650[8, 9], 1750, 2600[8, 9], 4600[8, 9], 6450[8, 9], 6600[8, 9]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[5, 13, 15]	Oracle 9i RAC 9.2.0.1.0[10, 11, 12]	RAC: 8	QLogic QLA2340-E-SP[1, 14]	FC-AL, FC-SW[16, 17]
18	**PowerEdge 8450[8, 9]**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 4, 5, 6, 18]**	**Oracle 9i RAC 9.2.0.1.0[7]**	RAC: 8	**QLogic QLA2340-E-SP[1, 2]**	FC-AL, FC-SW[16, 17]
19	**PowerEdge: 1750, 2600, 2650, 4600, 6450, 8450**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[5, 22], ES v2.4.9-e.24[5, 22]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2340-E-SP**	**FC-AL, FC-SW[16, 17]**

1. Requires QLogic driver v6.04.02 and BIOS v1.34
2. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
3. **OCFS (Oracle Cluster File System) is not supported.**
4. **Watchdog Timer should be disabled in ocmargs.ora**
5. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
6. **Supported with QLogic driver v6.04.02 or v6.05.00.**
7. Configuration information available on EMC PowerLink and Avatar: See the Case Study "Oracle 9i RAC on Linux Red Hat 7.1 and Red Hat 2.1 Advanced Server with CLARiiON Storage Arrays" in the EMC Networked Storage Topology Guide.
8. An RPM from Dell may be used to install the QLogic v6.X driver. RPM may be obtained from the QLogic website.
9. QLogic driver is available with Dell/Oracle CC kit.
10. Oracle Cluster File System v1.0 supported with Linux v2.4.9-E9 through E12.
11. Requires patch p2646914_9202_LINUX.zip (Private Network Fix).
    requires patch p2632931_9202_LINUX.zip (9.2.0.2 patch set).
12. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath.
    Booting from EMC storage arrays is NOT supported with PowerPath.
14. Driver v6.04.00 or above must be used with Qlogic HBAs for direct attach configurations.
15. OCFS (Oracle Cluster File System) is supported. Requires patch mount-2.11g-6i386.rpm (ocfs mount support).
16. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
17. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
18. **PowerPath is not supported.**
19. GAB disks (membership and service group heartbeat disks) are not supported.
20. When VxVM is used, EMC recommends VxVM 3.2 update 2, VxFS 3.4 update 1 and above.
21. Review single attach VxVM notes for PowerPath and DMP restrictions.
22. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**

HPQ

HPQ – Red Hat Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 4]	Oracle 9i RAC 9.2.0.1.0[1, 8]	RAC: 8	QLogic QLA2342-E-SP[2, 9, 10, 11]	FC-AL, FC-SW
2	Proliant: 6500[5, 15], DL360[5], **DL380[5]**, DL560, DL580[5]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 4]	Veritas Cluster Server (VCS) 2.0[17, 18, 19]	HA: 8	QLogic QLA2342-E-SP[2]	FC-AL, FC-SW
3	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 4]	Veritas Cluster Server (VCS) 2.0[17, 18, 19]	HA: 8	QLogic: QLA2310F-E-SP[2, 9], QLA2342-E-SP[2, 9, 10, 11]	FC-AL, FC-SW
4	Proliant: DL740, DL760[5], DL760 (G2)	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 4]	Veritas Cluster Server (VCS) 2.0[17, 18, 19]	HA: 8	QLogic: QLA2340-E-SP[2] QLA2342-E-SP[2]	FC-AL, FC-SW
5	**Proliant 8500**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[4, 12, 13, 14]**	**Oracle 9i RAC 9.2.0.1.0[8]**	RAC: 8	**QLogic QLA2310F-E-SP[2, 9]**	FC-AL, FC-SW
6	Proliant: 6500[5, 15], 8500, DL360[5], **DL380[5]**, DL560, DL580[5]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 4]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic QLA2340-E-SP[2]	FC-AL, FC-SW
7	Proliant DL740	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.12[3, 4]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic: QLA2340-E-SP[2] QLA2342-E-SP[2]	FC-AL, FC-SW

HPQ – Red Hat Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
8	Proliant 8500	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.12[3, 4]	Oracle 9i RAC 9.2.0.1.0[1, 8]	RAC: 8	QLogic QLA2310F-E-SP[2, 9]	FC-AL, FC-SW
9	Proliant: 6500[5, 15], DL360[5], **DL380[5]**, DL560, DL580[5]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.12[3, 4], v2.4.9-E.9[3, 4]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic QLA2342-E-SP[2]	FC-AL, FC-SW
10	Proliant: DL760[5], DL760 (G2)	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.12[3, 4], v2.4.9-E.9[3, 4]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW
11	Proliant 8500	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.9[3, 4]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic QLA2342-E-SP[2]	FC-AL, FC-SW
12	**Proliant: DL360(G3), DL380(G3), DL580(G3), DL760 (G2), ML370(G3)**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 20], ES v2.4.9-e.24[4, 20]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2342-E-SP**	**FC-AL, FC-SW**
13	Proliant: 6500[5, 15], DL360[5], **DL380[5]**, DL560, DL580[5]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 4]	Veritas Cluster Server (VCS) 2.0[17, 18, 19]	HA: 8	QLogic QLA2340-E-SP[2]	FC-AL, FC-SW[6, 7]
14	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[3, 4]	Veritas Cluster Server (VCS) 2.0[17, 18, 19]	HA: 8	QLogic QLA2340-E-SP[2, 9]	FC-AL, FC-SW[6, 7]
15	**Proliant 8500**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[4, 12, 13, 14]**	**Oracle 9i RAC 9.2.0.1.0[8]**	RAC: 8	**QLogic QLA2340-E-SP[2, 9]**	FC-AL, FC-SW[6, 7]
16	Proliant: 6500[5, 15], DL360[5], **DL380[5]**, DL560, DL580[5]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.12[3, 4]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic QLA2340-E-SP[2]	FC-AL, FC-SW[6, 7]
17	Proliant 8500	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 16], v2.4.9-E.12[3, 4]	Oracle 9i RAC 9.2.0.1.0[1, 8]	RAC: 8	QLogic QLA2340-E-SP[2, 9]	FC-AL, FC-SW[6, 7]
18	**Proliant: DL360(G3), DL380(G3), DL580(G3), DL760 (G2), ML370(G3)**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 20], ES v2.4.9-e.24[4, 20]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2340-E-SP**	**FC-AL, FC-SW[6, 7]**

2. Oracle Cluster File System v1.0 supported with Linux v2.4.9-E9 through E12.
   Requires QLogic driver v6.04.02 and BIOS v1.34
3. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath.
   Booting from EMC storage arrays is NOT supported with PowerPath.
4. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
5. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
6. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
7. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
8. Configuration information available on EMC PowerLink and Avatar: See the Case Study "Oracle 9i RAC on Linux Red Hat 7.1 and Red Hat 2.1 Advanced Server with CLARiiON Storage Arrays" in the EMC Networked Storage Topology Guide.
9. Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.
10. Driver v6.04.00 or above must be used with Qlogic HBAs for direct attach configurations.
11. Host must be offline for interfamily Symmetrix microcode upgrade.
12. **OCFS (Oracle Cluster File System) is not supported.**
13. **Supported with QLogic driver v6.04.02 or v6.05.00.**
14. **Watchdog Timer should be disabled in ocmargs.ora**
15. Includes both Pentium PRO and XEON models
16. OCFS (Oracle Cluster File System) is supported. Requires patch mount-2.11g-6i386.rpm (ocfs mount support).
17. GAB disks (membership and service group heartbeat disks) are not supported.
18. When VxVM is used, EMC recommends VxVM 3.2 update 2, VxFS 3.4 update 1 and above.
19. Review single attach VxVM notes for PowerPath and DMP restrictions.
20. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**

IBM

IBM – Red Hat Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**xSeries: X335, X342, x345, x360, x370, x440, x445**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 2], ES v2.4.9-e.24[1, 2]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2342-E-SP**	**FC-AL, FC-SW**
2	**xSeries: X335, X342, x345, x360, x370, x440, x445**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 2], ES v2.4.9-e.24[1, 2]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2340-E-SP**	**FC-AL, FC-SW[3, 4]**

2. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
3. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
4. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
5. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**

SGI IRIX

SGI

SGI – SGI IRIX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Origin 2000	SGI IRIX 6.5.17	SGI Failsafe 2.1.2	HA: 2	SGI PCI-FC-1P-OPT-A	FC-AL, FC-SW
2	Origin, 2000, 3000	SGI IRIX: 6.5.11, 6.5.12, 6.5.13, 6.5.14	SGI Failsafe 2.1.1	HA: 2	SGI PCI-FC-1P-OPT-A	FC-AL[1], FC-SW[1]
3	Origin 3000	SGI IRIX: 6.5.13, 6.5.14	SGI Failsafe 2.1.1	HA: 2	SGI PCI-FC-1P-OPT-B	FC-AL[1], FC-SW[1]
4	Origin 3000	SGI IRIX: 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI Failsafe 2.1.2	HA: 2	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B	FC-AL[1], FC-SW[1]
5	Origin 2000	SGI IRIX: 6.5.14, 6.5.15, 6.5.16, 6.5.18	SGI Failsafe 2.1.2	HA: 2	SGI PCI-FC-1P-OPT-A	FC-AL[1], FC-SW[1]

1. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.

Sun Solaris

Sun

Sun – Sun Solaris						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Ultra Enterprise, 10000[25], 3000, 3500, 6000, 6500	Sun Solaris 2.6	Veritas Cluster Server (VCS) 1.3[13]	HA: 8 [14]	Emulex LP9002S-E	FC-AL[6], FC-SW[3, 4, 5]

Sun – Sun Solaris

No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
2	Netra 1400	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[1, 27]	HA: 8	Emulex LP8000-EMC[10]	FC-AL[6] FC-SW[3, 4, 5]
3	Ultra Enterprise 10000[25], 5000	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[1, 27]	HA: 8	Emulex LP9002S-E	FC-AL[6] FC-SW[3, 4, 5]
4	Netra: 1120[19], 1125[19]	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[1, 27]	HA: 8	Emulex LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
5	Netra: 1120, 1125	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[1, 27]	HA: 8	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E)	FC-AL[6] FC-SW[3, 4, 5]
6	Ultra Enterprise: 3000, 3500, 4000, 4500, 5500, 6000, 6500	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[1, 27]	HA: 8	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E, QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
7	Netra: 1405[19] T1; Ultra: 220R[7], 250, 30, 420R[7], 450, 60, 80, Enterprise 10000	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[1, 27]	HA: 8	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9802-E, QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
8	Netra 1400[19]	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[1, 27]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
9	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[7], 250, 30, 420R[7], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 6000, Enterprise 6500	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 1.1.2[1]	HA: 2	Emulex LP9802-E	FC-AL[6] FC-SW[3, 4, 5]
10	Ultra Enterprise 10000[25]	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 2.0[1, 23]	HA: 8	Emulex LP9002S-E	FC-AL[6] FC-SW[3, 4, 5]
11	Ultra Enterprise 10000	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 2.0[1, 23]	HA: 8	Emulex LP9802-E	FC-AL[6] FC-SW[3, 4, 5]
12	Ultra: 220R[7], 250, 420R[7], 450	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 2.0[1, 23]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E	FC-AL[6] FC-SW[3, 4, 5]
13	Ultra Enterprise: 3500, 6500	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 2.0[1, 23]	HA: 8	Emulex: LP9002S-E, LP9802-E	FC-AL[6] FC-SW[3, 4, 5]
14	Sun Fire: 3800, 4800	Sun Solaris 8	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[1, 23, 24]	HA: 8	Emulex LP9002C-E; QLogic QCP2202F-E-SP[22]	FC-AL[6] FC-SW[3, 4, 5]
15	Sun Fire 6800	Sun Solaris 8	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[1, 23, 24]	HA: 8	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic QCP2202F-E-SP[22]	FC-AL[6] FC-SW[3, 4, 5]
16	Netra 1280; Sun Fire: 280R, 4800[13], 4810[13], V1280, V240, V480, V880	Sun Solaris 8	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[1, 23, 24]	HA: 8	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E	FC-AL[6] FC-SW[3, 4, 5]
17	Sun Fire: 3800, 4800	Sun Solaris 8	Veritas Cluster Server (VCS) 1.3[13]	HA: 8 [14]	Emulex LP9002C-E; QLogic QCP2202F-E-SP[22]	FC-AL[6] FC-SW[3, 4, 5]
18	Sun Fire 6800	Sun Solaris 8	Veritas Cluster Server (VCS) 1.3[13]	HA: 8 [14]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic QCP2202F-E-SP[22]	FC-AL[6] FC-SW[3, 4, 5]
19	Netra 1280; Sun Fire: 280R, 4800[13], 4810[13], V1280, V240, V480, V880	Sun Solaris 8	Veritas Cluster Server (VCS) 1.3[13]	HA: 8 [14]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E	FC-AL[6] FC-SW[3, 4, 5]
20	Ultra Enterprise 10000[25]	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[1, 23, 24]	HA: 8	Emulex LP9002S-E	FC-AL[6] FC-SW[3, 4, 5]
21	Ultra Enterprise 10000	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[1, 23, 24]	HA: 8	Emulex LP9802-E	FC-AL[6] FC-SW[3, 4, 5]
22	Ultra: 220R[7], 250, 420R[7], 450	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[1, 23, 24]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E	FC-AL[6] FC-SW[3, 4, 5]
23	Ultra Enterprise: 3500, 6500	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[1, 23, 24]	HA: 8	Emulex: LP9002S-E, LP9802-E	FC-AL[6] FC-SW[3, 4, 5]
24	Ultra Enterprise 4500	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[1, 24]	HA: 8	Emulex: LP9002S-E, LP9802-E, QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
25	Netra 1280; Sun Fire: 280R, 4800, 4810, 6800, V1280, V240, V480, V880; Ultra: 220R[7], 250, 420R[7], 450, Enterprise 10000, Enterprise 3500, Enterprise 6500	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[1, 24]	HA: 8	QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
26	Sun Fire 3800	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[1, 8]	HA: 8	Emulex LP9002C-E; QLogic QCP2202F-E-SP	FC-AL[6] FC-SW[3, 4, 5]

Sun – Sun Solaris						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
27	Sun Fire: 4800, 6800	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[1, 8]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
28	Netra 1280; Sun Fire: 280R, 4810, V1280, V240, V480, V880	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[1, 8]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
29	Ultra: 220R[7], 250, 420R[7], 450	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[1, 8]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
30	Ultra Enterprise: 10000, 3500, 4500, 6500	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[1, 8]	HA: 8	Emulex: LP9002S-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
31	**Sun Fire 3800**	Sun Solaris 8 Update 7[11]	**Sun Sun Cluster 3.1[29, 30]**	**HA: 2**	**Emulex LP9002C-E; QLogic QCP2202F-E-SP**	FC-AL[6] FC-SW[3, 4, 5]
32	**Ultra Enterprise: 10000, 3500, 4500, 5500, 6500**	Sun Solaris 8 Update 7[11]	**Sun Sun Cluster 3.1[29, 30]**	**HA: 2**	**Emulex LP9002S-E**	FC-AL[6] FC-SW[3, 4, 5]
33	**Sun Fire: 4800, 6800**	Sun Solaris 8 Update 7[11]	**Sun Sun Cluster 3.1[29, 30]**	**HA: 2**	**Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002C-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL[6] FC-SW[3, 4, 5]
34	**Netra 1280; Sun Fire: 280R, 4810, V1280, V240, V480, V880**	Sun Solaris 8 Update 7[11]	**Sun Sun Cluster 3.1[29, 30]**	**HA: 2**	**Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[6] FC-SW[3, 4, 5]
35	**Ultra: 220R[7], 250, 420R[7], 450**	Sun Solaris 8 Update 7[11]	**Sun Sun Cluster 3.1[29, 30]**	**HA: 2**	**Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[6] FC-SW[3, 4, 5]
36	**Sun Fire 3800**	**Sun Solaris 8[11]**	**Sun Sun Cluster 3.0 Update 3[20]**	HA: 4 [21] OPS: 4 [21] RAC: 4 [21]	**Emulex LP9002C-E; QLogic QCP2202F-E-SP**	FC-AL[6] FC-SW[3, 4, 5]
37	**Ultra Enterprise: 10000, 3500, 4500, 5500, 6500**	**Sun Solaris 8[11]**	**Sun Sun Cluster 3.0 Update 3[20]**	HA: 4 [21] OPS: 4 [21] RAC: 4 [21]	**Emulex LP9002S-E**	FC-AL[6] FC-SW[3, 4, 5]
38	**Sun Fire: 4800, 6800**	**Sun Solaris 8[11]**	**Sun Sun Cluster 3.0 Update 3[20]**	HA: 4 [21] OPS: 4 [21] RAC: 4 [21]	**Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002C-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL[6] FC-SW[3, 4, 5]
39	**Netra 1280; Sun Fire: 280R, 4810, V1280, V240, V480, V880**	**Sun Solaris 8[11]**	**Sun Sun Cluster 3.0 Update 3[20]**	HA: 4 [21] OPS: 4 [21] RAC: 4 [21]	**Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[6] FC-SW[3, 4, 5]
40	**Ultra: 220R[7], 250, 420R[7], 450**	**Sun Solaris 8[11]**	**Sun Sun Cluster 3.0 Update 3[20]**	HA: 4 [21] OPS: 4 [21] RAC: 4 [21]	**Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[6] FC-SW[3, 4, 5]
41	Netra 1280; Sun Fire: 280R, 4800, 4810, 6800, V1280, V240, V480, V880	Sun Solaris 8[11]	Veritas Cluster Server (VCS) 3.5[1, 8]	HA: 8	Emulex LP8000-EMC[10]	FC-AL[6] FC-SW[3, 4, 5]
42	Ultra Enterprise 5500	Sun Solaris 8[11]	Veritas Cluster Server (VCS): 2.0[1, 24], 3.5[1, 8]	HA: 8	Emulex LP9002S-E	FC-AL[6] FC-SW[3, 4, 5]
43	Sun Fire 3800	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[1, 8, 9]	HA: 8	Emulex LP9002C-E; QLogic QCP2202F-E-SP	FC-AL[6] FC-SW[3, 4, 5]
44	Ultra Enterprise 5500	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[1, 8, 9]	HA: 8	Emulex LP9002S-E	FC-AL[6] FC-SW[3, 4, 5]
45	Sun Fire: 4800, 6800	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[1, 8, 9]	HA: 8	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E: QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
46	Netra 1280; Sun Fire: 280R, 4810, V1280, V240, V480, V880	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[1, 8, 9]	HA: 8	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E: QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
47	Ultra: 220R[7], 250, 420R[7], 450	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[1, 8, 9]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E: QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]

Sun – Sun Solaris						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
48	Ultra Enterprise. 10000, 3500, 4500, 6500	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[1, 8, 9]	HA: 8	Emulex: LP9002S-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6], FC-SW[3], 4, 5
49	Sun Fire 3800	Sun Solaris 9[28]	Sun Sun Cluster 3.0 Update 3[20]	HA: 4 [21]	Emulex LP9002C-E; QLogic QCP2202F-E-SP	FC-AL[6], FC-SW[3], 4, 5
50	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris 9[28]	Sun Sun Cluster 3.0 Update 3[20]	HA: 4 [21]	Emulex LP9002S-E	FC-AL[6], FC-SW[3], 4, 5
51	Sun Fire. 4800, 6800	Sun Solaris 9[28]	Sun Sun Cluster 3.0 Update 3[20]	HA: 4 [21]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002C-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL[6], FC-SW[3], 4, 5
52	Netra 1280; Sun Fire. 280R, 4810, V1280, V240, V480, V880	Sun Solaris 9[28]	Sun Sun Cluster 3.0 Update 3[20]	HA: 4 [21]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6], FC-SW[3], 4, 5
53	Ultra: 220R[7], 250, 420R[7], 450	Sun Solaris 9[28]	Sun Sun Cluster 3.0 Update 3[20]	HA: 4 [21]	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6], FC-SW[3], 4, 5
54	Sun Fire 3800	Sun Solaris 9[28]	Sun Sun Cluster 3.1	HA: 2 [29, 31]	Emulex LP9002C-E; QLogic QCP2202F-E-SP	FC-AL[6], FC-SW[3], 4, 5
55	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris 9[28]	Sun Sun Cluster 3.1	HA: 2 [29, 31]	Emulex LP9002S-E	FC-AL[6], FC-SW[3], 4, 5
56	Sun Fire. 4800, 6800	Sun Solaris 9[28]	Sun Sun Cluster 3.1	HA: 2 [29, 31]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002C-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL[6], FC-SW[3], 4, 5
57	Netra 1280; Sun Fire: 280R, 4810, V1280, V240, V480, V880	Sun Solaris 9[28]	Sun Sun Cluster 3.1	HA: 2 [29, 31]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6], FC-SW[3], 4, 5
58	Ultra: 220R[7], 250, 420R[7], 450	Sun Solaris 9[28]	Sun Sun Cluster 3.1	HA: 2 [29, 31]	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6], FC-SW[3], 4, 5
59	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[7], 250, 30, 420R[7], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 6000, Enterprise 6500	Sun Solaris: 2.6, 7[2]	Veritas Cluster Server (VCS) 1.1.2[1]	HA: 2	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E)	FC-AL[6], FC-SW[3], 4, 5
60	Ultra Enterprise: 10000[25], 5000	Sun Solaris: 2.6, 7[2], 8	Sun Sun Cluster 2.2[12, 13]	HA: 2	Emulex LP9002S-E	FC-AL[6], FC-SW[3], 4, 5
61	Ultra Enterprise: 3000, 3500, 4000, 4500, 5500, 6000, 6500	Sun Solaris: 2.6, 7[2], 8	Sun Sun Cluster 2.2[12, 13]	HA: 2	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6], FC-SW[3], 4, 5
62	Netra: 1120[19], 1125[19], 1400[19], 1405[19], T1; Ultra: 220R[7], 250, 30, 420R[7], 450, 60, 80, Enterprise 10000	Sun Solaris: 2.6, 7[2], 8	Sun Sun Cluster 2.2[12, 13]	HA: 2	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6], FC-SW[3], 4, 5
63	Netra: 1120, 1125, 1400, 1405	Sun Solaris: 2.6, 7[2], 8	Veritas Cluster Server (VCS) 1.3[13]	HA: 8 [14]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E)	FC-AL[6], FC-SW[3], 4, 5
64	Ultra Enterprise 10000[25]	Sun Solaris: 7[2], 8	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	Emulex LP9002S-E	FC-AL[6], FC-SW[3], 4, 5
65	Ultra Enterprise: 3000, 3500, 6000, 6500	Sun Solaris: 7[2], 8	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E	FC-AL[6], FC-SW[3], 4, 5
66	Ultra: 220R[7], 250, 30, 420R[7], 450, 60, 80, Enterprise 10000	Sun Solaris: 7[2], 8	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9802-E	FC-AL[6], FC-SW[3], 4, 5
67	Netra: 1120, 1125, 1400, 1405	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 1.3[13]	HA: 8 [14]	Emulex LP9802-E	FC-AL[6], FC-SW[3], 4, 5
68	Ultra Enterprise: 10000[25], 3000, 3500, 6000, 6500	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 1.3[13]	HA: 8 [26]	Emulex LP9002S-E	FC-AL[6], FC-SW[3], 4, 5
69	Ultra: 220R[7], 250, 420R[7], 450	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 2.0[1, 23]	HA: 8	Emulex LP8000-EMC[10]	FC-AL[6], FC-SW[3], 4, 5
70	Ultra Enterprise: 10000, 3500, 6500	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 2.0[1, 23]	HA: 8	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E)	FC-AL[6], FC-SW[3], 4, 5
71	Ultra Enterprise: 3000, 6000	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 2.0[1, 23]	HA: 8	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E	FC-AL[6], FC-SW[3], 4, 5
72	Netra: 1120, 1125, 1400, 1405, Ultra: 30, 60, 80	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 2.0[1, 23]	HA: 8	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9802-E	FC-AL[6], FC-SW[3], 4, 5

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Sun – Sun Solaris

No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
73	Sun Fire 3800	Sun Solaris: 8[11], 9	Veritas DBED/AC for 9iRAC 3.5[1, 8, 16, 17, 18]	RAC: 4 [15]	Emulex LP9002C-E; QLogic QCP2202F-E-SP	FC-AL[6] FC-SW[3, 4, 5]
74	Sun Fire: 4800, 6800	Sun Solaris: 8[11], 9	Veritas DBED/AC for 9iRAC 3.5[1, 8, 16, 17, 18]	RAC: 4 [15]	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
75	Netra 1280; Sun Fire: 280R, 4810, V1280, V240, V480, V880	Sun Solaris: 8[11], 9	Veritas DBED/AC for 9iRAC 3.5[1, 8, 16, 17, 18]	RAC: 4 [15]	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
76	Ultra: 220R[7], 250, 420R[7], 450	Sun Solaris: 8[11], 9	Veritas DBED/AC for 9iRAC 3.5[1, 8, 16, 17, 18]	RAC: 4 [15]	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
77	Ultra Enterprise: 10000, 3500, 4500, 6500	Sun Solaris: 8[11], 9	Veritas DBED/AC for 9iRAC 3.5[1, 8, 16, 17, 18]	RAC: 4 [15]	Emulex: LP9002S-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[3, 4, 5]
78	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[7], 250, 30, 420R[7], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 6000, Enterprise 6500	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 1.1.2[1]	HA: 2	Emulex LP9002DC-E	FC-AL[6] FC-SW[4, 5]
79	Ultra: 220R[7], 250, 420R[7], 450	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 2.0[1, 23]	HA: 8	Emulex LP9002DC-E	FC-AL[6] FC-SW[4, 5]
80	Sun Fire, 12K, 15K	Sun Solaris 8	Legato Automated Availability Manager (LAAM) 5.0 (Base); Veritas Cluster Server (VCS) 2.0[1, 23, 24]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E	FC-AL[6] FC-SW[4, 5]
81	Sun Fire: 12K, 15K	Sun Solaris 8	Veritas Cluster Server (VCS) 1.3[13]	HA: 8 [14]	Emulex: LP9002-E (LP9002L-E), LP9802-E	FC-AL[6] FC-SW[4, 5]
82	Sun Fire: 12K, 15K	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[1, 24]	HA: 8	QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[4, 5]
83	Sun Fire: 12K, 15K	Sun Solaris 8	Veritas Cluster Server (VCS) 3.5[1, 8]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[4, 5]
84	Ultra: 220R[7], 250, 420R[7], 450	Sun Solaris 8	Veritas Cluster Server (VCS): 2.0[1, 23, 24], 3.5[1, 8]	HA: 8	Emulex LP9002DC-E	FC-AL[6] FC-SW[4, 5]
85	**Ultra: 220R[7], 250, 420R[7], 450**	Sun Solaris 8 Update 7[11]	**Sun Sun Cluster 3.1[29, 30]**	**HA: 2**	**Emulex LP9002DC-E**	FC-AL[6] FC-SW[4, 5]
86	**Sun Fire: 12K, 15K**	Sun Solaris 8 Update 7[11]	**Sun Sun Cluster 3.1[29, 30]**	**HA: 2**	**Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[6] FC-SW[4, 5]
87	**Ultra: 220R[7], 250, 420R[7], 450**	**Sun Solaris 8[11]**	**Sun Sun Cluster 3.0 Update 3[20]**	HA: 4 [21] OPS: 4 [21] RAC: 4 [21]	**Emulex LP9002DC-E**	FC-AL[6] FC-SW[4, 5]
88	**Sun Fire: 12K, 15K**	**Sun Solaris 8[11]**	**Sun Sun Cluster 3.0 Update 3[20]**	HA: 4 [21] OPS: 4 [21] RAC: 4 [21]	**Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[6] FC-SW[4, 5]
89	Ultra: 220R[7], 250, 420R[7], 450	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[1, 8, 9]	HA: 8	Emulex LP9002DC-E	FC-AL[6] FC-SW[4, 5]
90	Sun Fire: 12K, 15K	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[1, 8, 9]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[4, 5]
91	**Ultra: 220R[7], 250, 420R[7], 450**	**Sun Solaris 9[28]**	**Sun Sun Cluster 3.0 Update 3[20]**	HA: 4 [21]	**Emulex LP9002DC-E**	FC-AL[6] FC-SW[4, 5]
92	**Sun Fire: 12K, 15K**	**Sun Solaris 9[28]**	**Sun Sun Cluster 3.0 Update 3[20]**	HA: 4 [21]	**Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[6] FC-SW[4, 5]
93	**Ultra: 220R[7], 250, 420R[7], 450**	**Sun Solaris 9[28]**	**Sun Sun Cluster 3.1**	**HA: 2 [29, 31]**	**Emulex LP9002DC-E**	FC-AL[6] FC-SW[4, 5]
94	**Sun Fire: 12K, 15K**	**Sun Solaris 9[28]**	**Sun Sun Cluster 3.1**	**HA: 2 [29, 31]**	**Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL[6] FC-SW[4, 5]
95	Ultra: 220R[7], 250, 30, 420R[7], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 6000, Enterprise 6500	Sun Solaris: 7[2], 8	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	Emulex LP9002DC-E	FC-AL[6] FC-SW[4, 5]
96	Netra: 1120[19], 1125[19], 1400[19], 1405[19], T1; Ultra: 220R[7], 250, 30, 420R[7], 450, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris: 7[2], 8	Sun Sun Cluster 2.2[12, 13]	HA: 2	Emulex LP9002DC-E	FC-AL[6] FC-SW[4, 5]
97	Netra: 1120, 1125, 1400, 1405	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 1.3[13]	HA: 8 [14]	Emulex LP9002DC-E	FC-AL[6] FC-SW[4, 5]

Sun – Sun Solaris						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
98	Netra: 1120, 1125, 1400, 1405; Ultra: 30, 60, 80, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 6000, Enterprise 6500	Sun Solaris. 7[2], 8	Veritas Cluster Server (VCS) 2.0[1, 23]	HA: 8	Emulex LP9002DC-E	FC-AL[6] FC-SW[4, 5]
99	Ultra: 220R[7], 250, 420R[7], 450	Sun Solaris: 8[11], 9	Veritas DBED/AC for 9iRAC 3.5[1, 8, 16, 17, 18]	RAC: 4 [15]	Emulex LP9002DC-E	FC-AL[6] FC-SW[4, 5]
100	Sun Fire, 12K, 15K	Sun Solaris. 8[11], 9	Veritas DBED/AC for 9iRAC 3.5[1, 8, 16, 17, 18]	RAC: 4 [15]	Emulex: LP9002-E (LP9002L-E), LP9802-E, QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL[6] FC-SW[4, 5]

1. GAB disks (membership and service group heartbeat disks) are not supported.
2. No OPS support for Solaris 7.
3. FC-AL and FC-SW topologies can co-exist on the same server but not on the same HBA, provided that the different topologies are attached to different HBAs
4. FC-AL and FC-SW can run concurrently on separate HBAs on the same Host.
5. FC-SW applies only to CX600, CX400, FC4500 and FC4700
6. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
7. 64-bit HBAs will not fit into the 32-bit slot due to a physical obstruction.
8. Supported with Powerpath 3.x configuration only. Native names only, no "power devices". Review the ESN topology guide section on Oracle DBED/AC case studies for configuration restrictions
9. Supported with VCS 3.5 Maintenance Patch 1
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. Requires Solaris 8 update 7.
12. PowerPath support for Sun Cluster 2.2 with Solaris 8 only FC4700 with Flare level 08.45 only. ODS is not available at this time.
13. Support for FC4500, FC4700 and FC5300, FC5500, FC5700.
14. Clusters with more than 4 nodes require VCS patch P2 and VxVM v3.1 patch P4
15. Veritas MP1 is required for clusters with more than 2 servers
16. Veritas HA clusters are supported with FC-SW only
17. If all FC connectivity to the array is lost (without a server shutdown), then after connectivity is restored, the user must execute a vxdctl enable command, before the VCS Oracle 9iRAC service group is brought back online.
18. Review the ESN Topology Guide section on Oracle DBED/AC Case Studies for configuration restrictions.
19. Supported with VCS only.
20. **For new installations, core software minimum requirement with**
    CX600
    Array software – Access Logix 02.04.1.60.5.002
    Array software – Non-Access Logix 02.04.0.60.5.002
    CX400
    Array software – Access Logix 02.04.1.40.5.002
    Array software – Non-Access Logix 02.04.0.40.5.002
    FC4700
    Array software – Access Logix 08.49.51
    Array software – Non-Access Logix 08.49.01

    Solaris 9:
    Core software minimum requirements same as new installations (above)
    Support for Veritas Volume Manager VxVM 3.2 Patch 03 and Solaris Volume Manager require an RPQ.

    Solaris 8:
    Supported on CX600, CX400 running release core software, FC4700 running Flare level 08.46 or later. Requires PowerPath 3.0.2 or later, no ATF support.
    Greater than 2-node OPS, RAC configurations supported on CX600 running 02.02.1.60.5.005, CX400 running 02.02.1.40.5.006 level core software (or later), FC4700 running Flare level 08.47 or later.
    If using VxVM, requires VxVM 3.2 patch 03. Do not install VxVM patch 112388-01.
21. OPS, RAC, or greater than 2-node HA are supported with FC-SW only.
22. See the EMC price book for HBA vendor ordering information. This HBA is not sold by EMC.
23. Supported on CX600, CX400, FC4500, FC4700 Only
24. Review single attach VxVM notes for PowerPath and DMP coexistence rules and restrictions.
25. Dynamic Reconfiguration is supported (Enterprise 10000 SBus only); requires ATF v3.1.2 or higher.
26. Cluster with more than 4 nodes requires VCS patch P2 and VxVM v3.1 patch P4
27. Please review Veritas support pages for latest patch information.
28. **EMC required Sun patches for Solaris 9:**
    112233-06 Sun OS 5.9: kernel patch
    112834-02 Sun OS 5.9: patch SCSI
    113277-11 Sun OS 5.9: sd and ssd patch
29. **Requires RPQ**
30. **Supported only on VxVM 3.2 P03, VxVM 3.5 MP1, and SDS 4.2.1**
31. **Supported only on VxVM 3.5 MP1 and SVM**

Fibre Connectivity: Hub

Please refer to the fibre channel cables and connectors reference file: EPIc_FibreCablesConnectors.pdf.Please refer to the Base Connectivity Interoperability Application for details concerning kernel versions, minimum driver and BIOS / firmware revisions.

HPQ HP-UX

HPQ HP-UX									
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	HPQ HP-UX: 11.0[3], 11.0 990P[3], 11.0 ACE[3], 11i v1.0 (HP-UX 11.11)[3]	HPQ: A3404A, A3591B, A3740A, A5158A, A6684A, A6685A, A6795A	Gadzoox FCL1063TW; HPQ: A3724A/AZ[4], A4839A/AZ[4]	1	4	256	256	128	See[1, 2]

1. Fanout represents the maximum initiators (host adapters) per CLARiiON port. Fanin represents the number of CLARiiON ports visible to a single initiator (host adapter). In arbitrated loop environments, these numbers represent the maximum initiators per loop. In switch environments, these numbers are achieved through Zoning. For further details on Fanin/Fanout, see CLARiiON Open Systems Configuration Guide
2. Hubs not supported for FC4700, CX600, CX400, CX200.
3. For HP-UX systems only LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror[illegible] should not be set.
4. HP optical Hubs (HP models A3724A and A4839A) have been qualified, but are not sold by EMC

IBM AIX

IBM AIX								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	IBM AIX: 4.3.3, 5.1	IBM: 6227, 6228	Gadzoox FCL1063TW[1]	4	4[3], 8[2]	1024[2], 512[3]	256	1024[2], 512[3]

1. Hubs not supported for FC4700, CX600, CX400, CX200.
2. CX600
3. CX400

Microsoft Windows 2000

Microsoft Windows 2000								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Server: SP2[1], SP3[1]	Emulex: LP8000-EMC[6], LP9802-E, LP9802DC-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Gadzoox FCL1063TW	4	4[2], 8[3]	1024[3], 512[2]	223[5], 256[2, 3, 4]	128
2	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Server: SP2[1], SP3[1]	Emulex: LP9002-E (LP9002L-E), LP982-E	Gadzoox FCL1063TW	4	4[2], 8[3]	1024[3], 512[2]	223[7, 8, 9], 256[2, 3, 4]	128

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. CX400
3. CX600
4. CX200
5. FC4700, FC4500, and FC5300.
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. FC5300
8. FC4500
9. FC4700

Microsoft Windows NT

Microsoft Windows NT								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Gadzoox FCL1063TW[3]	4	4[5], 8[4]	1024[4], 512[5]	223[6, 7, 8], 256[4, 5, 9]	128

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. No support for Fibre Channel Hubs on AViiON servers.
4. CX600
5. CX400
6. FC5300
7. FC4500
   FC4700
   CX200

Novell Netware

Novell Netware								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	Novell Netware 5.10: SP5[2], SP6; Novell Netware 6.0, SP1[2], SP2[2], SP3	QLogic: QLA2310F-E-SP, QLA2340-E-SP	Gadzoox FCL1063TW[1]	4	4[3], 8[6]	256[3], 512[6]	223[5], 256[4]	128

1. Hubs not supported for FC4700, CX600, CX400, CX200.
2. Maximum number of NWFS volumes that can be mounted is 64
3. CX400
4. CX600 and CX400
5. FC4700, FC4500, and FC5300.
6. CX600

Red Hat Linux

Red Hat Linux								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 7], v2.4.9-E.12[3, 7], v2.4.9-E.16[3, 7], **v2.4.9-E.3[2, 3, 8, 9]**, v2.4.9-E.9[3, 7, 8, 9]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 7]**, v2.4.9-e.16[3, 7]; Red Hat Linux 7.3: (v2.4.18-3)[3], updated w/ v2.4.18-27.7.x rpm[3, 8]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E	Gadzoox FCL1063TW	4	4[6], 8[5]	128	128	128
2	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 7], v2.4.9-E.12[3, 7], v2.4.9-E.16[3, 7], **v2.4.9-E.3[2, 3]**, v2.4.9-E.9[3, 7]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 7]**, v2.4.9-e.16[3, 7]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 8]	QLogic: QLA2200F-EMC[1], QLA2310F-E-SP[1], QLA2340-E-SP[1]	Gadzoox FCL1063TW[4]	4	4[6], 8[5]	128	128	128
3	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3, 10], ES v2.4.9-e.24[3, 10]**	**Emulex: LP9002-E (LP9002L-E)[11, 12, 14], LP9802-E[11, 12, 14], LP9802DC-E[11, 12, 14, 16, 17], LP982-E[11, 12, 14]**	**Gadzoox FCL1063TW**	4	4[6], 8[5]	**128**	**128**	**128**
4	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3, 10], ES v2.4.9-e.24[3, 10]**	**QLogic: QLA2200F-EMC[1, 11, 12, 13, 14], QLA2310F-E-SP[1, 11, 12, 14, 15], QLA2340-E-SP[1, 11, 15]**	**Gadzoox FCL1063TW[4]**	4	4[6], 8[5]	**128**	**128**	**128**

1. Single HBA zoning is required regardless of the switch being utilized.
2. **Supported with QLogic driver v6.04.02 or v6.05.00.**
3. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
4. Hubs not supported for FC4700, CX600, CX400, CX200
5. CX600
6. CX400
7. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
8. Requires v6.2.1 or higher Navisphere host agent/CLI.
9. This kernel is limited to 100 devices, not 128.
10. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
11. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
12. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
13. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
14. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
15. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
16. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
17. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**

SGI IRIX

SGI IRIX								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	SGI IRIX: 6.5.11, 6.5.12	SGI PCI-FC-1P-OPT-A	Gadzoox FCL1063TW[1]	4	4[2], 8[3]	255	256	1024[3], 512[2]
2	SGI IRIX: 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B	Gadzoox FCL1063TW[1]	4	4[2], 8[3]	255	256	1024[3], 512[2]

1. Hubs not supported for FC4700, CX600, CX400, CX200
2. CX400
3. CX600

SuSE Linux

SuSE Linux								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	SuSE Linux SLES 7: (v2.4.7)[2, 3, 4], updated with SuSE v2.4.18 rpm[8, 9]	QLogic: QLA2200F-EMC[1], QLA2310F-E-SP[1], QLA2340-E-SP[1]	Gadzoox FCL1063TW[6]	4	4[7], 8[5]	128	128	128
2	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]**	**QLogic: QLA2200F-EMC[1, 17, 18], QLA2310F-E-SP[1, 18, 19], QLA2340-E-SP[1, 18, 19]**	**Gadzoox FCL1063TW[6]**	4	4[7], 8[5]	**128**	**128**	**128**
3	SuSE Linux SLES 8 v2.4.19-SuSE.175[10, 11, 12]	QLogic: QLA2200F-EMC[1, 14], QLA2310F-E-SP[1, 13], QLA2340-E-SP[1, 13]	Gadzoox FCL1063TW[6]	4	4[7], 8[5]	128	128	128

1. Single HBA zoning is required regardless of the switch being utilized.
2. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
3. Supported with QLogic driver v6.04.02.
4. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only
5. CX600
6. Hubs not supported for FC4700, CX600, CX400, CX200
7. CX400
8. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
9. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
10. Requires QLogic v6.04.02 driver
11. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
12. Requires QLogic driver v6.04.00 or above.
13. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
14. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
15. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
16. **Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
17. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
18. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
19. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

Sun Solaris

Sun Solaris									
No	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	Sun Solans 8	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9002S-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Gadzoox FCL1063TW	4	4	1024[3], 256[2]	256	128	See[1]
2	Sun Solaris 9	Emulex: LP9002C-E, LP9002DC-E, LP9802-E; QLogic QCP2202F-E-SP	Gadzoox FCL1063TW	4	4	1024[3], 256[2]	256	128	See[1]
3	Sun Solans 2.6, 7	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E. QLogic: QLA2340-E-SP, QLA2342-E-SP	Gadzoox FCL1063TW	4	4	1024[3], 256[2]	256	128	See[1]

1. Hubs not supported for FC4700, CX600, CX400, CX200
2. CX400
3. CX600
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support

Fibre Connectivity: Switch

DG DG/UX

DG DG/UX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
	DG DG/UX R4.20MU07	Emulex LP8000-F1	Brocade Silkworm: 2400[1], 2800[1], 6400[1]; EMC Connectrix: DS-16B[1, 2], DS-16B2[3], DS-8B[1]	6	6	128	256	N

1. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
2. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
3. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.

EMC NAS

EMC NAS								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	**EMC NAS: 4.1.12, 4.1.4, 4.1.8, 4.2.11, 4.2.18, 4.2.5**	**EMC: 201-712-900, 250-734-902, 250-735-900, 250-736-900**	**Brocade Silkworm: 2400, 2800, 3200, 3800, 6400;** **EMC Connectrix: DS-16B[1], DS-16B2[3, 4], DS-16M2, DS-24M2, DS-32M2, ED-1032[2], ED-140M, ED-64M;** **Fujitsu Siemens PSFS-B161: McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**8**	**14**	**138**	**40**	**N**
2	**EMC NAS: 5.0.11, 5.0.9, 5.1.15, 5.1.9**	**EMC: 201-712-900, 250-734-902, 250-735-900, 250-736-900**	**Brocade Silkworm: 2400, 2800, 3200, 3800, 6400;** **Cisco MDS: 9216[5], 9509[5];** **EMC Connectrix: DS-16B[1], DS-16B2[3, 4], DS-16M2, DS-24M2, DS-32M2, ED-1032[2], ED-140M, ED-64M;** **Fujitsu Siemens PSFS-B161: McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**8**	**14**	**138**	**40**	**N**

1. **EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.**
2. **Firmware 4.00.00 or later required.**
3. **EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.**
4. **Firmware 3.02a or later required.**
5. **For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.**

HPQ HP-UX

19.633

HPQ HP-UX

No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	HPQ HP-UX 11.0 Dec 2002[5]	**HPQ A5158A[12]**	**Cisco MDS 9216[14]**	4	32	1024[6, 7]	256	Y	**See[13]**
2	HPQ HP-UX 11.0 Dec 2002[5]	HPQ: A6684A, A6685A	Cisco MDS 9509[14]	4	32	1024[6, 7]	512	Y	See[13]
3	HPQ HP-UX 11.0: 990P[5], ACE[5]	HPQ A6795A	Brocade Silkworm: 12000[4, 8], 2400[2, 3, 4], 2800[2, 3, 4], 3200[4, 8, 9], 3800[4, 8, 9], 3900[4, 8, 9], 6400[4, 8, 9]; Cisco MDS 9509[14]; EMC Connectrix: DS-16B[1, 2, 3, 4], DS-16B2[4, 8, 9, 10], DS-16M2[4], DS-24M2[4], DS-32B2[4, 11], DS-32M2[4], DS-8B2[2, 3, 4], ED-1032[4], ED-12000B[8, 11], ED-140M, ED-64M[4]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[6], 512[7]	256	Y	
4	HPQ HP-UX 11.0: 990P[5], ACE[5]	HPQ: A3404A, A3591B, A3740A, A5158A, A6684A, A6685A	Brocade Silkworm: 12000[4, 8], 2400[2, 3, 4], 2800[2, 3, 4], 3200[4, 8, 9], 3800[4, 8, 9], 3900[4, 8, 9], 6400[4, 8, 9]; EMC Connectrix: DS-16B[1, 2, 3, 4], DS-16B2[4, 8, 9, 10], DS-16M2[4], DS-24M2[4], DS-32B2[4, 11], DS-32M2[4], DS-8B2[2, 3, 4], ED-1032[4], ED-12000B[8, 11], ED-140M, ED-64M[4]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[6], 512[7]	256	Y	
5	HPQ HP-UX 11.0[5]	HPQ: A3404A, A3591B, A3740A, A5158A, A6684A, A6685A	Brocade Silkworm: 12000, 2400[2, 3, 4], 2800[2, 3, 4], 3200, 3800, 3900, 6400[4, 8, 9]; EMC Connectrix: DS-16B[1, 2, 3, 4], DS-16B2[10], DS-16M2, DS-24M2, DS-32B2[11], DS-32M2, DS-8B2[2, 3, 4], ED-1032, ED-12000B[8, 11], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[6], 512[7]	256	Y	
6	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2002[5]	HPQ A6795A[15]	Cisco MDS: **9216[14]**, 9509[14]	4	32	1024[6, 7]	256	Y	See[13]
	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5]	HPQ A3740A	Brocade Silkworm: 12000, 2400[2, 3, 4], 2800[2, 3, 4], 3200, 3800, 3900, 6400[4, 8, 9]; EMC Connectrix: DS-16B[1, 2, 3, 4], DS-16B2[4, 8, 9, 10], DS-16M2[4], DS-24M2[4], DS-32B2[4, 11], DS-32M2[4], DS-8B2[2, 3, 4], ED-1032[4], ED-12000B[8, 11], ED-140M, ED-64M[4]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[6], 512[7]	256	Y	
8	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5]	HPQ: A3404A, A3591B, A5158A, A6684A, A6685A	Brocade Silkworm: 12000, 2400[2, 3, 4], 2800[2, 3, 4], 3200, 3800, 3900, 6400[4, 8, 9]; EMC Connectrix: DS-16B[1, 2, 3, 4], DS-16B2[10], DS-16M2, DS-24M2, DS-32B2[11], DS-32M2, DS-8B2[2, 3, 4], ED-1032, ED-12000B[8, 11], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[6], 512[7]	256	Y	
9	HPQ HP-UX: 11.0[5], 11i v1.0 (HP-UX 11.11)[5]	HPQ A6795A	Brocade Silkworm: 12000, 2400[2, 3, 4], 2800[2, 3, 4], 3200, 3800, 3900, 6400[4, 8, 9]; Cisco MDS 9509[14]; EMC Connectrix: DS-16B[1, 2, 3, 4], DS-16B2[10], DS-16M2, DS-24M2, DS-32B2[11], DS-32M2, DS-8B2[2, 3, 4], ED-1032, ED-12000B[8, 11], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[6], 512[7]	256	Y	

1. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
2. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
3. Requires at least v5.11.09 of FC5700 Core Software (a.k.a. Flare), v5.32.01 of FC4500 Core Software or v5.24.00 of FC5300 Core Software.
4. Switch support can be QuickLoop dedicated to any HP hosts in Table 84 on page 226 or heterogeneous fabric with HP FC-SW (fabric) hosts in that table. For FC4700, one port on each SP may be used for QuickLoop when the other port is used for FC-SW. QuickLoop support requires chargeable model DSBQLP-0D.
5. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
6. CX600
7. CX400
8. QuickLoop is not supported with Brocade 3200/3800/12000 or DS-16B2, ED-12000B.
9. FC4700-2 supported at 1 Gb and 2 Gb.
10. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
11. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware. 1 x L1 or 2 x L2 ports per quad only.
12. **Supported Server model: rp5470 PDC 42.06**
13. NDU Release 11
14. During initial switch configuration, the Persistent FC ID's must be enabled on the Vsan that contains any HPUX HBAs. If Persistent FC IDs are enabled to an existing Vsan containing non HPUX HBAs, the process may be disruptive. See MDS 9000 Family Configuration Guild for details.
15. Supported server model: rp7410 PDC 16.009

HPQ Tru64 UNIX

No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	HPQ Tru64 UNIX V5.0A	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	Brocade Silkworm: 12000, 2400[5], 2800[5], 3200, 3800[7], 3900, 6400; EMC Connectrix: DS-16B[5, 6], DS-16B2[7, 8], DS-16M2, DS-24M2, DS-32B2[9], DS-32M2, DS-8B[5], ED-1032, ED-12000B[9], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[3], 512[4]	255[2]	Y	See[1]

HPQ Tru64 UNIX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
2	HPQ Tru64 UNIX: V5.1, V5.1A, **V5.1B[10]**	HPQ KGPSA-CA (168794-B21)	Brocade Silkworm: 12000, 2400[5], 2800[5], 3200, 3800[7], 3900, 6400; EMC Connectrix: DS-16B[5, 6], DS-16B2[7, 8], DS-16M2, DS-24M2, DS-32B2[9], DS-32M2, DS-8B[5], ED-1032, ED-12000B[9], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[3], 512[4]	255[2]	Y	See[1]
3	HPQ Tru64 UNIX: V5.1, V5.1A, **V5.1B[10]**	HPQ KGPSA-CA (168794-B21)[12]	Cisco MDS: 9216[11], 9509[11]	4	32	1024[3], 512[4]	255[2]	Y	See[1]
4	HPQ Tru64 UNIX: V5.1, V5.1A, **V5.1B[10]**	HPQ: FCA2354 (LP9002), KGPSA-BC (380574-001), KGPSA-DA (261329-B21)	Brocade Silkworm: 12000, 2400[5], 2800[5], 3200, 3800[7], 3900, 6400. Cisco MDS: 9216[11], 9509[11]; EMC Connectrix: DS-16B[5, 6], DS-16B2[7, 8], DS-16M2, DS-24M2, DS-32B2[9], DS-32M2, DS-8B[5], ED-1032, ED-12000B[9], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[3], 512[4]	255[2]	Y	See[1]
5	**HPQ Tru64 UNIX: V5.1A, V5.1B[10]**	**HPQ FCA2384 (LP9802)**	**Brocade Silkworm: 12000, 2400[5], 2800[5], 3200, 3800[7], 3900, 6400;** **Cisco MDS: 9216[11], 9509[11];** **EMC Connectrix: DS-16B[5, 6], DS-16B2[7, 8], DS-16M2, DS-24M2, DS-32B2[9], DS-32M2, DS-8B[5], ED-1032, ED-12000B[9], ED-140M, ED-64M;** **McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	32	1024[3], 512[4]	512	Y	See[1]

1. Supported on CX600, CX400 and FC4700-2 only.
2. CX600/CX400: 255 LUNs/HBA -- FC4700 223 LUNs/HBA
3. CX600
4. CX400
5. DS-8B or DS-16B switches only; qualified with firmware v2.1.4a, v2.2, and v2.3.
6. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
7. Firmware v3.0.2d or later is required with the DS-16B2 switch.
8. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
9. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
10. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
11. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
12. KGPSA-CA / Cisco MDS 9xxx: Tru64 host bootup may fail if switch port speed is hard-set to 1 Gb/s. Switch port should be set to Auto-Negotiate.

IBM AIX

IBM AIX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	IBM AIX: 4.3.3, 5.1, 5.2	IBM: 6227, 6228	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 4], DS-16B2[1, 8, 9], **DS-16M[1]**, DS-16M2[1], DS-24M2[1], DS-32B2[1, 5], **DS-32M[1]**, DS-32M2[1], DS-8B[1], ED-1032[1, 6, 7], ED-12000B[1, 5], ED-140M[1], ED-64M[1]; McDATA: ED-6064[1], ED-6140[1], **ES-3032[1]**, ES-3216[1], ES-3232[1], ES-4500[1]	32	4	1024[2], 512[3]	256 luns	Y
2	IBM AIX: 5.1, 5.2	IBM 6239	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; Cisco MDS: 9216[8], 9509[8]; EMC Connectrix: DS-16B[1, 4], DS-16B2[1, 8, 9], DS-16M2[1], DS-24M2[1], DS-32B2[1, 5], DS-32M2[1], DS-8B[1], ED-1032[1, 6, 7], ED-12000B[1, 5], ED-140M[1], ED-64M[1]; McDATA: ED-6064[1], ED-6140[1], ES-3216[1], ES-3232[1], ES-4500[1]	32	4	1024[2], 512[3]	256, 512	Y
3	IBM AIX: 5.1, 5.2	IBM: 6227, 6228	Cisco MDS: 9216[8], 9509[8]; **EMC Connectrix: DS-16M[1], DS-32M[1];** **McDATA ES-3032[1]**	32	4	1024[2], 512[3]	512	Y

1. Refer to Table 71 on page 202 for single-vendor and mixed-vendor switched fabrics and supported switch firmware.
2. CX600
3. CX400
4. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
5. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
6. Multipath support or connections to the secondary port are not supported at this time
7. ED-64 and ED-1032 not supported for FC5300.
8. See Switched Fabric Topology Parameters for switch firmware levels.
9. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.

Microsoft Windows 2000

Microsoft Windows 2000								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Server: SP2[1], SP3[1]	Emulex: LP8000-EMC[7], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000, 2400[6], 2800[6], 3200, 3800, 3900, 6400; Cisco MDS: 9216[11], 9509[11]; EMC Connectrix: DS-16B[6, 9], DS-16B2[10], DS-16M, DS-16M2, DS-24M2, DS-32B2[8], DS-32M, DS-32M2, DS-8B[6], ED-1032, ED-12000B[8], ED-140M, ED-64M, McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[2], 512[3]	223[5] 256[2, 3, 4]	Y
2	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4 Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Emulex LP850-EMC	EMC Connectrix ED-140M[11]	4	32	1024[2], 512[3]	256	Y
3	**Microsoft Windows 2000: Advanced Server SP4, Datacenter SP4, Server SP4**	**HPQ Dual-port mezzanine controller card[12]**	**EMC Connectrix: DS-16M[11], DS-16M2[11], DS-24M2[11], DS-32M[11], DS-32M2[11], ED-140M[11], ED-64M[11];** **McDATA: ED-5000[11], ED-6064[11], ED-6140[11], ES-2500[11], ES-3016[11], ES-3032[11], ES-3216[11], ES-3232[11], ES-4500[11]**	**4**	**12**	**128**	**128**	**Y**

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. CX600
3. CX400
4. CX200
5. FC4700, FC4500, and FC5300.
6. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
8. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
9. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
10. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
11. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
12. **FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.**

Microsoft Windows 2003

Microsoft Windows 2003								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	**Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]**	**Emulex LP850-EMC**	**EMC Connectrix ED-140M[1]**	**4**	**32**	**1024[7], 512[6]**	**256**	**Y**
2	**Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]**	**Emulex: LP8000-EMC[14], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	**Brocade Silkworm: 12000, 2400[8], 2800[8], 3200, 3800, 3900, 6400,** **Cisco MDS: 9216[1], 9509[1]:** **EMC Connectrix: DS-16B[8, 13], DS-16B2[12], DS-16M, DS-16M2, DS-24M2, DS-32B2[11], DS-32M, DS-32M2, DS-8B[8], ED-1032, ED-12000B[11], ED-140M, ED-64M;** **McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**4**	**32**	**1024[7], 512[6]**	**223[10] 256[6, 7, 9]**	**Y**
	Microsoft Windows 2003: DataCenter[2, 3, 4], Enterprise Edition (Advanced Server)[2, 3, 4], Standard Edition (Server)[2, 3, 4]	**HPQ Dual-port mezzanine controller card[5]**	**EMC Connectrix: DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], ED-140M[1], ED-64M[1];** **McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]**	**4**	**12**	**128**	**128**	**Y**

1. **For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.**
2. **Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.**
3. **PowerPath is not supported.**
4. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
5. **FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.**
6. **CX400**
7. **CX600**
8. **Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.**
9. **CX200**
10. **FC4700, FC4500, and FC5300.**
11. **EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.**
12. **EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.**
13. **EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.**
14. **The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.**

Microsoft Windows NT

Microsoft Windows NT								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[12], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000, 2400[8], 2800[8], 3200, 3800, 3900, 6400: Cisco MDS: 9216[13], 9509[13]. EMC Connectrix: DS-16B[8, 11], DS-16B2[8, 10], DS-16M, DS-16M2, DS-24M2, DS-32B2[9], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[9], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[2], 512[3]	223[4, 5, 6] 256[2, 3, 7]	Y

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. CX600
3. CX400
4. FC5300
5. FC4500
6. FC4700
7. CX200
8. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
9. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
10. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
11. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
13. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.

Novell Netware

Novell Netware									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	**Novell Netware 5.10: SP2[3], SP2A[3]**	**QLogic: QLA2200F-EMC, QLA2202F-EMC**	**Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400: EMC Connectrix: DS-16B[2, 8], DS-16B2[9], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[10], ED-12000B[11], ED-140M, ED-64M[10]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	32	1024[4], 512[5]	128	Y	See[1]
2	**Novell Netware 5.10: SP2[3], SP2A[3], SP5[3], SP6**	**QLogic QLA2200F-EMC[16, 17, 18, 19]**	**Brocade Silkworm: 12000, 2400[23], 2800[2, 23], 3200[22], 3800[22], 3900[20], 6400: EMC Connectrix: DS-16B[2, 8, 23], DS-16B2[9, 22], DS-16M, DS-16M2, DS-24M2, DS-32B2[11, 20], DS-32M2, DS-8B[2, 23], ED-12000B[11], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	12	128	128	Y	
3	**Novell Netware 5.10: SP5[3], SP6**	**Emulex LP9002-E (LP9002L-E); IBM: 19K1246(QLA2310)[13, 14], 24P0960(QLA2340)[12, 13]; QLogic: QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2342-E-SP**	**Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400: EMC Connectrix: DS-16B[2, 8], DS-16B2[9], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[10], ED-12000B[11], ED-140M, ED-64M[10]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	32	1024[4], 512[5]	128	Y	See[1]
4	Novell Netware 5.10: SP5[3], SP6; Novell Netware 6.0: SP1[3], SP2[3], SP3	QLogic: QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400; EMC Connectrix: DS-16B[2, 8], DS-16B2[9], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[10], ED-12000B[11], ED-140M, ED-64M[10]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[4], 512[5]	223[6], 256[7]	Y	See[1]
5	**Novell Netware 6.0: SP1[3], SP2[3], SP3**	**Emulex LP9002-E (LP9002L-E); IBM: 00N6881 (QLA2200)[15], 19K1246(QLA2310)[13, 14], 24P0960(QLA2340)[12, 13]; QLogic: QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2342-E-SP**	**Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400: EMC Connectrix: DS-16B[2, 8], DS-16B2[9], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[10], ED-12000B[11], ED-140M, ED-64M[10]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	32	1024[4], 512[5]	128	Y	See[1]

1. Refer to Table 71 on page 202 for single-vendor and mixed-vendor switched fabrics and supported switch firmware
2. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
3. Maximum number of NWFS volumes that can be mounted is 64.
4. CX600
5. CX400
6. FC4700, FC4500, and FC5300.
7. CX600 and CX400
8. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
9. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
10. ED-64 and ED-1032 not supported for FC5300.
11. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
12. **This HBA is equivalent to the qLogic QLA2340.**
13. **For IBM Netfinity and xSeries Intel servers only.**
14. **This HBA is equivalent to the qLogic QLA2310.**
15. **(QLA2200) For IBM xSeries and Netfinity servers only.**
16. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
17. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
18. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
19. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**

20. **See Switched Fabric Topology Parameters for switch firmware levels.**
21. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
22. **Firmware 3.0.2a or later required.**
23. **Firmware v2.5.1b or later required**
24. **Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

Red Hat Linux

Red Hat Linux									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 3]; v2.4.9-E.12[1, 3]; v2.4.9-E.16[1, 3]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[1, 3]**; v2.4.9-e.16[1, 3]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 4]	Emulex: LP9002-E (LP9002L-E)[5], LP9802-E[5], LP9802DC-E[5], LP982-E[5]; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[10], 2800[10, 11], 3200[7], 3800[7], 3900[13], 6400; EMC Connectrix: DS-16B[10, 11, 12], DS-16B2[7, 8], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 13], DS-32M2, DS-8B[10, 11], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12	128	128	Y	
2	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[1, 3]; v2.4.9-E.3[3]; Red Hat Linux 8.0 updated to v2.4.18-19.8.0[3]	HPQ Dual-port mezzanine controller card[15]	EMC Connectrix: DS-16M[14], DS-16M2[14], DS-24M2[14], DS-32M[14], DS-32M2[14], ED-140M[14], ED-64M[14]; McDATA: ED-5000[14], ED-6064[14], ED-6140[14], ES-2500[14], ES-3016[14], ES-3032[14], ES-3216[14], ES-3232[14], ES-4500[14]	4	12	128	128	Y	
3	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.3[2, 3, 4, 9]**, v2.4.9-E.9[1, 2, 3, 4]	Emulex: LP9002-E (LP9002L-E)[5], LP9802-E[5], LP9802DC-E[5], LP982-E[5]	Brocade Silkworm: 12000, 2400[10], 2800[10, 11], 3200[7], 3800[7], 3900[13], 6400; EMC Connectrix: DS-16B[10, 11, 12], DS-16B2[7, 8], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 13], DS-32M2, DS-8B[10, 11], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12	128	128	Y	
4	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.3[3, 9]**, v2.4.9-E.9[1, 3]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[10], 2800[10, 11], 3200[7], 3800[7], 3900[13], 6400; EMC Connectrix: DS-16B[10, 11, 12], DS-16B2[7, 8], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 13], DS-32M2, DS-8B[10, 11], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12	128	128	Y	
5	**Red Hat Linux 2.1 Advanced Server v2.4.9-e.24[3, 19]**, ES v2.4.9-e.24[3, 19]	**Emulex: LP9002-E (LP9002L-E)[5, 16, 17, 18], LP9802-E[5, 16, 17, 18], LP9802DC-E[5, 16, 17, 18, 21, 22], LP982-E[5, 16, 17, 18]; QLogic: QLA2200F-EMC[16, 17, 18, 23], QLA2310F-E-SP[16, 17, 18, 20], QLA2340-E-SP[17, 20]**	**Brocade Silkworm: 12000, 2400[10], 2800[10, 11], 3200[7], 3800[7], 3900[13], 6400; EMC Connectrix: DS-16B[10, 11, 12], DS-16B2[7, 8], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 13], DS-32M2, DS-8B[10, 11], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	12	128	128	Y	
6	Red Hat Linux 7.3 (v2.4.18-3)[3]	Emulex: LP9002-E (LP9002L-E)[5], LP9802-E[5], LP9802DC-E[5], LP982-E[5]; **QLogic QLA2200F-EMC[16, 17, 18, 23]**	Brocade Silkworm: 12000, 2400[10], 2800[10, 11], 3200[7], 3800[7], 3900[13], 6400; EMC Connectrix: DS-16B[10, 11, 12], DS-16B2[7, 8], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 13], DS-32M2, DS-8B[10, 11], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12	128	128	Y	
7	**Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[3], v2.4.18-27.8.0[3]**	**QLogic QLA2200F-EMC[16, 17, 18, 23]**	**Brocade Silkworm: 12000, 2400[10], 2800[10, 11], 3200[7], 3800[7], 3900[13], 6400; EMC Connectrix: DS-16B[10, 11, 12], DS-16B2[7, 8], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 13], DS-32M2, DS-8B[10, 11], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	12	128	128	Y	
8	**Red Hat Linux: 7.3 (v2.4.18-3)[3], 8.0 updated to v2.4.18-19.8.0[3], 8.0 updated to v2.4.18-27.8.0[3]**	QLogic: QLA2200F-EMC, QLA2202F-EMC	**Brocade Silkworm: 12000, 2400[11], 2800[11], 3200, 3800, 6400; EMC Connectrix: DS-16B[11, 12], DS-16B2[8], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[11], ED-1032[27], ED-12000B[6], ED-140M, ED-64M[27]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	4	32	1024[25], 512[26]	128	Y	See[24]

19.23

1. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
2. This kernel is limited to 100 devices, not 128.
3. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
4. Requires v6.2.1 or higher Navisphere host agent/CLI.
5. Single HBA zoning is required regardless of the switch being utilized.
6. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
7. Firmware 3.0.2a or later required.
8. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
9. **Supported with QLogic driver v6.04.02 or v6.05.00.**
10. Firmware v2.5.1b or later required
11. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
12. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
13. See Switched Fabric Topology Parameters for switch firmware levels.
14. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
15. FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.
16. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
17. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
18. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
19. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
20. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
21. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
22. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
23. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
24. **Refer to Table 71 on page 202 for single-vendor and mixed-vendor switched fabrics and supported switch firmware.**
25. **CX600**
26. **CX400**
27. **ED-64 and ED-1032 not supported for FC5300.**
28. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
29. **Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

SGI IRIX

SGI IRIX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	SGI IRIX: 6.5.11, 6.5.12	SGI PCI-FC-1P-OPT-A	Brocade Silkworm: 12000[1], 3200[1], 3800[1], 6400[1]: EMC Connectrix: DS-16M2[1, 2], DS-24M2[1, 2], DS-32M2[1, 2], ED-12000B[1, 3], ED-140M[1], ED-64M[1, 2]; McDATA: ED-6064[1, 2], ED-6140[1], ES-3216[1, 2], ES-3232[1, 2], ES-4500[1]	4	32	255	256	Y
2	SGI IRIX: 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B	Brocade Silkworm: 12000[1], 3200[1], 3800[1], 6400[1]; EMC Connectrix: DS-16M2[1, 2], DS-24M2[1, 2], DS-32M2[1, 2], ED-12000B[1, 3], ED-140M[1], ED-64M[1, 2]; McDATA: ED-6064[1, 2], ED-6140[1], ES-3216[1, 2], ES-3232[1, 2], ES-4500[1]	4	32	255	256	Y

1. Refer to the Switched Fabric Topology Parameters Table (formerly Table 71 on Page 202 of the ESM) for single-vendor and mixed vendor switched fabrics and supported switch firmware.
2. FC4700 only with Access Logix 8.42.5x or higher.
3. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.

SuSE Linux

SuSE Linux								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	SuSE Linux SLES 7: (v2.4.7)[9, 10, 11], updated with SuSE v2 4.18 rpm[1, 2]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[4], 2800[4, 5], 3200[3], 3800[3], 3900[12], 6400: EMC Connectrix: DS-16B[4, 5, 8], DS-16B2[3, 7], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 12], DS-32M2, DS-8B[4, 5], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12	128	128	Y
2	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[20, 21]**	**QLogic: QLA2200F-EMC[18, 22], QLA2310F-E-SP[18, 19], QLA2340-E-SP[18, 19]**	**Brocade Silkworm: 12000, 2400[4], 2800[4, 5], 3200[3], 3800[3], 3900[12], 6400;** **EMC Connectrix: DS-16B[4, 5, 8], DS-16B2[3, 7], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 12], DS-32M2, DS-8B[4, 5], ED-12000B[6], ED-140M, ED-64M;** **McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**4**	**12**	**128**	**128**	**Y**
3	SuSE Linux SLES 8 v2.4.19-SuSE.175[14, 15, 16]	QLogic: QLA2200F-EMC[13], QLA2310F-E-SP[17] QLA2340-E-SP[17]	Brocade Silkworm: 12000, 2400[4], 2800[4, 5], 3200[3], 3800[3], 3900[12], 6400; EMC Connectrix: DS-16B[4, 5, 8], DS-16B2[3, 7], DS-16M, DS-16M2, DS-24M2, DS-32B2[6, 12], DS-32M2, DS-8B[4, 5], ED-12000B[6], ED-140M, ED-64M; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	12	128	128	Y

1. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
2. Requires rev2 _sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
3. Firmware 3.0.2a or later required.
4. Firmware v2.5.1b or later required
5. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
6. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
7. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
8. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
9. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
10. Supported with QLogic driver v6.04.02.
11. Requires rev1_sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
12. See Switched Fabric Topology Parameters for switch firmware levels.
13. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
14. Requires QLogic v6.04.02 driver
15. Requires QLogic driver v6.04.00 or above.
16. Requires rev3 _sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
17. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
18. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
19. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
20. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
21. **Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
22. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

Sun Solaris

Sun Solaris								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Sun Solaris 8	Emulex: LP8000-EMC[3], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9002S-E, LP9802-E; QLogic: QCP2202F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000, 2400[7], 2800[7], 3200, 3800, 3900, 6400; Cisco MDS: 9216[9], 9509[9]; EMC Connectrix: DS-16B[7, 8], DS-16B2[6], DS-16M, DS-16M2, DS-24M2, DS-32B2[4], DS-32M, DS-32M2, DS-8B[7], ED-1032[5], ED-12000B[4], ED-140M, ED-64M[5]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[1], 256[2]	256	Y
2	Sun Solaris 9	Emulex: LP9002C-E, LP9002DC-E, LP9802-E; QLogic QCP2202F-E-SP	Brocade Silkworm: 12000, 2400[7], 2800[7], 3200, 3800, 3900, 6400; Cisco MDS: 9216[9], 9509[9]; EMC Connectrix: DS-16B[7, 8], DS-16B2[6], DS-16M, DS-16M2, DS-24M2, DS-32B2[4], DS-32M, DS-32M2, DS-8B[7], ED-1032[5], ED-12000B[4], ED-140M, ED-64M[5]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[1], 256[2]	256	Y
3	Sun Solaris: 2.6, 7	Emulex: LP8000-EMC[3], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000, 2400[7], 2800[7], 3200, 3800, 3900, 6400; EMC Connectrix: DS-16B[7, 8], DS-16B2[6], DS-16M, DS-16M2, DS-24M2, DS-32B2[4], DS-32M, DS-32M2, DS-8B[7], ED-1032[5], ED-12000B[4], ED-140M, ED-64M[5]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	4	32	1024[1], 256[2]	256	Y

1. CX600
2. CX400
3. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
4. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
5. ED-64 and ED-1032 not supported for FC5300.
6. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
7. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
   EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
   No boot support at this time.

Application Software

Fujitsu Technology Solutions Solaris

Fujitsu Technology Solutions Solaris			
No.	Operating System	Host Bus Adapter	Application Software
1	Fujitsu Technology Solutions Solaris: 2.6, 7, 8, 9	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E)	PowerPath: 3.0.3, 3.0.4, **4.0.0[2, 3]**, **4.0.1[2, 3]**

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. **Powerpath supported on FC4500, FC4700, CX600, and CX400.**
   CLARiiON and Symmetrix can co-exist in the SAN with the same server.
3. **ATF/CDE and PowerPath cannot co-exist in the same server.**

HPQ HP-UX

EMC storage (Clariion & Symmetrix) interoperability support is listed as part of the Base Connectivity, Clustered Host and Switch Interoperability tables of the EMC Support Matrix. It should be understood that arrays with matching matrix configurations can be used in a shared SAN, Shared Server or Shared HBA, unless explicitly noted. PowerPath and other load balancing software versions must be reviewed independently for mutual array support or coexistence concerns.

HPQ HP-UX				
No.	Operating System	Host Bus Adapter	Application Software	Comments
1	HPQ HP-UX, 11.0[1], 11i v1.0 (HP-UX 11.11)[1]	HPQ A3591B	PowerPath 3.0.2 b41[5]	See[3]
2	HPQ HP-UX: 11.0[1], 11i v1.0 (HP-UX 11.11)[1]	HPQ: A3404A, A3591B, A3740A, A5158A, A6684A, A6685A, A6795A	MirrorView 1.7[6]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 11]; **SAN Copy v1.0[8, 9, 10];** SnapView 2.1[6, 7]; admsnap 2.1[6, 7]	
3	HPQ HP-UX, 11.0[1], 11i v1.0 (HP-UX 11.11)[1]	HPQ: A3404A, A3740A, A5158A, A6684A, A6685A, A6795A	PowerPath 3.0.2 b41[5]	See[3, 4]

1. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
2. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
3. For new installations, core software minimum requirement with
   CX600
   Array software – Access Logix 02.04.1.60.5.002
   Array software – Non-Access Logix 02.04.0.60.5.002
   CX400
   Array software – Access Logix 02.04.1.40.5.002
   Array software – Non-Access Logix 02.04.0.40.5.002
4. CLARiiON and Symmetrix can coexist in the SAN with the same server.
5. Supported with HP-UX 11.0, 11i only
6. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
7. A Snapshot must not be in a clustered Storage Group.
8. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
9. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
10. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
11. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.

PQ Tru64 UNIX

HPQ Tru64 UNIX			
No.	Operating System	Host Bus Adapter	Application Software
1	HPQ Tru64 UNIX V5.0A	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	MirrorView 1.7[4]; Navisphere: Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 10]; **SAN Copy v1.0[7, 8, 9];** SnapView 2.1[4, 5]; admsnap 2.1[4, 5]
2	**HPQ Tru64 UNIX V5.1[6]**	**HPQ: FCA2354 (LP9002), KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	**MirrorView 1.7[4];** **Navisphere: Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 10];** **SAN Copy v1.0[7, 8, 9];** **SnapView 2.1[4, 5];** **admsnap 2.1[4, 5]**
3	HPQ Tru64 UNIX: V5.1A[1], **V5.1B[3]**	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)**, KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)	MirrorView 1.7[4]; Navisphere: Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 10]; **SAN Copy v1.0[7, 8, 9];** SnapView 2.1[4, 5]; admsnap 2.1[4, 5]

1. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
2. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
3. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
4. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
5. A Snapshot must not be in a clustered Storage Group.
6. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
7. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
   Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux
   SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.
10. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.

IBM AIX

IBM AIX			
No.	Operating System	Host Bus Adapter	Application Software
1	IBM AIX: 4.3.3[1], 5.1[3], 5.2[7]	IBM: 6227, 6228	MirrorView 1.7[4]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], **Manager, Event Monitor 6.4.1[2, 8];** PowerPath: 3.0.3[5], 3.0.4[5]; **SAN Copy v1.0[9, 10, 11];** SnapView 2.1[4, 6]; admsnap 2.1[4, 6]
2	**IBM AIX: 5.1[3], 5.2[7]**	**IBM 6239**	**MirrorView 1.7[4];** **Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[2], Manager, Event Monitor 6.4.1[2, 8];** **PowerPath: 3.0.3[5], 3.0.4[5];** **SAN Copy v1.0[9, 10, 11];** **SnapView 2.1[4, 6];** **admsnap 2.1[4, 6]**

1. Requires CLArrayS3.4.3.0.13
2. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
3. Requires CLArrayS3.5.1.0.10
4. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
5. CLARiiON and Symmetrix can coexist in the SAN with the same server.
6. A Snapshot must not be in a clustered Storage Group.
7. Requires CLArrayS3.5.2.0.7
8. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600,**

non-CX400, non-CX200 arrays from a Windows 2000 host.
9. Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux
10. SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.
11. SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.

Microsoft Windows 2000

Microsoft Windows 2000				
No.	Operating System	Host Bus Adapter	Application Software	Comments
1	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; HPQ Dual-port mezzanine controller card; IBM 24P0960(QLA2340)[12]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	PowerPath 3.0.2[10]	See[3]
2	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; HPQ Dual-port mezzanine controller card; IBM 24P0960(QLA2340)[12]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	MirrorView 1.7[2]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[9], Manager, Event Monitor 6.4.1[9, 11]; SAN Copy v1.0[5, 6, 7]; SnapView 2.1[2, 8]; admsnap 2.1[2, 8]	See[3]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
3. ATF/CDE not supported on CX600 and CX400 arrays. ATF/CDE and PowerPath cannot co-exist on the same server.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.
6. SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.
7. Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux
8. A Snapshot must not be in a clustered Storage Group.
Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
Powerpath supported on FC4500, FC5300, FC4700, CX600, CX400, and CX200.
PowerPath Base supported on FC4500, CX200 only.
CLARiiON and Symmetrix can co-exist in the SAN with the same server.
11. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.
12. This HBA is equivalent to the qLogic QLA2340.

Microsoft Windows 2003

Microsoft Windows 2003			
No.	Operating System	Host Bus Adapter	Application Software
1	Microsoft Windows 2003: DataCenter[1, 2, 3, 4], Enterprise Edition (Advanced Server)[1, 2, 3, 4], Standard Edition (Server)[1, 2, 3, 4]	Emulex: LP8000-EMC[7], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; HPQ Dual-port mezzanine controller card; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	MirrorView 1.7[5]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[8], Manager, Event Monitor 6.4.1[8, 12]; SAN Copy v1.0[9, 10, 11]; SnapView 2.1[5, 6]; admsnap 2.1[5, 6]

1. Support limited to the following configurations: 1 HBA with 1 path to 1 SP; 2 HBAs, one with a single path to SPA and the other with a single path to SPB. Powerpath not supported. Refer to HBA guides for expected device behavior.
2. PowerPath is not supported.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
6. A Snapshot must not be in a clustered Storage Group.
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
8. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
9. Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux
10. SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.
11. SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.
Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.

Microsoft Windows NT

Microsoft Windows NT				
No.	Operating System	Host Bus Adapter	Application Software	Comments
1	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; IBM 24P0960(QLA2340)[13]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	MirrorView 1.7[3]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[10], Manager, Event Monitor 6.4.1[10, 12]; PowerPath 3.0.2[11]; SAN Copy v1.0[5, 6, 7]; SnapView 2.1[3, 8]; admsnap 2.1[3, 8, 9]	See[2]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. ATF/CDE not supported on CX600 and CX400 arrays. ATF/CDE and PowerPath cannot co-exist on the same server.
3. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux
6. SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.
7. SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.
8. A Snapshot must not be in a clustered Storage Group.
9. Admsnap is not qualified with VERITAS Volume Manager
10. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
11. Powerpath supported on FC4500, FC5300, FC4700, CX600, CX400, and CX200.
CLARiiON and Symmetrix can co-exist in the SAN with the same server.
12. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.
13. This HBA is equivalent to the qLogic QLA2340.

Novell Netware

Novell Netware			
No.	Operating System	Host Bus Adapter	Application Software
1	Novell Netware 5.10: SP5[1], SP6: Novell Netware 6.0: SP1[1], SP2[1], SP3	QLogic: QLA2200F-EMC, QLA2310F-E-SP QLA2340-E-SP	MirrorView 1.7[2]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[7], **Manager, Event Monitor 6.4.1[7, 9]**; PowerPath 3.0.1[8]; **SAN Copy v1.0[4, 5, 6]**; SnapView 2.1[2, 3]; admsnap 2.1[2, 3]

1. Maximum number of NWFS volumes that can be mounted is 64.
2. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix
3. A Snapshot must not be in a clustered Storage Group.
4. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
5. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
6. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
7. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4
8. Powerpath supported on FC4500, FC5300, FC4700, CX600, CX400, and CX200.
   PowerPath Base supported on FC4500, CX200 only.
   CLARiiON and Symmetrix can co-exist in the SAN with the same server.
9. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.**

Red Hat Linux

Red Hat Linux			
No.	Operating System	Host Bus Adapter	Application Software
1	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 3], v2.4.9-E.12[1, 3], v2.4.9-E.16[1, 3], **v2.4.9-E.3[1, 9]**, v2.4.9-E.9[1, 2, 3]; Red Hat Linux 2.1 ES. **v2.4.9-e.12[1, 3]**, v2.4.9-e.16[1, 3]; Red Hat Linux 7.3: (v2.4.18-3)[1], updated w/ v2.4.18-27.7.x rpm[1]	Emulex: LP9802-E, LP9802DC-E, LP982-E	MirrorView 1.7[5]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[10], Manager, Event Monitor 6.4.1[10, 11]; **SAN Copy v1.0[6, 7, 8]**; SnapView 2.1[4, 5]; admsnap 2.1[4, 5]
2	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 3], v2.4.9-E.12[1, 3], **v2.4.9-E.3[1, 9]**, v2.4.9-E.9[1, 2, 3]; Red Hat Linux: **2.1 ES v2.4.9-e.12[1, 3]**, 7.3 (v2.4.18-3)[1], 7.3 updated w/ v2.4.18-27.7.x rpm[1]	QLogic QLA2200F-EMC	MirrorView 1.7[5]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[10], Manager, Event Monitor 6.4.1[10, 11]; **SAN Copy v1.0[6, 7, 8]**; SnapView 2.1[4, 5]; admsnap 2.1[4, 5]
3	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 3], v2.4.9-E.12[1, 3], **v2.4.9-E.3[1, 9]**, v2.4.9-E.9[1, 2, 3]; Red Hat Linux: **2.1 ES v2.4.9-e.12[1, 3]**, 7.3 (v2.4.18-3)[1], 7.3 updated w/ v2.4.18-27.7.x rpm[1]	QLogic: QLA2310F-E-SP, QLA2340-E-SP	MirrorView 1.7[5]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[10], Manager, Event Monitor 6.4.1[10, 11]; SnapView 2.1[4, 5]; admsnap 2.1[4, 5]
4	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[1, 3], ES v2.4.9-e.16[1, 3]	QLogic QLA2200F-EMC	MirrorView 1.7[5]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[10], Manager, Event Monitor 6.4.1[10, 11]; **PowerPath 3.0.3 b065[12]**; **SAN Copy v1.0[6, 7, 8]**; SnapView 2.1[4, 5]; admsnap 2.1[4, 5]
5	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[1, 3], ES v2.4.9-e.16[1, 3]**	**QLogic QLA2342-E-SP[13]**	**PowerPath 3.0.3 b065[12]**
6	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[1, 3], ES v2.4.9-e.16[1, 3]	QLogic: QLA2310F-E-SP, QLA2340-E-SP	MirrorView 1.7[5]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[10], Manager, Event Monitor 6.4.1[10, 11]; **PowerPath 3.0.3 b065[12]**; SnapView 2.1[4, 5]; admsnap 2.1[4, 5]
7	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 17], ES v2.4.9-e.24[1, 17]**	**Emulex: LP9802-E[14, 15, 16], LP9802DC-E[14, 15, 16, 21, 22], LP982-E[14, 15, 16];** **QLogic QLA2200F-EMC[14, 15, 16, 20]**	**MirrorView 1.7[5];** **Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[10], Manager, Event Monitor 6.4.1[10, 11];** **SAN Copy v1.0[6, 7, 8];** **SnapView 2.1[4, 5];** **admsnap 2.1[4, 5]**
8	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 17], ES v2.4.9-e.24[1, 17]**	**QLogic: QLA2310F-E-SP[14, 15, 16, 18], QLA2340-E-SP[14, 18]**	**MirrorView 1.7[5];** **Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[10], Manager, Event Monitor 6.4.1[10, 11];** **SnapView 2.1[4, 5];** **admsnap 2.1[4, 5]**
9	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1], ES v2.4.9-e.24[1]**	**QLogic: QLA2200F-EMC[14, 15, 16, 20], QLA2310F-E-SP[14, 15, 16, 18], QLA2340-E-SP[14, 18], QLA2342-E-SP[14, 15, 16, 18, 19]**	**PowerPath 3.0.3 b065[12]**

1. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
2. This kernel is supported with PowerPath v3.0.2 via RPQ only.
3. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath.
   Booting from EMC storage arrays is NOT supported with PowerPath.
4. A Snapshot must not be in a clustered Storage Group.
5. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
6. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
7. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
8. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
9. **Supported with QLogic driver v6.04.02 or v6.05.00.**
10. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
11. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host
12. **PowerPath Base is supported on the FC4500 and CX200 only.**

13. **Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
14. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
15. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
16. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
17. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
18. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
19. **Single HBA zoning is required regardless of the switch being utilized.**
20. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
21. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
22. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**

SGI IRIX

SGI IRIX			
No.	Operating System	Host Bus Adapter	Application Software
1	SGI IRIX: 6.5.11, 6.5.12, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI PCI-FC-1P-OPT-A	MirrorView 1.7[1]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[6], **Manager, Event Monitor 6.4.1[6, 7]**; **SAN Copy v1.0[2, 3, 4]**; **SnapView 2.1[1, 5]**; admsnap 2.1[1, 5]
2	SGI IRIX: 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI PCI-FC-1P-OPT-B	MirrorView 1.7[1]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[6], **Manager, Event Monitor 6.4.1[6, 7]**; **SAN Copy v1.0[2, 3, 4]**; **SnapView 2.1[1, 5]**; admsnap 2.1[1, 5]

1. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
2. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
3. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
4. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
   A Snapshot must not be in a clustered Storage Group.
   Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
7. **Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.**

SuSE Linux

SuSE Linux			
No.	Operating System	Host Bus Adapter	Application Software
1	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[1, 2]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP	MirrorView 1.7[4]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Manager, Event Monitor 6.4.1[8, 17]; **SAN Copy v1.0[5, 6, 7]**; **SnapView 2.1[3, 4]**; **admsnap 2.1[3, 4]**
2	SuSE Linux SLES 7: (v2.4.7)[9, 10, 11], updated with SuSE v2.4.18 rpm[1, 2]	QLogic QLA2200F-EMC	MirrorView 1.7[4]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[8], Manager, Event Monitor 6.4.1[8, 17]; **SAN Copy v1.0[5, 6, 7]**; **SnapView 2.1[3, 4]**; **admsnap 2.1[3, 4]**
3	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[18, 25]**	**QLogic QLA2200F-EMC[24, 26]**	**MirrorView 1.7[4]**; **Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[8], Manager, Event Monitor 6.4.1[8, 17]**; **SAN Copy v1.0[5, 6, 7]**; **SnapView 2.1[3, 4]**; **admsnap 2.1[3, 4]**
4	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[18, 25]**	**QLogic: QLA2310F-E-SP[23, 24], QLA2340-E-SP[23, 24]**	**MirrorView 1.7[4]**; **Navisphere: Agent/CLI 6.4, Analyzer 6.4, Manager, Event Monitor 6.4.1[8, 17]**; **SAN Copy v1.0[5, 6, 7]**; **SnapView 2.1[3, 4]**; **admsnap 2.1[3, 4]**
5	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic QLA2200F-EMC[16]	MirrorView 1.7[4]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[8], Manager, Event Monitor 6.4.1[8, 17]; **SAN Copy v1.0[5, 6, 7]**; **SnapView 2.1[3, 4]**; **admsnap 2.1[3, 4]**
6	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic: QLA2310F-E-SP[12], QLA2340-E-SP[12]	MirrorView 1.7[4]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Manager, Event Monitor 6.4.1[8, 17]; **SAN Copy v1.0[5, 6, 7]**; **SnapView 2.1[3, 4]**; **admsnap 2.1[3, 4]**
7	**SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 18, 19]**	**QLogic: QLA2200F-EMC[16], QLA2310F-E-SP[12], QLA2340-E-SP[12], QLA2342-E-SP[27]**	**PowerPath 3.0.3 b065[20, 21, 22]**

1. Requires rev2_sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
2. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
3. **A Snapshot must not be in a clustered Storage Group.**
4. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
5. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
6. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
7. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
8. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
9. Supported with QLogic driver v6.04.02
10. Requires rev1_sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
11. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
12. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
13. Requires QLogic v6.04.02 driver.
14. Requires rev3_sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.

15. Requires QLogic driver v6.04.00 or above.
16. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
17. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.
18. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
19. **Requires QLogic v6.04.02 or v6.05.00 driver.**
20. **PowerPath Base is supported on the FC4500 and CX200 only.**
21. **CLARiiON and Symmetrix can co-exist in the SAN with the same server.**
22. **PowerPath supported on FC4500, FC4700, CX600, CX400, and CX200.**
23. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
24. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
25. **Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
26. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
27. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

Sun Solaris

Sun Solaris			
No.	Operating System	Host Bus Adapter	Application Software
1	Sun Solaris 2.6	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	MirrorView 1.7[3]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[1], Manager, Event Monitor 6.4.1[1, 9]; **PowerPath: 3.0.4[10, 11], 4.0.1[10, 11, 12];** **SAN Copy v1.0[6, 7, 8];** SnapView 2.1[3, 4]; admsnap 2.1[3, 4, 5]
2	Sun Solaris: 7, 8, 9	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E). **LP9002DC-E.** LP9002S-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	MirrorView 1.7[3]; Navisphere: Agent/CLI 6.4, Analyzer 6.4, Integrator 6.2.0[1], Manager, Event Monitor 6.4.1[1, 9]; **PowerPath: 3.0.4[10, 11], 4.0.1[10, 11, 12];** **SAN Copy v1.0[6, 7, 8];** SnapView 2.1[3, 4]; admsnap 2.1[3, 4, 5]

1. Shipped with Navisphere Manager.Integrator supports HP Open view 6.1,Tivoli NetView 6.0b, and Unicenter TNG 2.2 and 2.4.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. For FC4700, CX600, and CX400 only. SnapView and Mirrorview require Access Logix.
4. A Snapshot must not be in a clustered Storage Group.
5. Admsnap is not qualified with VERITAS Volume Manager
6. **SAN Copy Operational restrictions apply when using SAN Copy with Clusters and AIX Systems. Refer to the SAN Copy release notice for more information.**
7. **Data movement between CLARiiON and Symmetrix requires Navisphere host agent attached to Symmetrix. Agents supported are Windows, SUN, HP/UX, AIX, IRIX, and Linux**
8. **SAN Copy installation is supported on CX600, CX400, FC4700, and FC4700-2 arrays. Data movement is supported in and between CX Series arrays, FC4500, FC4700, FC4700-2, FC5300, Symmetrix 8000 series, Symmetrix DMX Series, Symmetrix 3832, Symmetrix 3x30, and Symmetrix 3700 arrays.**
9. Manager v6.x is web based GUI that resides on an FC4700, CX600, CX400 or CX200 Array and is downloaded to the browser when the storage processor of the array is accessed.The browser requires a Manager Client that supports Java 1.31_01. Manager includes two Windows components for management of non-FC4700, non-CX600, non-CX400, non-CX200 arrays from a Windows 2000 host.
10. **ATF/CDE not supported on CX600 and CX400 arrays. ATF/CDE and PowerPath cannot co-exist on the same server.**
11. **Powerpath supported on FC4500, FC4700, CX600, and CX400.**
    CLARiiON and Symmetrix can co-exist in the SAN with the same server.
12. **The Volume Manager component of PowerPath 4.x is not currently supported with Sun SunCluster products.**

Host BIOS

Bull

Bull		
No.	Host System	Host BIOS
1	**Express 5800 120Md**	Phoenix BIOS 4.0 Release 6.0.2251
2	Express 5800 120Rc-2	Phoenix BIOS 4.0 Release 6.0.0007
3	Express 5800 140Hb, Express 5800 140Ra4	Phoenix BIOS 4.0 Release 6.0 1014
4	Express 5800 140Ra-7	Phoenix BIOS 4.0 Release 6.0.0033
5	**Express 5800 180Rb7**	Phoenix BIOS 4.0 Release 6.0.0022
6	**Express 5800 320Lb, Express 5800 320Lb-R**	2.00
7	**Express 5800 330Ma-R**	6.0.0
8	**Express 5800 330Mb-R, Express 5800 340Ha-R**	2.0
9	Express 5800 HV8600	Phoenix BIOS 4.0 Release 5.0 1339
10	Express 5800 HX4600	Phoenix BIOS 4.0 Release 6.0 0325
11	Express 5800 MH4500	Phoenix BIOS 4.0 Release 5.0 SNX450 BIOS Release 1 Build 17

DG

DG		
No.	Host System	Host BIOS
1	AViiON AV1400	Phoenix BIOS 4.0 Release 6.0 L440GX Production Release 11.1
2	AViiON AV2300	11.1
3	AViiON AV2700	6 00.33
4	AViiON AV2800	BIOS 7.0
5	AViiON AV3600	5.10.5
6	AViiON AV3700	13.0
7	AViiON AV3704R	Phoenix BIOS 4.0 Release 6.0 S450NX BIOS Release 11
8	AViiON AV3800	30.0
9	AViiON AV8600	1.04
10	AViiON AV8700	1304
11	AViiON AV8900, AViiON AV8950	Phoenix BIOS 4.0 Release 6.0 SABR1.86b.0027.A.0004141435 ALPHA 27
12	AViiON AV8950R	15

Dell

Dell		
No.	Host System	Host BIOS
1	PowerEdge 1550, **PowerEdge 2500**	1.10A01
2	PowerEdge 1750	A04 – 2/7/03
3	PowerEdge 2300	1.10A9
4	PowerEdge 2400	A02
5	PowerEdge 2450	1.10A3
6	**PowerEdge 2550**	A07
7	PowerEdge 2600	A22
8	**PowerEdge 2650**	A03, X09
9	PowerEdge 4300	A00
10	PowerEdge 4600	A06, X02
11	PowerEdge 6100	1.00.10.CD0L
12	PowerEdge 6300	1.10.A03
13	PowerEdge 6350	1.10.A09
14	PowerEdge 6400	P11 11/08/2000
15	PowerEdge 6450	1.10A5, A10
16	**PowerEdge 6650**	A06
17	**PowerEdge 8450**	1.10A00, A06
18	**PowerVault 750N**	A04; ESM: A54
19	**PowerVault 755N**	A06; ESM: A56
20	PowerVault 770N	A01; ESM: A18
21	**PowerVault 775N**	A04; ESM: A00 7/9/2002

Fuji Serv (ICL)

Fuji Serv (ICL)		
No.	Host System	Host BIOS
1	Trimetra Nova, **Trimetra Nova 3**	BIOS P10SDS44
2	Trimetra P2000	Phoenix BIOS 4.0 Release 6.0

19.630

Fujitsu Siemens

Fujitsu Siemens		
No.	Host System	Host BIOS
1	Primergy 700	PheonixBIOS 4.05 Rev 1.08.887
2	Primergy B210	V6.0 Release 1012
3	Primergy C200	V4.06 Release 1.02
4	Primergy E200	ACPI BIOS 106.1260
5	Primergy F200, Primergy H250, Primergy L200, Primergy P200	1.02
6	Primergy F250, Primergy H450, Primergy P250	1.00
7	Primergy H400, Primergy K400 Primergy N400	4.06R1.07 CFW is 2.07.119
8	Primergy N200	Award Medallion BIOS v6.0 FSC
9	**Primergy N800**	Phoenix BIOS 4.0 Release 60 SABR 1.86B.0009.P09.9909301531 Rel. 9
10	Primergy R450	1.00 Release 0.3.1.77
11	**Primergy T850**	1.03 (VIJS12A.IMG)

HPQ

HPQ		
No.	Host System	Host BIOS
1	HP 9000 D-Class, HP 9000 D290	41.35
2	Netserver LC 2000 U3	4.06.04 V1.05 8/5/02
3	Netserver LH 3	4.06.25 PL
[illegible]	Netserver LH 3000	Phoenix BIOS 4.06.26 PT L.18.02.L3.2.C
[illegible]	Netserver LH 4	4.06.12 PS
6	Netserver LH 6000	Phoenix BIOS 4.06.21 PU Navigator L.18.02.L3.2.C
7	**Netserver LH II, Netserver LH PRO**	4.05.14 PF
8	**Netserver LP 2000r**	4.06.23 (11/20/01)
9	Netserver LT 6000R	Phoenix BIOS 4.06.26 PW, Phoenix BIOS 4.06.43 PW with internal Ultra II SCSI, Phoenix BIOS 4.06.43 RL with internal Ultra3 SCSI
10	**Netserver LX PRO, Netserver LXR PRO**	1.00.11 CDOC
11	Netserver LXR 8000	4.0 Release 6.0 Navigator L.18.02.L3.2.C
12	Netserver LXR 8500	4.0 Release 6.0 Navigator L.18.02.L3.2.C, 4.0 Release 6.0 Navigator M04.00
13	**Netserver LXR PRO8**	2.00 (PB 4.0, rel 6.20)
14	Proliant 1600	P08 (8/17/98)
15	Proliant 1850	4.15A 4/9/02
16	Proliant 2500	4.12A
17	Proliant 3000	4.07A
18	Proliant 5000	E16 (5/12/99)
19	Proliant 5500	P12 (9/9/02)
20	Proliant 6000, **Proliant 7000**	P43 (12/07/99)
21	Proliant 6400R	P11 (12/10/99)
22	Proliant 6500	P11 (12/30/98)
23	Proliant 8000	P41 (07/06/2000)
24	Proliant 850	P04 (03/27/01)
25	**Proliant 8500**	P42 (6/16/2000)
[illegible]	**Proliant 850R**	P04 (9/25/97)
[illegible]	Proliant BL20p (G2)	I04 (01/30/03)
28	Proliant BL40p	I02 (01/31/03)
29	Proliant DL320	D05 - 7/4/02
30	Proliant DL360	P21 (7/4/02)
31	**Proliant DL360(G2)**	P26 (8/4/02)
32	**Proliant DL360(G3)**	P31 (01/09/03)
33	**Proliant DL380(G2)**	P24 (8/17/02)
34	**Proliant DL380(G3)**	P29 (9/10/02)
35	**Proliant DL380**, Proliant ML370	P17 (7/4/02)
36	**Proliant DL560**	P30 (01/21/03)
37	Proliant DL580	P20 (7/4/02)
38	Proliant DL580(G2)	P27 (7/30/02)
39	**Proliant DL740**	P47 - 01/28/2003
40	Proliant DL760	P46 - 6/27/02
41	**Proliant DL760 (G2)**	P46 - 03/24/03
42	Proliant ML350	D02, F04 (7/4/02) with (600, 733, 800, 866, 933 MHz), D04, F04 (7/4/02) with (1 GHz)
43	Proliant ML350(G2)	D11 (7/4/02)
44	Proliant ML370(G2)	P25 (8/17/02)
45	Proliant ML530	P19 (7/4/02)
46	**Proliant ML530(G2)**	P22 (6/21/02)
47	Proliant ML570	P20 (08/24/2000)
48	Proliant ML570(G2)	P32 (Nov. 11, 2002)
49	Proliant ML750	P46 (02/16/01)

IBM

IBM		
No.	Host System	Host BIOS
1	**Netfinity 5000**	MOKT20AUS
2	**Netfinity 5500**	KIE165AUS
3	**Netfinity 5500 M10**	KIE166AUS
4	**Netfinity 5500 M20**	1J1XV8C9KG9 7/3/00 V6.0
5	**Netfinity 5600, xSeries x240**	Version 1.16 (6/29/2001)
6	**Netfinity 7000**	1.00.14.CD0
7	**Netfinity 7000 M10**	OSE134AUS V6.0 1/5/00
8	**Netfinity 7100, xSeries x250**	Version 1.06 (4/19/2001)
9	**Netfinity 7600**	MWE119AUS
10	**Netfinity 8500**	MMKT33AUS V6.0 1/16/01
11	**Netfinity 8500R**	MMKT33AUS Rev. 6 (01/16/01)
12	**xSeries x232**	V1.04 04/03/02
13	xSeries x235	V1.03
14	**xSeries X330**	EME100AUS V1.0 4/10/01
15	**xSeries X335**	v1.05
16	**xSeries X340 (4500R)**	ILKT37AUS 10/20/00 V7N
17	**xSeries X342**	QAE121AUS v1.03 1/10/02
18	**xSeries x350 (6000R)**	ARE122AUS V1.07 12/14/01
[illegible]	**xSeries x370**	Version 1.06 (6/7/2001)
[illegible]	xSeries x440	VIE134AUS V1.06 9/19/02
21	**xSeries x445**	**REE114AUS v1.0 05/23/03**

NCR

NCR		
No.	Host System	Host BIOS
1	Worldmark 4300	1.00.14.CD0
2	Worldmark 4380	2.01.01.003
3	Worldmark 4400	Phoenix BIOS 4.0 rel 6.0
4	Worldmark 4455	Phoenix BIOS 4.0 rel 6.0 SKA40.86B.0030.P05.0005120.955
5	Worldmark 47XX, Worldmark 5100 Series, Worldmark 5150	1.00.14
6	Worldmark 4850, Worldmark 5250	16
7	Worldmark 48XX	NCR 4850 = 16,NCR 4851/4855 = 50.3
8	Worldmark 52XX	NCR 5250 = 16,NCR 5251/5255 = 50.3

NE

NE		
No.	Host System	Host BIOS
1	P7000	BIOS V0.99 (Build 03)

NEC

NEC		
No.	Host System	Host BIOS
1	Express 5800 120Md	Phoenix BIOS 4.0 Release 6.0.2251
2	Express 5800 120Ra-2	Phoenix BIOS 4.0 Release 6.0.0206
3	Express 5800 120Rc-2	Phoenix BIOS 4.0 Release 6.0.0007
4	Express 5800 120Rd-1, Express 5800 120Rf-2	SWV25.86B.0115.P03.0301170934
5	Express 5800 120Rf-2	AMI
6	Express 5800 140Ha	Phoenix BIOS 4.0 Release 6.0 0325
7	Express 5800 140Hb, Express 5800 140Ra-4	Phoenix BIOS 4.0 Release 6.0 1014
8	Express 5800 140Hd	NSH4 Release 6.0
9	Express 5800 140Hd, Express 5800 140Rc-4	NSH4 Release 6.0 NSH40.GH5.0006.P06
10	Express 5800 140Ma	Phoenix BIOS 4.0 Release 6.0 SNX450 BIOS Release 1 Build 17
11	Express 5800 140Ra-7	Phoenix BIOS 4.0 Release 6.0.0033
12	Express 5800 180Ha	Phoenix BIOS 4.0 Release 6.0 1339
13	Express 5800 180Rb-7	Phoenix BIOS 4.0 Release 6.0.0022
14	Express 5800 180Rc-4	Version 1.06, Build level VIE116AUS
15	**Express 5800 320La, Express 5800 320La-R**	**6.0.600E**
16	**Express 5800 320Lb, Express 5800 320Lb-R**	**0.13:2**
17	**Express 5800 330Ma-R**	6.0.0
18	**Express 5800 330Mb-R, Express 5800 340Ha-R**	2.0

SUPERMICRO

SUPERMICRO		
No.	Host System	Host BIOS
1	Super P3TDL3, Super S2DL3	AMI BIOS 07.00.xx

Stratus

Stratus		
No.	Host System	Host BIOS
1	ftServer 3210, ftServer 3220	6.0.4107, 6.0.5109
2	ftServer 3300	2.00
3	ftServer 5200	6.0.0, 7.0.0
4	ftServer 5240, ftServer 6500	1.0

Unisys

Unisys		
No.	Host System	Host BIOS
1	CS7201, Libra Model 180	1.0
2	DR/2, ES2023, ES2025	6.00.36
3	DS/2	6.00.5
4	ES2024	9
5	ES2043	15.6 -009
6	ES2045, ES5045, QS/2	15.7 -008
7	ES2085, ES5085	22.7 Unisys 22.6 ICL_006 ICL
8	ES5044	52.1
9	ES7000/100, ES7000/200	Phoenix BIOS 4.0 Ver 1.0
10	ES7000/230	Plateau V13.1.c3
11	ES7000/500, ES7000/520, ES7000/530, ES7000/540	v1.0
12	QR/2	13.8

Fibre Channel

Fibre Channel Cables

Fibre Channel Connector Types

19.617

Fibre Channel Cables

This table lists Fibre Channel cables. Click here for more information.

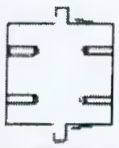
LC and SC fiber optic connector types are illustrated in Figure 1.
MM = Multimode, SM = Single-mode,SC = Standard Connector, LC = Lucent Connector. See the table EMC Fibre Channel Connector Types.
As an example for determining cable model:
From the Single Host Tables in the column titled "Cable Models," the entry MM-SC/xx is interpreted as follows:
MM = mode, SC = HBA connector end, xx = the opposite cable end, which could be SC or LC.
For MM -SC/LC, use cable FC*L*M-50MSLC, where *L* = desired length in meters.
For MM -SC/SC, use cable FC*L*M-50M, where *L* = desired length in meters.

	Fibre Channel		Cable Length (Meters)[1]								
Storage System	Mode	Connector Type	1M	3M	5M	10M	30M	50M	100M	250M	500M
CLARiiON	MM	SC/SC			FC-OPT5M	FC-OPT10M		FC-OPT50M	FC-OPT100M	FC-OPT250M	FC-OPT500M
CLARiiON	MM	SC/LC LC/SC	FM-LS1MDx[2]	FM-LS3MD[2]	FM-LS5MD	FM-LS10MD	FM-LS30MD	FM-LS50MD	FM-LS100MD		
CLARiiON	MM	LC/LC	FM-LL1MD[2]	FM-LL3MD[2]	FM-LL5MD	FM-LL10MD	FM-LL30MD	FM-LL50MD	FM-LL100MD		
Symmetrix	MM	SC/SC			FC5M-50M	FC10M-50M	FC30M-50M	FC50M-50M	FC100M-50M		
Symmetrix	MM	SC/LC LC/SC	FC1M-50MSLC	FC3M-50MSLC	FC5M-50MSLC	FC10M-50MSLC	FC30M-50MSLC	FC50M-50MSLC	FC100M-50MSLC		
Symmetrix	MM	LC/LC	FC1M-50MLC	FC3M-50MLC	FC5M-50MLC	FC10M-50MLC	FC30M-50MLC	FC50M-50MLC	FC100M-50MLC		
Symmetrix	SM	SC/SC			FC5M-9M	FC10M-9M	FC30M-9M	FC50M-9M	FC100M-9M		
Symmetrix	SM	SC/LC LC/SC	FC1M-9MSLC	FC3M-9MSLC	FC5M-9MSLC	FC10M-9MSLC	FC30M-9MSLC	FC50M-9MSLC	FC100M-9MSLC		
Symmetrix	SM	LC/LC			FC5M-9MLC	FC10M-9MLC	FC30M-9MLC	FC50M-9MLC	FC100M-9MLC		

1. For cable lengths between 100 and 500 meters, contact AMP Incorporated at 717-986-5710 or a local fiber optic cable supplier/installer.
2. Ships with SC male-to-female adapter.

LC Connector

SC Connector



SC Coupler

FIGURE 1. LC and SC Fiber Optic Connectors with SC Coupler.

The Lucent LC™ has a form factor about half the size of the SC connector, and uses an insertion release mechanism similar to those on telephone plugs.

The SC coupler is provided with the 1 meter and 3 meter cables, the coupler allows connection to exiting fibre cable plants using SC connectors. The coupler is included with the following cables listed in the table Fibre Channel Cables:
FC1M-50MSLC
FC3M-50MSLC
FC1M-9MSLC
FC3M-9MSLC

EMC Fibre Channel Connector Types

This table lists Fibre Channel connectors. Click here for more information.

MM = Multimode, SM = Single-mode, SC = Standard Connector, LC = Lucent Connector (LC and SC fiber optic connector types are illustrated in Figure 1 above)

Storage and FC Hub/Switch Models	Fibre Adapter	Connector Type	#of Connections-Mode(s)	Comments
ARiiON CX600		LC	8-MM	2 Gbit, 4 connects per SP
ARiiON 4700-2		LC	4-MM	1 or 2 Gbit, 2 connects per SP
CLARiiON 4700		SC	4-MM	1 Gbit, 2 connects per SP
CLARiiON 4500		SC	4-MM	1 Gbit, 2 connects per SP
CLARiiON 5300		SC	4-MM	1 Gbit, 2 connects per SP, requires a MIA for each connect
Symmetrix 3/5000 Series	DP2-FCD2	SC	2-MM	
Symmetrix 3/5000 Series	DP2-RFD2	SC	2-MM	
Symmetrix 3/5000 Series	DP2-RFD2S	SC	1-MM, 1-SM	
Symmetrix 8000 Series	DP3-RFD2	SC	2-MM	
Symmetrix 8000 Series	DP3-FCD2	SC	2-MM	
Symmetrix 8000 Series	DP3-RFD2S	SC	1-MM, 1-SM	
Symmetrix 8000 Series	DP3-FCD2S	SC	1-MM, 1-SM	
Symmetrix 8000 Series	DP3-FCD4	SC	4-MM	SRDF support at 5568
Symmetrix 8000 Series	DP3-FCD8	SC	8-MM	
Symmetrix 8000 Series	DP3-FCD42GS[1]	LC	3-MM, 1-SM	2Gb FC Director No SRDF support, host or switch attach only
Symmetrix 8000 Series	DP3-RFD42GS	LC	3-MM, 1-SM	2Gb FC Director No SRDF support, host or switch attach only
Symmetrix 8000 Series	DP3-FCD42G[1]	LC	4-MM	2Gb FC Director No SRDF support, host or switch attach only
Symmetrix 8000 Series	DP3-RFD42G	LC	4-MM	2Gb FC Director No SRDF support, host or switch attach only
Symmetrix 8000 Series	DP3-SCB1[2]	LC	12-MM	No SRDF support
Symmetrix 8000 Series	DP3-SCQ1[2]	LC	12-MM	No SRDF support
Symmetrix DMX1000/2000	DMX-FCD8M0S	LC	8-MM	
Symmetrix DMX1000/2000	DMX-FCD7M1S	LC	7-MM, 1-SM	
Symmetrix DMX1000/2000	DMX-FCD6M2S	LC	6-MM, 2-SM	

Storage and FC Hub/Switch Models	Fibre Adapter	Connector Type	#of Connections-Mode(s)	Comments
Symmetrix DMX800	DMX-FE-8M0S	LC	8-MM	
Symmetrix DMX800	DMX-FE-7M1S	LC	7-MM, 1-SM	
Symmetrix DMX800	DMX-FE-6M2S	LC	6-MM, 2-SM	
Symmetrix DMX800	DMX-FE-4M0S	LC	4-MM	
Symmetrix DMX800	DMX-FE-3M1S	LC	3-MM, 1-SM	
Connectrix ED-12000B, Brocade 12000	N/A	LC	128 max.-MM	
Connectrix DS-32B2, Brocade 3900	N/A	LC	32 max.-MM(-SM)	
Connectrix ED-64M, McData ED-6064	N/A	LC	64 max.-MM(-SM)	
Connectrix ED-140M, McData ED-6140	N/A	LC	140 max.-MM(-SM)	
Connectrix DS-16M2, McData ES-3216	N/A	LC	16 max.-MM(-SM)	
Connectrix DS-32M2, McData ES-3232	N/A	LC	32 max.-MM(-SM)	
Connectrix ED-1032, IBM 2032-001, McData ED-5000	N/A	SC	32 max.-MM(-SM)	
Connectrix DS-16M, McData ES-3016	N/A	LC	16 max.-MM	
Connectrix DS-24M2, McData ES-4500	N/A	LC	24 max.-MM(-SM)	
Connectrix DS-32M, McData ES-3032	N/A	LC	32 max.-MM(-SM)	
Connectrix DS-8B, Brocade 2400, FCS-0008-01	N/A	SC	8 MM	
Connectrix DS-16B, Brocade 2800, Bull MSKG00008-0000, FCS-0016-05	N/A	SC	16 max.-MM	
Connectrix DS-16B-02, Brocade 2800	N/A	SC	14-MM, 2-SM	
Connectrix DS-16B2, Brocade 3800	N/A	LC	16-MM	
Brocade 3200	N/A	LC	8-MM	
Brocade 6400	N/A	SC	64-MM	
Brocade 1000, ES-2500	N/A	SC	16 max.-MM	
Inrange FC9000/64	N/A	SC	64-MM	
Switches Compaq DS-DSGGA-AA (#380591-B21) DS-DSGGA-AB (#380578-B21) 158222-B21 (8-port) 158223-B21 (16-port) HP A5223A/AZ, A5224A/AZ, A5667A, A5624A IBM 2109, 6064 Sequent FCS-0006-01 (Brocade Silkworm Express) FCS-0006-02 (Brocade Silkworm)	N/A			For mode and connector type information for vendors' equipment, please consult their supporting documentation.
Hubs EMC DP3-FCD8 Bull LNCQ001 Gadzoox 1063CM, Gibraltar-GS, Gibraltar-GL HP A3724A/AZ, HP A4839A/AZ STK StorageNet Access HUB 1.2 Unisys OSM1000 Vixel Rapport 1000, 2000	N/A	SC		For mode and connector type information for vendors' equipment, please consult their supporting documentation.

1. 1Gb mode requires 5567.38.2, 2 Gb mode requires 5568.
2. Minimum Symmetrix microcode revision 5567.34.19A.

iSCSI to FC Routing

No.	Bridge	Firmware Revision	Network Configuration	Topology	Microcode	Operating System	Network Interface Card	Driver	Storage System
1	Cisco SN 5420[2, 3, 4, 5, 6]	2.1.2.6	LAN Only	FC-AL	EMC 5568.47.17[1]	Microsoft Windows 2000; Advanced Server SP3[7], Server SP3[7]; Sun Solaris 8	Generic NIC 10/100, Generic NIC GE	2.1.4	EMC Symmetrix 8000 Series
2	Cisco SN 5420[2, 3, 4, 5, 6]	2.1.2.6	LAN Only	FC-AL	EMC 5669	Microsoft Windows 2000; Advanced Server SP3[7], Server SP3[7]; Sun Solaris 8	Generic NIC 10/100, Generic NIC GE	2.1.4	EMC Symmetrix DMX Series

1. If 200-561-900 FA boards are used, the FA must be configured through SymmWin with a loop ID 0x20.
2. Refer to document - Symmetrix in an iSCSI Cisco Storage Router Configuration EMC P/N 300-000-688, for configuration guidelines.
3. Booting over iSCSI is not supported.
4. PowerPath is supported and the configuration is specified in the configuration document.
5. SymAPI 5.0.1 is required.
6. Clusters are not supported.
7. EMC strongly recommends that HBAs of different vendors not be used in the same host server.

Switched Fabric Topology Parameters

For fabrics consisting of McData and Brocade directors/switches, see the Interoperability Solution Statement, EMC P/N 300-000-067, at http://avatar.eng.emc.com.
Server / HBA model limitations are subject to switch support as listed in Fibre Connectivity: Switch Interoperability Application. EMC recommends the latest code revisions be used on all fabrics.
Switch Interoperability describes the limitations for a mixed Fibre Channel switched fabric topology. The fabric topology envelope limitations and the switch management applications are defined in the attribute columns.
The following is an example showing how to utilize the table:
1. The objective of this example are to construct a SAN consisting of a Connetrix ED-1032, a Connectrix DS-32M, a Connectrix DS-16B, and to verify firmware and management application compatibility. In this case you need to verify that each of these components interoperates with the other two.
2. As the data shows, devices listed in Fibre Channel Switch column can be the same SAN with devices listed in the Fibre Channel Switch B column. For example: a DS-32M model switch running 1.02.00 firmware can interoeprate with an ED-1032 Director running 3.02.00 firmware, and with a DS-16B running a2.5.0d firmware.
3. In order to verify that the ED-1032 Director running 3.02.00 firmware can also interoperate with the S-16B running a2.5.0d, find the ED-1032 in the Fibre Channel Switch column and the DS-16B in the Fibre Channel Switch B column. These two steps verify that alll three firmware levels are compatible with each other. The management application in these cases is Connectrix Manager orEFCM 4.01.00.
For DWDM support, see the Distance Extension Solution Interoperability Application and the "Distance Extension Considerations" in the EMC Networked Storage Topology Guide at http://avatar.eng.emc.com.
For McData switches / directors, Single Mode optics are supported up to 20 km.
For Brocade switches and directors, Single Mode optics support 10km, 20km, and 35km distance switch to switch.

No.	Switch	Switch Firmware Revision	Interoperable Switch	Interoperable Switch Firmware Revision	Max # of Domains per Fabric	Max # Hops	Switch Management Application Revision	ISL Domain to Domain	Comments
1	Brocade Silkworm 1000; McDATA ES-2500	1.6d	Brocade Silkworm 1000; McDATA ES-2500	1.6d	4[6]	1[2]	Web Tools[3, 4]	4[5]	
2	Brocade Silkworm 12000; EMC Connectrix ED-12000B[19]	v4.0.0d	Brocade Silkworm: 3200, 3800; EMC Connectrix DS-16B2[13]	3.0.2f	16[6, 30]	3[2]	Web Tools[3, 4]	2[5]	See[16, 17, 18]
3	Brocade Silkworm 12000; EMC Connectrix ED-12000B[19]	v4.0.0d[11]	Brocade Silkworm 12000; EMC Connectrix ED-12000B[19]	v4.0.0d[11]	4[6]	1[2]	Web Tools[3, 4]	8[5]	See[16, 17, 18]
4	Brocade Silkworm 12000; EMC Connectrix ED-12000B[19]	v4.0.0d[11]	Brocade Silkworm: 2400, 2800; Bull MSKG008-0000[20, 21]; EMC Connectrix DS-16B[10]	2.6.0d	16[6]	3[2]	Web Tools[3, 4]	2[5]	See[16, 17, 18]
5	Brocade Silkworm 12000; EMC Connectrix ED-12000B[19]	v4.0.0d[11]	EMC Connectrix DS-8B	2.6.0d	16[30]	3[2]	Web Tools	2	See[16, 17, 18]
6	Brocade Silkworm 6400	v2.4.1a			0[6]	0[2]	Fabric Manager 1.0[3, 4]	0[5]	See[29]
7	Brocade Silkworm, 12000, 3900; EMC Connectrix: DS-32B2[19], ED-12000B[19]	v4.0.2a	Brocade Silkworm 12000; EMC Connectrix ED-12000B[19]	v4.0.2a	16[30]	3[2]	Web Tools[3, 4]	8[5]	See[16, 17, 18]
8	Brocade Silkworm: 12000, 3900; EMC Connectrix: DS-32B2[19], ED-12000B[19]	v4 0.2a	Brocade Silkworm 3900; EMC Connectrix DS-32B2[19]	v4.0.2a	16[6, 30]	3[2]	Web Tools[3, 4]	8[5]	See[16, 17, 18]
9	Brocade Silkworm: 12000, 3900; EMC Connectrix: DS-32B2[19], ED-12000B[19]	v4.0.2a	Brocade Silkworm: 2400, 2800; Bull MSKG008-0000[20, 21]; EMC Connectrix DS-16B[10]	2.6.0f	16[6, 30]	3[2]	Web Tools[3, 4]	8[5]	See[16, 17, 18]
10	Brocade Silkworm: 12000, 3900; EMC Connectrix: DS-32B2[19], ED-12000B[19]	v4.0.2a	Brocade Silkworm: 3200, 3800; EMC Connectrix DS-16B2[13]	3.0.2m	16[6, 30]	3[2]	Web Tools[3, 4]	2[5]	See[16, 17, 18]
11	Brocade Silkworm: 2400, 2800; Bull MSKG008-0000[20, 21]; EMC Connectrix DS-16B[10]	2.6.0d	Brocade Silkworm: 2400, 2800; Bull MSKG008-0000[20, 21]; EMC: Connectrix DS-16B[10], DP3-SCB1	2.6.0d	16[6]	3[2]	Web Tools[3, 4]	4[5]	See[22, 23]
12	Brocade Silkworm, 2400, 2800; Bull MSKG008-0000[20, 21]; EMC Connectrix DS-16B[10]	2.6.0d	Brocade Silkworm: 3200, 3800; EMC Connectrix DS-16B2[13]	3.0.2f	16[6]	3[2]	Web Tools[3, 4]	4[5]	See[22, 23]
13	Brocade Silkworm: 2400, 2800; Bull MSKG008-0000[20, 21]; EMC: Connectrix DS-16B[10], DP3-SCB1	a2.4.1f	Brocade Silkworm: 2400, 2800; Bull MSKG008-0000[20, 21]; EMC: Connectrix DS-16B[10], DP3-SCB1	a2.4.1f	16[6]	3[2]	Web Tools[3, 4]	4[5]	See[22, 23]
14	Brocade Silkworm: 2400, 2800; Bull MSKG008-0000[20, 21]; EMC: Connectrix DS-16B[10], DP3-SCB1	a2.5.0d	Brocade Silkworm: 2400, 2800; Bull MSKG008-0000[20, 21]; EMC: Connectrix DS-16B[10], DP3-SCB1	a2.5.0d	16[6]	3[2]	Web Tools[3, 4]	4[5]	See[22, 23]
15	Brocade Silkworm: 2400, 2800; Bull MSKG008-0000[20, 21]; EMC: Connectrix DS-16B[10], DP3-SCB1	a2.5.1b	Brocade Silkworm: 2400, 2800; Bull MSKG008-0000[20, 21]; EMC: Connectrix DS-16B[10], DP3-SCB1	a2.5.1b	16[6]	3[2]	Web Tools[3, 4]	4[5]	See[22, 23]
	Brocade Silkworm: 2400, 2800; EMC Connectrix DS-16B[10]	2.6.0f	Brocade Silkworm: 2400, 2800; Bull MSKG008-0000[20, 21]; EMC: Connectrix DS-16B[10], DP3-SCB1	2.6.0f	16[6]	3[2]	Web Tools[3, 4]	4[5]	See[22, 23]
17	Brocade Silkworm, 2400, 2800; EMC Connectrix DS-16B[10]	2.6.0f	Brocade Silkworm: 3200, 3800; EMC Connectrix DS-16B2[13]	3.0.2m	16[6]	3[2]	Web Tools[3, 4]	4[5]	See[22, 23]
18	Brocade Silkworm: 3200, 3800; EMC Connectrix DS-16B2[13]	3.0.2m	Brocade Silkworm: 3200, 3800; EMC Connectrix DS-16B2[13]	3.0.2m	16[6]	3[2]	Web Tools	8[5]	See[4]
19	Bull MSKG008-0000[20, 21]	2.6.0f	Brocade Silkworm: 2400, 2800; Bull MSKG008-0000[20, 21]; EMC: Connectrix DS-16B[10], DP3-SCB1	2.6.0f	16[6]	3[2]	Fabric Manager 1.0 SCB Manager 2.0a (for EMC DP3-SCB1 only)[3, 4]	4[5]	See[22, 23]
20	Bull MSKG008-0000[20, 21]	2.6.0f	Brocade Silkworm: 3200, 3800; EMC Connectrix DS-16B2[13]	3.0.2h	16[6]	3[2]	Fabric Manager 1.0 SCB Manager 2.0a (for EMC DP3-SCB1 only)[3, 4]	4[5]	See[22, 23]
21	Cisco MDS 9216	1.0(4)	Cisco MDS 9216	1.0(4)	8[6]	3[2]	**Cisco Fabric Manager[3, 4]**	16[5]	**See[31]**
22	Cisco MDS: 9216, 9509	1.0(4)	Cisco MDS 9509	1.0(4)	8[6]	3[2]	**Cisco Fabric Manager[3, 4]**	16[5]	**See[31]**
23	EMC Connectrix ED-1032; IBM 2032-001; McDATA ED-5000	4.01.00	Brocade Silkworm: 2400, 2800; EMC: Connectrix DS-16B[10], DP3-SCB1	2.6.0d[9]	16[6, 15]	3[2]	Connectrix Manager[3, 4], EFCM 6.00.00[3, 4]	2[5]	See[8]
24	EMC Connectrix ED-1032; IBM 2032-001; McDATA ED-5000	4.01.00	Brocade Silkworm: 3200, 3800; EMC Connectrix DS-16B2[13]	3.0.2a[9, 11, 12]	16[6, 15]	3[2]	Connectrix Manager[3, 4], EFCM 6.00.00[3, 4]	2[5]	

No.	Switch	Switch Firmware Revision	Interoperable Switch	Interoperable Switch Firmware Revision	Max # of Domains per Fabric	Max # Hops	Switch Management Application Revision	ISL Domain to Domain	Comments
25	EMC Connectrix ED-1032, IBM 2032-001, McDATA ED-5000	4.01.00	Brocade Silkworm: 3200, 3800; EMC Connectrix DS-16B2[13]	3.0.2f[9, 11, 12]	16[6, 15]	3[2]	Connectrix Manager[3, 4], EFCM 6.00.00[3, 4]	2[5]	See[7, 8]
26	EMC Connectrix ED-1032; IBM 2032-001 McDATA ED-5000	4.01.00	EMC Connectrix DS-8B	2.6.0d[9]	16	3[2]	Connectrix Manager 6.00.00	2	
27	EMC Connectrix ED-1032; IBM 2032-001, McDATA ED-5000	4.01.00	EMC Connectrix ED-1032: IBM 2032-001, McDATA ED-5000	4.01.00	16[6, 15]	3[2]	Connectrix Manager[3, 4], EFCM 6.00.00[3, 4]	8[5]	
28	EMC Connectrix: DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, ED-140M, ED-64M; IBM 6064: McDATA: ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	4.01.00	EMC Connectrix: DS-16M, DS-16M2, DS-24M2, DS-32M DS-32M2, ED-1032, ED-140M, ED-64M, IBM: 2032-001, 6064, McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	4.01.00	16[6, 15]	3[2]	Connectrix Manager or EFCM 6.03.00[3, 4]	8[5]	
29	EMC Connectrix: DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, ED-140M, ED-64M; IBM 6064, McDATA: ED-6064, ED-6140 ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	4.01.02	EMC Connectrix ED-1032; IBM 2032-001; McDATA ED-5000	4.01.00	16[6, 15]	3[2]	Connectrix Manager or EFCM 6.03.01[3, 4]	8[5]	
30	EMC Connectrix: DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, ED-140M, ED-64M; IBM 6064; McDATA: ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	4.01.02	EMC Connectrix: DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, ED-140M, ED-64M; IBM 6064; McDATA: ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	4.01.02	16[6, 15]	3[2]	Connectrix Manager or EFCM 6.03.01[3, 4]	8[5]	
31	EMC Connectrix: DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, ED-140M, ED-64M; IBM 6064; McDATA, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	5.01.XX	EMC Connectrix ED-1032; IBM 2032-001; McDATA ED-5000	4.01.00	16[6]	3[2]	Connectrix Manager 7.01.00[3, 4]	8[5]	
32	**EMC Connectrix: DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, ED-140M, ED-64M;** IBM 6064; **McDATA: ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500**	5.01.XX	EMC Connectrix: DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, ED-140M, ED-64M; **IBM 6064; McDATA: ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500**	5.01.XX	16[6]	3[2]	Connectrix Manager 7.01.00[3, 4]	8[5]	
33	EMC Connectrix: DS-16M, DS-16M2, DS-32M, DS-32M2, ED-140M, ED-64M; IBM 6064; McDATA: ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232	4.00.00	EMC Connectnx ED-1032; IBM 2032-001; McDATA ED-5000	4.01.00	16[6, 15]	3[2]	Connectnx Manager[3, 4], EFCM 6.02.00[3, 4]	8[5]	
34	EMC Connectrix: DS-16M, DS-16M2, DS-32M, DS-32M2, ED-140M, ED-64M; IBM 6064; McDATA: ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232	4.00.00	EMC Connectrix: DS-16M, DS-16M2, DS-32M, DS-32M2, ED-140M, ED-64M: IBM 6064; McDATA: ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232	4.00.00	16[6, 15]	3[2]	Connectrix Manager[3, 4], EFCM 6.02.00[3, 4]	8[5]	See[14]
35	EMC Connectrix: DS-16M, DS-16M2, DS-32M, DS-32M2, ED-64M; IBM 6064, McDATA: ED-6064, ES-3016, ES-3032, ES-3216, ES-3232	2.00.00[11]	Brocade Silkworm: 2400, 2800; EMC: Connectrix DS-16B[10], DP3-SCB1	2.6.0d[9]	16[6]	3[2]	Connectrix Manager[3, 4], EFCM 6.00.00[3, 4]	2[5]	See[7, 8]
36	EMC Connectrix: DS-16M, DS-16M2, DS-32M, DS-32M2, ED-64M; IBM 6064; McDATA: ED-6064, ES-3016, ES-3032, ES-3216, ES-3232	2.00.00[11]	Brocade Silkworm: 3200, 3800; EMC Connectrix DS-16B2[13]	3.0.2f[9, 11, 12]	16[6]	3[2]	Connectrix Manager[3, 4], EFCM 6.00.00[3, 4]	2[5]	See[7, 8]
37	EMC Connectrix: DS-16M, DS-16M2, DS-32M, DS-32M2, ED-64M: IBM 6064, McDATA, ED-6064, ES-3016, ES-3032, ES-3216, ES-3232	2.00.00[11]	EMC Connectrix DS-8B	2.6.0d[9]	16	3[2]	Connectrix Manager 6.00.00	2	
38	EMC Connectrix, DS-16M, DS-16M2, DS-32M, DS-32M2, ED-64M; IBM 6064, McDATA: ED-6064, ES-3016, ES-3032, ES-3216, ES-3232	2.00.00[11]	EMC Connectnx ED-1032; IBM 2032-001; McDATA ED-5000	4.01.00	16[6]	3[2]	Connectrix Manager[3, 4], EFCM 6.00.00[3, 4]	8[5]	

No.	Switch	Switch Firmware Revision	Interoperable Switch	Interoperable Switch Firmware Revision	Max # of Domains per Fabric	Max # Hops	Switch Management Application Revision	ISL Domain to Domain	Comments
39	EMC Connectrix: DS-16M, DS-16M2, DS-32M, DS-32M2, ED-64M; IBM 6064: McDATA: ED-6064, ES-3016, ES-3032, ES-3216, ES-3232	2.00.00[11]	EMC Connectrix: DS-16M, DS-16M2, DS-32M, DS-32M2, ED-64M; IBM 6064: McDATA: ED-6064, ES-3016, ES-3032, ES-3216, ES-3232	2.00.00[11]	16[6]	3[2]	Connectrix Manager[3, 4], EFCM 6.00.00[3, 4]	8[5]	
40	EMC Connectrix: DS-16M, DS-32M, ED-64M; IBM 6064, McDATA: ED-6064, ES-3016, ES-3032	1.01.02	EMC Connectrix ED-1032; IBM 2032-001, McDATA ED-5000	3.01.01	8[6]	3[2]	Connectrix Manager[3, 4], EFCM 4.00.00[3, 4]	8[5]	See[1]
41	EMC Connectrix: DS-16M, DS-32M, ED-64M; IBM 6064, McDATA: ED-6064, ES-3016, ES-3032	1.01.02	EMC Connectrix: DS-16M, DS-32M, ED-64M; IBM 6064: McDATA: ED-6064, ES-3016, ES-3032	1.01.02	8[6]	3[2]	Connectrix Manager[3, 4], EFCM 4.00.00[3, 4]	8[5]	See[1]
42	EMC Connectrix: DS-16M, DS-32M, ED-64M; IBM 6064: McDATA: ED-6064, ES-3016, ES-3032	1.02.00	Brocade Silkworm: 2400, 2800; EMC: Connectrix DS-16B[10], DP3-SCB1	a2.5.0d[9]	16[6]	3[2]	Connectrix Manager[3, 4], EFCM 4.01.00[3, 4]	2[5]	See[1, 7, 8]
43	EMC Connectrix: DS-16M, DS-32M, ED-64M, IBM 6064, McDATA: ED-6064, ES-3016, ES-3032	1.02.00	EMC Connectrix ED-1032; IBM 2032-001; McDATA ED-5000	3.02.00	16[6]	3[2]	Connectrix Manager[3, 4], EFCM 4.01.00[3, 4]	8[5]	See[1]
4	EMC Connectrix: DS-16M, DS-32M, ED-64M: IBM 6064; McDATA: ED-6064, ES-3016, ES-3032	1 02.00	EMC Connectrix: DS-16M, DS-32M, ED-64M: IBM 6064; McDATA: ED-6064, ES-3016, ES-3032	1.02.00	16[6]	3[2]	Connectrix Manager[3, 4], EFCM 4.01.00[3, 4]	8[5]	See[1]
45	EMC Connectrix: DS-16M, DS-32M, ED-64M; IBM 6064; McDATA: ED-6064, ES-3016, ES-3032	1.04.00	EMC Connectrix ED-1032; IBM 2032-001; McDATA ED-5000	4.00.00	16[6]	3[2]	Connectrix Manager[3, 4], EFCM 4.02.00[3, 4]	8[5]	See[1]
46	EMC Connectrix: DS-16M, DS-32M, ED-64M: IBM 6064, McDATA: ED-6064, ES-3016, ES-3032	1.04.00	EMC Connectrix: DS-16M, DS-32M, ED-64M: IBM 6064, McDATA: ED-6064, ES-3016, ES-3032	1.04.00	16[6]	3[2]	Connectrix Manager[3, 4], EFCM 4.02.00[3, 4]	8[5]	See[1]
47	EMC DP3-SCQ1	4.00.32			1[6]	0[2]	SCQ Manager V1.01.02[3, 4]	0[5]	See[24, 25]
48	Inrange FC9000/64[28]	2.1.2	Inrange FC9000/64[28]	2.1.2	1[6]	0[2]	IN-VSN EM 2.1.2 RC5[3, 4]	N/A[5]	See[26, 27]

1. Obsolete (End of Support).
2. The maximum number of ISLs (Inter-Switch Links) a frame needs to traverse between any input port of the fabric to any output port, assuming all ISLs are active (no ISL or switch fault condition is present) This is the maximum number of hops in a fabric.
3. Switch Management versions are backward compatible. You may manage any lower-level switch with a higher level Management Application Revision.
4. The use of mixed code revisions in the same fabric should be limited to code upgrade processes only. You must always use the management code rev. associated with the highest level of switch code.
5. The maximum number of ISLs (Inter-Switch Links) between two switches in a fabric.
6. The maximum number of switches a Fibre Channel fabric may contain under the current topology limitations.
7. ESN Manager 2.1.
8. Hard set ISL E-port speed to 1 Gb or 2 Gb.
9. For fabrics consisting of McData and Brocade directors/switches, see the Interoperability Solution Statement, EMC P/N 300-000-067.
10. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
    Auto-negotiation with 200-563-920 requires Enginuity 5568.47.17.
12. CLARiiON environments only: groups of 4 consecutively numbered ports may be referred to as a "quad". The 4 quads correspond to ports 0 - 3, 4 -7, 8- 11, and 12- 15. Only one port within any quad may be connected to an array SP port. The remaining 3 ports within the quad may be used for connection to HBA ports and as ISLs.
13. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
14. Upgrade required to 4.01.00.
15. For fabric and zone size considerations, refer to the latest Connectrix Planning Guide and Release Notes.
16. Mirrored fabrics with redundant switch hardware are strongly recommended.
17. Zoning, discovery, and statistics for ESN Manager 2.0 or earlier are not available.
18. No support currently for QuickLoop.
19. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
20. This is a Brocade Silkworm 2800 (16 ports)
21. Firmware revision levels distributed and supported by Bull Please see appropriate Bull documentation.
22. Brocade 2400 and 2800 require the purchase of the "extended fabric license" from Brocade for long distance applications.
23. For QuickLoop support, see Fibre Connectivity: Switch Interoperability Application.
24. No ISLs supported.
25. Host connectivity only
26. T-port mode only. Limited to a maximum of 16 zones.
27. Port zoning only. Minimum Enginuity code 5567.29.15s.
28. T-port mode only Port zoning only Single switch only.
29. Single Brocade 6400 cabinet only.
30. When creating a fabric with ED-12000B and DS-16B, DS-16B2, and / or DS-32B2, a maximum of 4 ED-12000B domains can be used
31. **20 VSANs maximum, with 8 domains per-VSAN.**

Mixed Storage Environment Matrix

EMC continues to qualify the individual non-EMC storage arrays in environments that share resources (SAN, Server, and HBA) with EMC equipment and in the interest of simplicity, we provide the following statements on the support of those environments. EMC will continue to support EMC manufactured or EMC supplied equipment in environments that meet the following criteria. Any environment that does not adhere to these requirements would require a PRPQ for identification of supportability.

Requirements:

1. Clariion and Symmetrix Storage

EMC storage (Clariion & Symmetrix) interoperability support is listed as part of the Base Connectivity, Clustered Host and Switch Interoperability tables of the EMC Support Matrix. It should be understood that arrays with matching matrix configurations can be used in a shared SAN, Shared Server or Shared HBA,

unless explicitly noted. PowerPath and other load balancing software versions must be reviewed independently for mutual array support or coexistence concerns.

2. Compatibility with Non-EMC Storage

a. Shared SAN, Shared Server, Shared HBA

When working in a heterogeneous storage environment the fabric components (switches, directors, and HBAs) along with the operating system level, HBA models, drivers and firmware must all be at the EMC supported levels. Non-EMC storage connecting to this fabric environment must also be supported through their respective OEM vendors in the stated environment. Deviations in any of the supported levels for any component can either be handle through EMC's or the respective vendor's RPQ process. This will ensure that all storage arrays remain supported through their respective OEM vendors.

b. Individual Storage Vendor Zoning

No matter which sharing model you choose(Shared HBA, Shared Server, or Shared SAN), EMC recommends that you limit the amount of possible interactions between the arrays. This will assist in troubleshooting, maintenance and management of the environment.

To limit the interactions and dependencies we recommend that you do not include storage array ports from different vendors in the same zone. Multiple zones can be created that use the same HBA, as long as the storage arrays are in separate zones with that common HBA. Zoning in this fashion will ensure that there are no direct interactions between the different storage arrays.

c. Third Party Load Balancing and Path Management Software

Load balancing and path management software compatibility cannot be inferred by any table, and unless concurrent support for such software is explicitly listed in the applicable Base Connectivity sections, then support will require an RPQ submission.

d. Metavolume Creation and Striping

To further limit the dependencies and interaction of these arrays, we recommend that you do not use logical partitions from separate array vendors in the same metavolume or stripe set. Doing this will complicate troubleshooting, maintenance activities and follow on management of the arrays.

No.	Storage System	Safe Neighbor Policy
1	Generic Fibre Channel Bridge, Generic Fibre Channel Tape, HPQ StorageWorks, HPQ SureStore E XP-256, HPQ SureStore E XP-512, Hitachi HDS 7700E, Hitachi HDS 9900, IBM ESS, Sun StorEdge Arrays	Shared HBA, Shared SAN, Shared Server

Distance Extension Solutions

No.	Distance System	Supported Link Speed	Code Level	Topology	Switch	Maximum Distance	Network	Protocol	Storage System	Comments
1	ADVA FSP 2000[29]	1 Gb[5]		FC-SW		200 km	DWDM	Block I/O	EMC CLARiiON FC4700	See[1, 2, 3, 11, 17]
2	ADVA FSP 2000[29]	1 Gb[5]		FC-SW		200 km	DWDM	Block I/O, SRDF	EMC Symmetrix 8000 Series	See[1, 2, 3, 11, 17]
3	ADVA FSP 2000[29]	1 Gb[5]		FC-SW		200 km	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3, 11, 17]
4	ADVA FSP 2000[29]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O	EMC CLARiiON CX600/CX400	See[1, 2, 3, 11, 17]
5	ADVA FSP 2000[29]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900: EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O, SRDF	EMC Symmetrix DMX Series	See[1, 2, 3, 11, 17]
6	**ADVA FSP 2000[29]**	**N/A**		ESCON		200 km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	See[1, 11, 17]
7	**ADVA FSP 3000[78]**	1 Gb[5], 2 Gb[5]	2.0.35	FC-SW		200 km	DWDM	Block I/O	**EMC CLARiiON FC4700**	See[1, 2, 3, 17]
8	**ADVA FSP 3000[78]**	1 Gb[5], 2 Gb[5]	2.0.35	FC-SW		200 km	DWDM	Block I/O, SRDF	**EMC Symmetrix 8000 Series**	See[1, 2, 3, 17]
9	**ADVA FSP 3000[78]**	1 Gb[5], 2 Gb[5]	2.0.35	FC-SW		200 km	DWDM	MirrorView[32]	**EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700**	See[1, 2, 3, 17]
10	**ADVA FSP 3000[78]**	1 Gb[5], 2 Gb[5]	2.0.35	FC-SW	**Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900:** **EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M;** **McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500**	200 km	DWDM	Block I/O	**EMC CLARiiON CX600/CX400**	See[1, 2, 3, 17]
[illegible]	**ADVA FSP 3000[78]**	1 Gb[5], 2 Gb[5]	2.0.35	FC-SW	**Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900:** **EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M;** **McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500**	200 km	DWDM	Block I/O, SRDF	**EMC Symmetrix DMX Series**	See[1, 2, 3, 17]
12	**ADVA FSP 3000[78]**	**N/A[5]**	**2.0.35**	ESCON		200 km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	See[1, 17]
13	Akara OUSP 2048	1 Gb[5]	2.04	FC-SW		200 km	SONET	Block I/O, SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 2, 3, 17, 52]
14	Akara OUSP 2048	1 Gb[5]	2.04	FC-SW	Brocade Silkworm: 12000, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B, ED-1032, ED-140M, ED-64M, McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	SONET	Block I/O, MirrorView	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3, 17, 52]

No.	Distance System	Supported Link Speed	Code Level	Topology	Switch	Maximum Distance	Network	Protocol	Storage System	Comments
15	**Akara OUSP 2048**	**N/A**	**2.04**	ESCON		200 km	SONET	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[1, 2, 52]**
16	Alcatel 1696 Metro Span V1.1[55, 67]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900. EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 3, 7, 66]
17	Alcatel 1696 Metro Span V1.1[55, 67]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O, SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 3, 7, 66]
18	Alcatel 1696 Metro Span V1.1[55, 67]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 3, 7, 66]
19	**Alcatel 1696 Metro Span V1.1[55, 67]**	**N/A**		ESCON		200 km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[1, 17, 66]**
20	CIENA MultiWave Metro[27]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 3, 7, 17, 28]
21	CIENA MultiWave Metro[27]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O, SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 3, 7, 17, 28]
22	CIENA MultiWave Metro[27]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 3, 7, 17, 28]
23	**CIENA MultiWave Metro[27]**	**N/A**		ESCON		200 km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[1, 17, 28]**
24	**CIENA ONLINE Edge**	1 Gb[5]	V3.1.1	FC-SW		200 km	DWDM	Block I/O, SRDF	**EMC Symmetrix DMX Series**	**See[1, 2, 3, 14, 15, 16, 17, 73]**
25	**CIENA ONLINE Edge**	1 Gb[5]	V3.1.1	FC-SW	**Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900;** **EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M;** **McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500**	200 km	DWDM	Block I/O	**EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700**	**See[1, 2, 3, 14, 15, 16, 17, 73]**

No.	Distance System	Supported Link Speed	Code Level	Topology	Switch	Maximum Distance	Network	Protocol	Storage System	Comments
26	CIENA ONLINE Edge	1 Gb[5]	V3.1.1	FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O, SRDF	EMC Symmetrix 8000 Series	See[1, 2, 3, 14, 15, 16, 17, 73]
27	CIENA ONLINE Edge	1 Gb[5]	V3.1.1	FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900, EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3, 14, 15, 16, 17, 73]
28	CIENA ONLINE Edge	N/A		ESCON		200 km	DWDM	SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 16, 17, 73]
29	CIENA ONLINE Edge[74, 75]	1 Gb[5]	v3.1.1	FC-SW		200 km	SONET	Block I/O, SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 2, 3, 17, 52]
30	CIENA ONLINE Edge[74, 75]	1 Gb[5]	v3.1.1	FC-SW	Brocade Silkworm: 12000, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B, ED-1032, ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	SONET	Block I/O, MirrorView	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3, 17, 52]
31	CIENA ONLINE Edge[74, 75]	N/A	v3.1.1	ESCON		200 km	SONET	SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 2, 52]
32	CIENA ONLINE Metro[18, 19, 20]	1 Gb[5]		FC-SW		200 km	DWDM	Block I/O, SRDF	EMC Symmetrix DMX Series	See[1, 2, 3, 14, 15, 16, 17]
33	CIENA ONLINE Metro[18, 19, 20]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3, 14, 15, 16, 17]
34	CIENA ONLINE Metro[18, 19, 20]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O, SRDF	EMC Symmetrix 8000 Series	See[1, 2, 3, 14, 15, 16, 17]
35	CIENA ONLINE Metro[18, 19, 20]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3, 14, 15, 16, 17]
36	CIENA ONLINE Metro[18, 19, 20]	N/A		ESCON		200 km	DWDM	SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 16, 17]

No.	Distance System	Supported Link Speed	Code Level	Topology	Switch	Maximum Distance	Network	Protocol	Storage System	Comments
37	Cisco Metro 1500[6]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	60 km[33]	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3]
38	Cisco Metro 1500[6]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900, EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-32B2[42], DS-32M, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km[33]	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3]
39	Cisco Metro 1500[6]	1 Gb[5]		FC-SW	EMC Connectrix: DS-16M2, DS-24M2, DS-32M2	200 km	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3]
40	**Cisco Metro 1500[6], Marconi PMM Point-to-Point (PMM-P)[55]**	**N/A**		ESCON		200 km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	See[1, 17]
41	Cisco Metro 1500[6], Nortel OPTera 5200[4], Sorrento Gigamux and EPC	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O, SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 2, 3]
42	Cisco ONS 15252[55, 56, 57]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 3, 7, 8, 9]
43	Cisco ONS 15252[55, 56, 57]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O, SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 3, 7, 8, 9]
44	Cisco ONS 15252[55, 56, 57]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 3, 7, 8, 9]
45	Cisco ONS 15530[55, 68, 69, 70, 71, 72]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 3, 7, 9]
46	Cisco ONS 15530[55, 68, 69, 70, 71, 72]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O, SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 3, 7, 9]

No.	Distance System	Supported Link Speed	Code Level	Topology	Switch	Maximum Distance	Network	Protocol	Storage System	Comments
47	Cisco ONS 15530[55, 68, 69, 70, 71, 72]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 3, 7, 9]
48	**Cisco ONS 15530[55, 68, 69, 70, 71, 72]**	**N/A**		ESCON		200 km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[1, 9, 17]**
49	Cisco ONS 15540[10]	1 Gb[5], 2 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900: EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 3, 7, 8, 9]
50	Cisco ONS 15540[10]	1 Gb[5], 2 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O, SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 3, 7, 8, 9]
51	Cisco ONS 15540[10]	1 Gb[5], 2 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 3, 7, 8, 9]
52	**Cisco ONS: 15252[55, 56, 57] 15540[10]**	**N/A**		ESCON		200 km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[1, 8, 9, 17]**
53	CNT UltraNet Edge 1002 (1 FC x 1 ATM OC-12)		1.5.1.2	FC-SW			ATM OC-12	SRDF[76]	EMC Symmetrix 8000 Series	See[36, 37, 38]
54	CNT UltraNet Edge 1003 (1 FC x 1 ATM OC-3)		1.5.1.2	FC-SW			ATM OC-3	SRDF[44]	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[36, 37, 38]
55	CNT UltraNet Edge: 1000 (1 FC x 1 100 Mbps IP), 1001 (1 FC x 1 Gbps IP), 1100 (2 FC x 2 100 Mbps IP)		1.5.1.2	FC-SW			IP	SRDF[44]	EMC Symmetrix 8000 Series	See[36, 37, 38, 43]
56	CNT UltraNet Edge: 1000 (1 FC x 1 100 Mbps IP), 1001 (1 FC x 1 Gbps IP), 1100 (2 FC x 2 100 Mbps IP), 1101 (2 FC x 2 Gbps IP)		1.5.1.2	FC-SW			IP	SRDF[44]	EMC Symmetrix DMX Series	See[36, 37, 38, 43]
57	**CNT UltraNet Edge: 1000 (1 FC x 1 100 Mbps IP), 1100 (2 FC x 2 100 Mbps IP)**		**1.5.1.2**	FC-SW			IP	MirrorView[39]	**EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700**	**See[36, 37, 38]**
58	**CNT UltraNet Edge: 1000 (1 FC x 1 100 Mbps IP), 1100 (2 FC x 2 100 Mbps IP)**		**1.5.1.2**	FC-SW			IP[38]	SAN Copy	**EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700**	**See[37, 64]**
59	CNT UltraNet Edge: 3000 (1 FC x 1 100 Mbps IP), 3001 (1 FC x 1 Gbps IP), 3100 (2 FC x 2 100 Mbps IP), 3101 (2 FC x 2 Gbps IP)		3.1	FC-SW			IP	SRDF[44]	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[36, 37, 38, 43]

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No.	Distance System	Supported Link Speed	Code Level	Topology	Switch	Maximum Distance	Network	Protocol	Storage System	Comments
60	**CNT UltraNet Storage Director (6 slot)**	**N/A**	**2.8**	ESCON			ATM OC-3, T3/E3	SRDF[40]	**EMC Symmetrix 8000 Series**	**See[36]**
61	**CNT UltraNet Storage Director: (12 slot)[41]; (6 slot)**	**N/A**	**3.1**	ESCON			IP[38]	SRDF	**EMC Symmetrix DMX Series**	**See[36]**
62	**CNT UltraNet Storage Director: (12 slot)[41]; (6 slot)**	**N/A**	**3.1**	ESCON			IP[38]	SRDF[40]	**EMC Symmetrix 8000 Series**	**See[36]**
63	CNT UltraNet Wave Multiplexer[12, 13]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3, 11]
64	CNT UltraNet Wave Multiplexer[12, 13]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O, SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 2, 3, 11]
65	CNT UltraNet Wave Multiplexer[12, 13]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3, 11]
66	**CNT UltraNet Wave Multiplexer[12, 13]**	**N/A**		ESCON		200 km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[1, 11, 17, 35]**
67	Finisar FLX-2000-40 rev 3.0[26]	1 Gb[5]		FC-SW	EMC Connectrix: DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, ED-1032, ED-12000B[42], ED-64M; EMC DP3-SCB1	40 km		Block I/O[3], SRDF	EMC Symmetrix 8000 Series	See[21, 22, 23, 24, 25]
68	Finisar FLX-2000-40 rev 3.0[26]	1 Gb[5]		FC-SW	EMC Connectrix: DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, ED-1032, ED-64M	40 km		Block I/O[3]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[21, 22, 23, 24, 25]
69	Finisar FLX-2000-40 rev 3.0[26]	1 Gb[5]		FC-SW	EMC Connectrix: DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, ED-1032, ED-64M	40 km		MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[21, 22, 23, 24, 25]
70	Finisar Opticity 3000 WDM[30]	1 Gb[5]		FC-SW		40 km		MirrorView	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[25, 31]
71	Inrange IN-VSN 9801L - 1 or 2 FC x 1 or 2 IP (10/100 Mbps or 1Gbps IP)		2.4[62, 63]	FC-SW	Brocade Silkworm 2800[61]; EMC Connectrix DS-16B[54, 61]		IP[38]	SRDF	EMC Symmetrix DMX Series	See[36, 44, 60]
72	**Inrange IN-VSN: 9801H (10 slot), 9801L (6 slot)**	**N/A**	2.3	ESCON			ATM OC-3, IP[38], T3/E3	SRDF[40]	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[36]**
73	**Lucent Enhanced Optical Networking EON 8.3.1[46, 47, 48]**	**1 Gb[5], 2 Gb**		FC-SW		200 Km	DWDM	Block I/O	**EMC Symmetrix DMX Series**	**See[1, 3, 7, 17, 49, 50]**
74	**Lucent Enhanced Optical Networking EON 8.3.1[46, 47, 48]**	**1 Gb[5], 2 Gb**		FC-SW	**Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500**	200 Km	DWDM	Block I/O	**EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series**	**See[1, 3, 7, 17, 49, 50]**

No.	Distance System	Supported Link Speed	Code Level	Topology	Switch	Maximum Distance	Network	Protocol	Storage System	Comments
75	**Lucent Enhanced Optical Networking EON 8.3.1[46, 47, 48]**	**1 Gb[5], 2 Gb**		FC-SW	**Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900;** **EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M;** **McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500**	200 km	DWDM	MirrorView	**EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700**	**See[1, 3, 7, 17, 49, 50]**
76	**Lucent Enhanced Optical Networking EON 8.3.1[46, 47, 48]**	**1 Gb[5], 2 Gb**		FC-SW	**Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900;** **EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M;** **McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500**	200 Km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[1, 3, 7, 17, 49, 50]**
77	**Lucent Enhanced Optical Networking EON 8.3.1[46, 47, 48]**	**N/A**		ESCON		200 Km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[1, 17, 45]**
78	Lucent OptiStar Edgeswitch	1 Gb	1.6.0	FC-SW	Brocade Silkworm: 2400, 2800, 3200, 3800; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M	200 km	SONET	SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 3, 53]
79	Marconi PMM Point-to-Point (PMM-P)[55]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 3, 7]
80	Marconi PMM Point-to-Point (PMM-P)[55]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O, SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 3, 7]
81	Marconi PMM Point-to-Point (PMM-P)[55]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 3, 7]
82	**Nishan IPS: 3300, 4300**	**1 Gb**	3.0.5	FC-SW			IP[38]	MirrorView	**EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700**	**See[58, 59]**
83	**Nishan IPS: 3300, 4300**	**1 Gb**	3.0.5	FC-SW			IP[38]	SAN Copy	**EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700**	**See[58, 59, 64]**
84	**Nishan IPS: 3300, 4300**	**1 Gb**	3.0.5	FC-SW			IP[38]	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[58, 59]**
85	Nortel OPTera 5100	1 Gb[5]		FC-SW		200 km	DWDM	MirrorView	EMC CLARiiON CX600/CX400	See[1, 2, 3]
86	Nortel OPTera 5100	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 Km	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 2, 3]

No.	Distance System	Supported Link Speed	Code Level	Topology	Switch	Maximum Distance	Network	Protocol	Storage System	Comments
87	Nortel OPTera 5100	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	MirrorView	EMC CLARiiON FC4700	See[1, 2, 3]
88	Nortel OPTera 5100	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 Km	DWDM	SRDF	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	See[1, 2, 3]
89	**Nortel OPTera 5100**	**N/A**		ESCON		200 Km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[1, 34]**
90	Nortel OPTera 5200[4]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3]
91	Nortel OPTera 5200[4]	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3]
92	**Nortel OPTera 5200[4]**	**N/A**		ESCON		200 km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[1, 17, 34]**
93	Sorrento Gigamux and EPC	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	Block I/O	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3, 17, 65]
94	Sorrento Gigamux and EPC	1 Gb[5]		FC-SW	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[54], DS-16B2[51], DS-16M, DS-16M2, DS-24M2, DS-32B2[42], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[42], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	200 km	DWDM	MirrorView[32]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	See[1, 2, 3, 17, 65]
95	**Sorrento Gigamux and EPC**	**N/A**		ESCON		200 km	DWDM	SRDF	**EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series**	**See[1, 17, 65]**

1. Maximum distance between sites (for Fibre Channel ISLs distance is measured as total distance between E-ports including switch to DWDM interface), or optical power budget limit per system spec (whichever is shorter).
2. 850 nm multi-mode and 1310 nm single-mode Fibre Channel protocol connections for FC-SW attach.
3. FC-SW Inter-Switch Link (ISL) extension
4. IBM OEMs this product and sells as the IBM 2029.
5. All E-ports or ISLs should be hard set to either 1 Gb or 2 Gb in unison with the client-side interfaces to DWDM units.
6. The following manufacturers and systems is the same product: Adva(FSP-II), Alcatel (Optinex 1690), Siemens (Waveline EL2), InRange (Spectrum).
7. Only 1310 nm single-mode Fibre Channel connections supported.
8. Support with ONS 15501 (Erbium Doped Fiber Amplifier) units per one fiber distance strand for Protected and Unprotected environments. Minimum supported firmware 1.2. Hardware Rev 303041.
9. Unprotected or splitter-protected
10. Minimum supported Transponder firmware 1.59. Minimum supported MUX/DeMUX motherboard firmware 2.50. Minimum supported line card motherboard firmware 2.48. Minimum supported CPU firmware 1.24
11. Splitter-protected
12. OEM from Pandatel.
13. Minimum supported firware 1.05V.
14. GRDM 850nm/1310 nm cards must be utilized for Fibre Channel protocols.
15. No mixing of protocols allowed on the same GRDM card -- FC only.

16. UPSR and BLSR protected.
17. No direct host or storage connections into system (except for ESCON links).
18. **2Gb FC link speeds with the WCIRG-2.5Gb Circuit Pack**
19. **Minimum supported firmware 4.1.2.**
20. **The ONLINE Metro can be used with UPSR or BLSR protection options.**
21. N-port extender (HBA to switch) solution
22. Supported for Solaris 2.6 with JNI FC-1063-EMC, JNI FC64-1063-EMC HBAs. Refer to Sun Base Connectivity for currently supported Solaris/JNI driver versions.
23. Support for Windows NT 4.0 with SP6A with Emulex LP7000E-EMC and LP8000-EMC. Refer to Intel based Windows Servers (Fibre Channel) Base Connectivity for currently supported Windows NT/Emulex driver versions.
24. FC-SW ISL Extension: >500 meters &lt: 40 kilometers solution.
25. Distances up to 10 km can be obtained using LW GBICs in qualified switches.
26. FLX-2000-40 requires rev 3.0.
27. Minimum supported firmware: 1 05v Minimum network element processor: rnel. 2.6.3 Minimum service channel processor: 2.6.4. Minimum OC-48-Transceiver (191.90 and 195.50 THz): 2.6.4z. 2.6.4
28. UPSR protected.
29. The following manufacturers and systems are the same product: CNT (Inrange) Spectrum 2000
30. No longer available
31. CLARiiON (Extended Fabric License required for distances &gt:= 10 kilometers) Solution requires 2 extenders.
32. MirrorView 1.2 or higher
33. Maximum distance between sites (measured as total distance between E-ports) without RSM. 40Km with RSM and Protected Mode, or optical power budget limit per system spec (whichever is shorter).
34. ESCON 4:1 TDM
35. UltraNet Wave Optimizer TDM is qualified
36. Extended Distance Solutions Channel Extension
37. Solution requires dedicated FC switch that must be provided by CNT.
38. This configuration requires completion of a Pre-Sales Questionnaire (PSQ).
39. Minimum AccessLogix: CLARiiON FC4700: 8.45.5.x. CLARiiON CX600: v02.01.1.60.5.006, CLARiiON CX400: 02.02.1.40.5.xxx.
40. Minimum microcode for Symmetrix 4.8 and 8000 Series is 5x65.
41. 8 ESCON X 4 Fast Ethernet
42. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only
43. Deployments must be fully redundant.
44. Minimum microcode for Symmetrix 8000 is 5567.36.xx. Minimum microcode for Symmetrix DMX is 5669.
45. ESCON traffic with LSBB Circuit Packs recommended (LSBB OTPM)
46. **1310 nm single-mode Fibre Channel protocol connections for FC-SW attach to both 2DM25 and UBB circuit packs.**
47. **UBB (OTPM UBB) circuit pack for 1Gb and 2Gb FC support. UBB provisioned to ISC3PEER mode.**
48. **Minimum supported firmware Release 8.2.1 NE Software 10-May-02 (rev. 4)**
49. **Fibre Chanel trafic through ELSBB Circuit Packs (ELSBB OTPM)**
50. **2DM25 (MUX OTU) 2:1 multiplexer circuit pack for 1Gb FC support. 2DM25 provisioned to FC-100 mode.**
51. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
52. Interfacing through DWDM is supported via SONET client interfaces.
53. Refer to the document "Lucent OptiStar" on Avatar for configuration guidelines.
54. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
55. EMC considers Wave Division Multiplexing technologies (Coarse and Dense WDM) to be mature and industry proven.
    EMC no longer tests standard WDM technology on site therefor devices covered under this support model are not physically tested in the EMC engineering lab.
    Engineering will provide Best Reasonable Effort (BRE) support for this WDM device.
56. Release CLIP firmware version 1.26 (not field soft upgradeable but requires a physical hardware upgrade of a chip on the CLIP board).
57. Release NCB software SNM version 1.1
58. **Nishan switches can only be configured to connect locally to the Symmetrix or CLARiiON systems or as an e-port connection to a FC-Switch. No host attach to the Nishan switches is supported and host IO over the iFCP link is also not supported.**
59. **Each SAN Island should include no more than 2 switches (one Nishan switch and one other vendor switch)**
60. SRDF between Symmetrix DMX and Symmetrix 8000 in this configuration requires an RPQ.
61. Switch must be dedicated for the SRDF application. Firmware a2.5.0d is required.
62. Validated for connectivity and performance only. Virus protection and dual disk support validated by Inrange.
63. INRANGE must order application software part number 98-154.EMC which is installed at the factory.
64. Minimum Access Logix: CLARiiON FC4700: 08.49.xx or higher, CLARiiON CX600/400: 02.04.1.60.x.xxx or higher.
65. 4:1 and 8:1 TDM cards qualified.
66. E-ports conneted to High Frequency DRW cards, residing in a 4-by-any card.
67. Sub-lambda service concentrator "4xAny" supported for 2:1 Fibre Channel and 4:1 ESCON. No protocol mixing supported on a single "4xAny" cencentrator.
68. Minimal IOS version: 12.1(10) EV2
69. 15530-CHAS-NEBS 15530 NEBS compliant chassis: H/W 3.1, Firmware 3.C
70. 15530-MDX-04H0 4 Channel Mux/Demux module: H/W 1.0, Firmware not applicable
71. 15530-OSCM OSC daughter module: H/W 3.0, Firmware 0.52
72. 15530-TSP1-2912 Transponder linecard 29-Ch splitter protected: H/W 5.8. Firmware 3.C
73. The WCIRT-e CWDM Card Circuit Pack will accept 1 E-port and the speed must be "User defined" (1Gb or 2Gb).
74. When SFADM02-e (SONET/SDH-Framed Data ADM) Circuit Pack is operating in "Distance Buffering" mode ON, Connectrix "-B" switchs (Brocade) must operate in Open Fabric Mode (interopmode 1), and any Extended Distance mode must be disabled.
75. SFADM02-e (SONET/SDH-Framed Data ADM) Circuit Pack will accept 2 E-ports at 1Gb (100MB) speed.
76. Minimum microcode for Symmetrix 8000 Series is 5567.36.xx.
    May be attached directly to a Symmetrix RF port without a switch.
    The following manufacturers and systems are the same product: CNT (Inrange) Spectrum 3000, Fujitsu Network Communications "FLASHWAVE"

19.602

Tape Support

Tape to ESN Connectivity

Note: It is important to identify not only the connection technology of the tape drives, but also the connection technology of the tape library controller. The library may use an external FC to SCSI bridge, an embedded bridge or a proprietary FC connection kit. The method of connection is essential to the ESN connectivity reliability and must be noted to identify if the system configuration is truly a qualified solution.
Library partitioning effects the SAN environment at both the OS level as well as the backup software level. Though partioning is not prohibited in an EMC solution, support for the backup software as well as the library's partioning solution must be provided separately via the library vendor and/or the backup software vendor. The customer should make sure that partioning and backup software integration are performed by persons trained/certified to do such work.
SCSI bridges listed provide support for both HVD and LVD SCSI connections, unless explicitly stated otherwise.
a. Check the backup software supplier's device matrix to ensure that these tape drives and Fibre Channel-to-SCSI bridges are supported for your particular operating system.
b. The backup software supplier may require optional software packages for its software to use a tape drive.
c. Unless otherwise stated, the drives listed are SCSI attached and are supported with FC-to_SCSI bridges as listed.
d. When operating in an Open Fabric environment, review the current Switch Interoperability Application and the Interoperability Solution at http://avatar.eng.emc.com, part number 300-000-067, for full list of firmware requirements and supported solutions.
For additional information please refer to the ESN Topology Guide at http://avatar.eng.emc.com (under tools).

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
1	FC-AL	IBM 3590 E/H FCAL	EMC No Bridge Required	EMC Connectrix: DS-16B[12], DS-16B2[13], DS-24M2, DS-32B2[38], DS-8B, ED-12000B[38]; McDATA ES-4500	IBM AIX: 4.3.3, 5.1	See[43, 44]
2	FC-AL	IBM 3590 E/H FCAL	McDATA ES-1000[41]	EMC Connectrix: **DS-16M[1]**, DS-16M2[1], DS-24M2[1], **DS-32M[1]**, DS-32M2[1], **ED-64M[1, 18]**; McDATA: **ED-5000[1]**, **ED-6064[1, 18]**, **ES-3016[1]**, **ES-3032[1]**, ES-3216[1], ES-3232[1], ES-4500[1]	IBM AIX: **4.3.3**, 5.1	See[5, 7, 8, 16, 26]
	FC-AL[4]	Exabyte M2		Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-8B[1]	HPQ HP-UX: **11.0[3]**, 11i v1.0 (HP-UX 11.11)[3, 14]; IBM AIX: **4.3.3**, 5.1; **Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15];** **Microsoft Windows 2000 Server: SP2[15] SP3[15];** **Microsoft Windows NT 4.0 SP6A[15];** Sun Solaris: 2.6[17], 8[17]	See[5, 7, 8, 16]
4	FC-AL[4]	IBM 3580 LTO i[2]		Brocade Silkworm: 12000[1], 2400[1], 2800[1, 11], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-32B2[38], DS-8B[1]	**HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14];** **Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15];** **Microsoft Windows 2000 Server: SP2[15] SP3[15];** **Microsoft Windows NT 4.0 SP6A[15];** Sun Solaris: 2.6, 7, 8	See[5, 6, 7, 8]
5	FC-AL[4]	**IBM 3580 LTO i[2]**	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23]	**Brocade Silkworm: 12000[1], 2400[1], 2800[1, 11], 3200[1], 3800[1], 3900[1], 6400[1];** **EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-32B2[38], DS-8B[1]**	**Microsoft Windows 2000 Server SP3[15]**	See[5, 6, 7, 8]

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
6	FC-AL[4]	IBM 3580 LTO I[2]	ADIC: Gateway 3000[19, 20, 21, 22, 23]; SAN Gateway[19, 20, 21, 22, 23]; SNC 3000[19, 20, 21, 22, 23]	Brocade Silkworm: 12000[1], 2400[1], 2800[1, 11], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-8B[1]	HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; Microsoft Windows 2000 Advanced Server: SP2[15]; SP3[15]; Microsoft Windows: 2000 Server SP2[15], NT 4.0 SP6A[15]; Sun Solaris: 2.6, 7, 8	See[5, 6, 7, 8]
7	FC-AL[4]	IBM 3580 LTO I[2]	ADIC: Gateway 3000[19, 20, 21, 22, 23]; SAN Gateway[19, 20, 21, 22, 23]; SNC 3000[19, 20, 21, 22, 23]	EMC Connectrix: DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[38], DS-32M[1], DS-32M2[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; Microsoft Windows 2000 Advanced Server: SP2[15]; SP3[15]; Microsoft Windows: 2000 Server SP2[15], NT 4.0 SP6A[15]; Sun Solaris: 2.6, 7, 8	See[5, 7, 8]
8	FC-AL[4]	IBM 3580 LTO I[2]	ADIC: Gateway 3000[19, 20, 21, 22, 23]; SAN Gateway[19, 20, 21, 22, 23]; SNC 3000[19, 20, 21, 22, 23]	EMC Connectrix: DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	Microsoft Windows 2000 Server SP3[15]	See[5, 7, 8]
9	FC-AL[4]	IBM 3580 LTO I[2]	EMC Connectrix DS-16B Open Fabric Mode[11]: McDATA ES-1000	EMC Connectrix: DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[38], DS-32M[1], DS-32M2[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-32321, ES-4500[1]	HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; Microsoft Windows 2000 Advanced Server: SP2[15]; SP3[15]; Microsoft Windows 2000 Server: SP2[15]; SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Sun Solaris: 2.6, 7, 8	See[5, 7, 8]
10	FC-AL[4]	IBM 3580 LTO I[2]	EMC No Bridge Required	EMC Connectrix: DS-16B[12], DS-16B2[13], DS-24M2, DS-32B2[38], DS-8B, ED-12000B[38]; McDATA ES-4500	IBM AIX: 4.3.3, 5.1	See[43, 44]

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
11	FC-AL[4]	**IBM 3580 LTO I[2]**	**EMC No Bridge Required**	**EMC Connectrix: DS-24M2[1], DS-32B2[38];** **McDATA ES-4500[1]**	**HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14];** **Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15];** **Microsoft Windows 2000 Server: SP2[15] SP3[15];** **Microsoft Windows NT 4.0 SP6A[15];** **Sun Solaris: 7, 8**	**See[5, 7, 8]**
12	FC-AL[4]	IBM 3580 LTO I[2]	McDATA ES-1000[41]	EMC Connectrix: **DS-16M[1]**, DS-16M2[1], DS-24M2[1], **DS-32M[1]**, DS-32M2[1], **ED-64M[1, 18];** McDATA: **ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1]**, ES-3216[1], ES-3232[1], ES-4500[1]	IBM AIX: **4.3.3**, 5.1	**See[5, 7, 8, 16, 26]**
	FC-AL[4]	STK 9840[9, 10], STK T9840A, STK T9940[9, 10]		Brocade Silkworm: 12000[1], 2400[1], 2800[1, 11], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-8B[1]	**HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14];** **Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15];** **Microsoft Windows 2000 Server: SP2[15] SP3[15];** **Microsoft Windows NT 4.0 SP6A[15];** Sun Solaris: 2.6, 7, 8	**See[5, 6, 7, 8]**
14	FC-AL[4]	STK 9840[9, 10], STK T9840A, STK T9940[9, 10]	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23]; EMC Connectrix DS-16B Open Fabric Mode[11]; McDATA ES-1000	EMC Connectrix: DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	**HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14];** **Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15];** **Microsoft Windows 2000 Server: SP2[15] SP3[15];** **Microsoft Windows NT 4.0 SP6A[15];** Sun Solaris: 2.6, 7, 8	**See[5, 7, 8]**

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
15	FC-AL[4]	STK 9840[9, 10], STK T9840A, STK T9940[9, 10]	EMC No Bridge Required	EMC Connectrix DS-24M2[1]; McDATA ES-4500[1]	HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Microsoft Windows 2000 Server: SP2[15] SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Sun Solaris: 7, 8	See[5, 7, 8]
16	FC-SW	STK 9940B[9, 10], STK T9840B[9, 10]		Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1, 24], 3800[1, 24], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13, 24], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032, ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Microsoft Windows 2000 Server: SP2[15] SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Sun Solaris: 2.6, 7, 8	See[5, 7, 8]
17	FC-SW	STK 9940B[9, 10], STK T9840B[9, 10]	EMC No Bridge Required	EMC Connectrix DS-24M2[1]; McDATA ES-4500[1]	HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Microsoft Windows 2000 Server: SP2[15] SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Sun Solaris: 2.6, 7, 8	See[5, 7, 8]
18	SCSI	Generic AIT-3	ADIC SNC: 5000, 5100, 5101	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 14]; IBM AIX 5.1; Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Sun Solaris 8[17]	See[5, 7, 8, 16, 26]

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
19	SCSI	Generic AIT-3	Exabyte Integrated Library Option	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-8B[1]	HPQ HP-UX: **11.0[3]**, 11i v1.0 (HP-UX 11.11)[3, 14]; IBM AIX: **4.3.3**, 5.1; **Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15];** **Microsoft Windows 2000 Server: SP2[15] SP3[15];** **Microsoft Windows NT 4.0 SP6A[15];** Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: **SP1[33, 34], SP2[33, 34]**, SP3; **Sun Solaris: 2.6[17], 8[17]**	See[5, 7, 8, 16, 26]
20	SCSI	Quantum SDLT 320	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; ATL FC310; Chaparral 2620[32]; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; Dell PV-136T (integrated library option); HPQ MDR[27]; McDATA EB1200	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	**DG DG/UX R4.20MU07;** **HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14];** **HPQ Tru64 UNIX: V5.1[36] V5.1A[37] V5.1B[39, 40];** **IBM AIX 5.1;** **Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15];** **Microsoft Windows 2000 Server: SP2[15] SP3[15];** **Microsoft Windows NT 4.0 SP6A[15];** Novell Netware 6.0: **SP1[33, 34], SP2[33, 34]**, SP3; **Sun Solaris: 2.6, 8**	See[5, 7, 8, 16, 26]
21	SCSI	**Quantum SDLT 320**	**ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101;** **Crossroads: 4x00[28, 29], 4x50[30, 31], 8000;** **Dell: PV-132 (Integrated FC Tape Option), PV-136T (integrated library option);** **HPQ MDR[27];** **McDATA EB1200;** **STK STK 3250**	**Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1];** **EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18];** **McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]**	**Sun Solaris 7**	**See[5, 7, 8, 26]**
22	SCSI	Quantum SDLT 320	Crossroads Crossroads: 10000, 6000; HPQ: e1200, e2400, m2402, n1200	EMC Connectrix: DS-16B[12], DS-16B2[13], DS-16M, DS-16M2, DS-24M2, DS-32B2[38], DS-32M, DS-32M2, ED-1032, ED-12000B[38], ED-140M, ED-64M	Microsoft Windows 2000 Advanced Server SP3[15]; Sun Solaris: 8, 9	

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
23	SCSI	Quantum SDLT 320	Dell PV-132 (Integrated FC Tape Option); STK STK 3250	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	**HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14];** **HPQ Tru64 UNIX: V5.1[36] V5.1A[37] V5.1B[39, 40];** **IBM AIX 5.1;** **Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15];** **Microsoft Windows 2000 Server: SP2[15] SP3[15];** **Microsoft Windows NT 4.0 SP6A[15];** Novell Netware 6.0: **SP1[33, 34]**, **SP2[33, 34]**, SP3; **Sun Solaris: 2.6, 8**	See[5, 7, 8, 16, 26]
24	SCSI	Quantum SDLT 320	Exabyte Integrated Library Option	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-8B[1]	HPQ HP-UX: **11.0[3]**, 11i v1.0 (HP-UX 11.11)[3, 14]; IBM AIX: **4.3.3**, 5.1; **Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15];** **Microsoft Windows 2000 Server: SP2[15] SP3[15];** **Microsoft Windows NT 4.0 SP6A[15];** Novell Netware 6.0: **SP1[33, 34]**, **SP2[33, 34]**, SP3; **Sun Solaris: 2.6[17], 8[17]**	See[5, 7, 8, 16, 26]
25	SCSI	**Quantum SDLT 320**	**HPQ C6340F**	**Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1];** **EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18];** **McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]**	**HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]**	**See[5, 7, 8, 16, 26]**

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
26	SCSI[25]	Exabyte M2 SCSI	ADIC, Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; ATL FC310; Chaparral 2620[32]; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; HPQ MDR[27]; STK STK 3250	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; IBM AIX: 4.3.3, 5.1; **Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15];** **Microsoft Windows 2000 Server: SP2[15], SP3[15];** **Microsoft Windows NT 4.0 SP6A[15];** Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: SP1[33, 34], SP2[33, 34], SP3; **Sun Solaris: 2.6[17], 8[17]**	See[5, 7, 8, 16, 26]
27	SCSI[25]	Exabyte M2 SCSI, Generic AIT-2, HPQ HP LTO I, IBM 3580 LTO SCSI[35], Quantum DLT 7000, Quantum DLT 8000, Quantum SDLT 220	Exabyte Integrated Library Option	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-8B[1]	HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; IBM AIX: 4.3.3, 5.1; **Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15];** **Microsoft Windows 2000 Server: SP2[15], SP3[15];** **Microsoft Windows NT 4.0 SP6A[15];** Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: SP1[33, 34], SP2[33, 34], SP3; **Sun Solaris: 2.6[17], 8[17]**	See[5, 7, 8, 16, 26]
28	SCSI[25]	**Generic AIT-2, Generic DTF, HPQ HP LTO I, IBM 3580 LTO SCSI[35], IBM 3590, Quantum DLT 7000, Quantum DLT 8000, Quantum SDLT 220, STK 9840 SCSI, STK 9940 SCSI**	**HPQ C6340F**	**Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1];** **EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18];** McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]	See[5, 7, 8, 16, 26]

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
29	SCSI[25]	Generic AIT-2, Generic DTF, HPQ HP LTO I, Quantum DLT 7000, Quantum SDLT 220, STK 9840 SCSI	STK STK 3250	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; HPQ Tru64 UNIX: V5.1[36] V5.1A[37] V5.1B[39, 40]; IBM AIX 5.1; Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Microsoft Windows 2000 Server: SP2[15] SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: SP1[33, 34], SP2[33, 34], SP3; Sun Solaris: 2.6, 8	See[5, 7, 8, 16, 26]
30	SCSI[25]	Generic AIT-2, Generic DTF, IBM 3590, STK 9840 SCSI	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; HPQ MDR[27]; McDATA EB1200; STK STK 3250	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	Sun Solaris 7	See[5, 7, 8, 26]
31	SCSI[25]	Generic AIT-2, Generic DTF, STK 9840 SCSI	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; ATL FC310; Chaparral 2620[32]; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; HPQ MDR[27]; McDATA EB1200	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	DG DG/UX R4.20MU07; HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; HPQ Tru64 UNIX: V5.1[36] V5.1A[37] V5.1B[39, 40]; IBM AIX 5.1; Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Microsoft Windows 2000 Server: SP2[15] SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: SP1[33, 34], SP2[33, 34], SP3; Sun Solaris: 2.6, 8	See[5, 7, 8, 16, 26]

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
32	SCSI[25]	HPQ HP LTO I, IBM 3580 LTO SCSI[35], Quantum SDLT 220	Crossroads Crossroads: 10000, 6000; HPQ: e1200, e2400, m2402, n1200	EMC Connectrix: DS-16B[12], DS-16B2[13], DS-16M, DS-16M2, DS-24M2, DS-32B2[38], DS-32M, DS-32M2, ED-1032, ED-12000B[38], ED-140M, ED-64M	Microsoft Windows 2000 Advanced Server SP3[15]; Sun Solaris: 8, 9	
33	SCSI[25]	HPQ HP LTO I, Quantum DLT 8000	HPQ: A4673A[42], A4674A[42]	Brocade Silkworm: 12000, 2800, 3200, 3800, 3900; EMC Connectrix: DS-16B[12], DS-16B2[13], DS-16M, DS-16M2, DS-24M2, DS-32B2[38], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[38], ED-140M, ED-64M; McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Sun Solaris: 2.6, 8, 9	
34	SCSI[25]	HPQ HP LTO I, Quantum SDLT 220	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101: ATL FC310; Chaparral 2620[32]; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; Dell: PV-128T (integrated library option), PV-136T (integrated library option); HPQ MDR[27]; McDATA EB1200	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	**DG DG/UX R4.20MU07; HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; HPQ Tru64 UNIX: V5.1[36] V5.1A[37] V5.1B[39, 40]; IBM AIX 5.1; Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Microsoft Windows 2000 Server: SP2[15] SP3[15]; Microsoft Windows NT 4.0 SP6A[15];** Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: SP1[33, 34], SP2[33, 34], SP3; **Sun Solaris: 2.6, 8**	See[5, 7, 8, 16, 26]
35	SCSI[25]	**HPQ HP LTO I, Quantum SDLT 220**	**ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; Dell PV-136T (integrated library option); HPQ MDR[27]; McDATA EB1200; STK STK 3250**	**Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]**	**Sun Solaris** 7	**See[5, 7, 8, 26]**

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No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
36	SCSI[25]	IBM 3580 LTO SCSI[35]	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; ATL FC310; Chaparral 2620[32]; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; Dell PV-136T (integrated library option); HPQ MDR[27]; McDATA EB1200	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	DG DG/UX R4.20MU07; HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; HPQ Tru64 UNIX: V5.1[36] V5.1A[37] V5.1B[39, 40]; IBM AIX: 4.3.3, 5.1; Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Microsoft Windows 2000 Server: SP2[15] SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: SP1[33, 34], SP2[33, 34], SP3; Sun Solaris: 2.6, 8	See[5, 7, 8, 16, 26]
37	SCSI[25]	**IBM 3580 LTO SCSI[35]**	**ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101;** **Crossroads: 4x00[28, 29], 4x50[30, 31], 8000;** **Dell: PV-132 (Integrated FC Tape Option), PV-136T (integrated library option);** **HPQ MDR[27];** **McDATA EB1200;** **STK STK 3250**	**Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1];** **EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18];** **McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]**	**Sun Solaris 7**	**See[5, 7, 8, 26]**
38	SCSI[25]	IBM 3580 LTO SCSI[35]	Dell PV-132 (Integrated FC Tape Option); STK STK 3250	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; HPQ Tru64 UNIX: V5.1[36] V5.1A[37] V5.1B[39, 40]; IBM AIX: 4.3.3, 5.1; Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Microsoft Windows 2000 Server: SP2[15] SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: SP1[33, 34], SP2[33, 34], SP3; Sun Solaris: 2.6, 8	See[5, 7, 8, 16, 26]

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
39	SCSI[25]	IBM 3590	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; ATL FC310; Chaparral 2620[32]; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; HPQ MDR[27]; McDATA EB1200	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	**DG DG/UX R4.20MU07**; **HPQ HP-UX**: **11.0**[3], **11i v1.0 (HP-UX 11.11)**[3, 14]; **HPQ Tru64 UNIX**: **V5.1**[36] **V5.1A**[37] **V5.1B**[39, 40]; **IBM AIX**: **4.3.3**, **5.1**; **Microsoft Windows 2000 Advanced Server**: **SP2**[15] **SP3**[15]; **Microsoft Windows 2000 Server**: **SP2**[15] **SP3**[15]; **Microsoft Windows NT 4.0 SP6A**[15]; Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: **SP1**[33, 34] **SP2**[33, 34], SP3; **Sun Solaris**: **2.6**, **8**	See[5, 7, 8, 16, 26]
40	SCSI[25]	IBM 3590, Quantum DLT 8000	STK STK 3250	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	**HPQ HP-UX**: **11.0**[3], **11i v1.0 (HP-UX 11.11)**[3, 14]; **HPQ Tru64 UNIX**: **V5.1**[36] **V5.1A**[37] **V5.1B**[39, 40]; **IBM AIX**: **4.3.3**, **5.1**; **Microsoft Windows 2000 Advanced Server**: **SP2**[15] **SP3**[15]; **Microsoft Windows 2000 Server**: **SP2**[15] **SP3**[15]; **Microsoft Windows NT 4.0 SP6A**[15]; Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: **SP1**[33, 34] **SP2**[33, 34], SP3; **Sun Solaris**: **2.6**, **8**	See[5, 7, 8, 16, 26]

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
41	SCSI[25]	Quantum DLT 7000	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; ATL FC310; Chaparral 2620[32]; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; Dell PV-35F; HPQ MDR[27]; McDATA EB1200	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	DG DG/UX R4.20MU07; HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; HPQ Tru64 UNIX: V5.1[36], V5.1A[37], V5.1B[39, 40]; IBM AIX 5.1; Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15]; Microsoft Windows 2000 Server: SP2[15], SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: SP1[33, 34], SP2[33, 34], SP3; Sun Solaris: 2.6, 8	See[5, 7, 8, 16, 26]
42	SCSI[25]	Quantum DLT 7000	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; Dell PV-35F; HPQ MDR[27]; McDATA EB1200; STK STK 3250	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	Sun Solaris 7	See[5, 7, 8, 26]
43	SCSI[25]	Quantum DLT 7000, Quantum DLT 8000	ATL FC230	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15]; Microsoft Windows 2000 Server: SP2[15], SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Sun Solaris: 7, 8	See[5, 7, 8, 26]

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
44	SCSI[25]	Quantum DLT 8000	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; ATL FC310; Chaparral 2620[32]; Crossroads: 4x00[28, 29] 4x50[30, 31], 8000; HPQ MDR[27]	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	DG DG/UX R4.20MU07; HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; HPQ Tru64 UNIX: V5.1[36] V5.1A[37] V5.1B[39, 40]; IBM AIX: 4.3.3, 5.1; Microsoft Windows 2000 Advanced Server: SP2[15], SP3[15]; Microsoft Windows 2000 Server: SP2[15], SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: SP1[33, 34], SP2[33, 34], SP3; Sun Solaris: 2.6, 8	See[5, 7, 8, 16, 26]
45	SCSI[25]	Quantum DLT 8000	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; Crossroads: 4x00[28, 29], 8000; HPQ MDR[27]; McDATA EB1200; STK STK 3250	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	Sun Solaris 7	See[5, 7, 8, 26]
46	SCSI[25]	Quantum DLT 8000	Crossroads 4x50[30, 31]	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	Sun Solaris 7	See[5, 7, 8, 26]
	SCSI[25]	Quantum DLT 8000	McDATA EB1200	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 14]	See[5, 7, 8, 16, 26]

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
48	SCSI[25]	Quantum DLT 8000	McDATA EB1200	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	DG DG/UX R4.20MU07; HPQ: HP-UX 11.0[3]; Tru64 UNIX V5.1[36]; Tru64 UNIX V5.1A[37]; Tru64 UNIX V5.1B[39, 40]; IBM AIX: 4.3.3. 5.1; Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Microsoft Windows 2000 Server: SP2[15] SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: SP1[33, 34], SP2[33, 34], SP3; Sun Solaris: 2.6, 8	See[5, 7, 8, 16, 26]
49	SCSI[25]	STK 9940 SCSI	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; HPQ MDR[27]; McDATA EB1200	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	DG DG/UX R4.20MU07; HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; HPQ Tru64 UNIX: V5.1[36] V5.1A[37] V5.1B[39, 40]; IBM AIX 5.1; Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Microsoft Windows 2000 Server: SP2[15] SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: SP1[33, 34], SP2[33, 34], SP3	See[5, 7, 8, 16, 26]
50	SCSI[25]	STK 9940 SCSI	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; HPQ MDR[27]; McDATA EB1200; STK STK 3250	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-32M[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1]	Sun Solaris 7	See[5, 7, 8, 26]

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
51	SCSI[25]	STK 9940 SCSI	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; HPQ MDR[27]; STK STK 3250	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1]	Sun Solaris 8	See[5, 7, 8, 16, 26]
52	SCSI[25]	STK 9940 SCSI	ADIC: Gateway 3000[19, 20, 21, 22, 23], SAN Gateway[19, 20, 21, 22, 23], SNC 3000[19, 20, 21, 22, 23], SNC 5000, SNC 5100, SNC 5101; Crossroads: 4x00[28, 29], 4x50[30, 31], 8000; HPQ MDR[27]; STK STK 3250	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-32M[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1]	Sun Solaris 2.6	See[5, 7, 8, 16, 26]
53	SCSI[25]	STK 9940 SCSI	ATL FC310; Chaparral 2620[32]	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-32321[1], ES-4500[1]	DG DG/UX R4.20MU07; HPQ HP-UX: 11.0[3], 11i v1.0 (HP-UX 11.11)[3, 14]; HPQ Tru64 UNIX: V5.1A[37] V5.1B[39, 40]; IBM AIX 5.1; Microsoft Windows 2000 Advanced Server: SP2[15] SP3[15]; Microsoft Windows 2000 Server: SP2[15] SP3[15]; Microsoft Windows NT 4.0 SP6A[15]; Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: SP1[33, 34], SP2[33, 34], SP3	See[5, 7, 8, 16, 26]
54	SCSI[25]	STK 9940 SCSI	ATL FC310; Chaparral 2620[32]	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-32M[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1]	HPQ Tru64 UNIX V5.1[36]; Sun Solaris: 2.6, 8	See[5, 7, 8, 16, 26]
55	SCSI[25]	STK 9940 SCSI	McDATA EB1200	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-32M[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1]	Sun Solaris: 2.6, 8	See[5, 7, 8, 16, 26]

No.	Tape Storage Type	Tape Device	Bridge	Switch	Operating System	Comments
56	SCSI[25]	STK 9940 SCSI	STK STK 3250	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 12], DS-16B2[1, 13], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 38], ED-64M[1, 18]; McDATA: ED-5000[1], ED-6064[1, 18], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	**HPQ HP-UX**: **11.0**[3], **11i v1.0 (HP-UX 11.11)**[3, 14]; **HPQ Tru64 UNIX**: **V5.1**[36] **V5.1A**[37] **V5.1B**[39, 40]; **IBM AIX** 5.1; **Microsoft Windows 2000 Advanced Server**: **SP2**[15] **SP3**[15]; **Microsoft Windows 2000 Server**: **SP2**[15] **SP3**[15]; **Microsoft Windows NT 4.0 SP6A**[15]; Novell Netware 5.10: SP5[33, 34], SP6; Novell Netware 6.0: **SP1**[33, 34], **SP2**[33, 34], SP3	See[5, 7, 8, 16, 26]

1. Reference the Switch Fabric Topology Parameters and Mixed Storage Environment Interoperability Applications for code levels.
2. Recommend firmware levels: 18N2, 25D4
3. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
4. Tape drive is configured as public FL port. QuickLoop fabric assist and translative mode is not supported.
5. Reference the Mixed Storage Environment Interoperability Application for HBA sharing support.
6. Bridge not applicable. Directly attached to FL_ports on a Brocade Switch.
7. Refer to Heterogeneous switch table for the current list of supported switch combinations and supported firmware combinations
8. Unless otherwise specified, use the common EMC supported HBA drivers (Symmetrix and CLARiiON) specified in the Base Connectivity tables.
9. Moving the Fibre Channel cables associated with the tape or with the server communication to a different switch port while I/O is running will result in I/O failures and device lockout. If this occurs, you may be required to either power cycle the tape device or return FC cables to their original ports, and manually release the tape device to return the system to working order. It will then be necessary to restart the backup job.
10. Only single-ported applications of the STK 9840 and T9940 is supported. Simultaneous use of both ports may result in contention and is not supported.
11. May also be used in open fabric mode (see Switch Interoperability Matrix for open fabric parameters).
12. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
13. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
14. Symmetrix microcode version: 5266.33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher.
15. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
16. CLARiiON
17. JNI SBus HBAs in Sun Servers (not applicable for EMC common driver support). The CLARiiON SBus driver used in conjunction with the JNI HBA does not support tape devices, therefore a separate JNI HBA with a different driver must be used to access the tape library. This requirement does not apply to SBus systems using the Emulex LP9002S-F2 HBA. This situation requires two different drivers: A special EMC CLARiiON driver for the JNI cards communicating to the CLARiiON storage system. The JNI-supplied driver for the JNI card communicating with the tape library. What to do: Contact CLARiiON Technical Support to obtain the special EMC CLARiiON driver and support notes S000412A and S000710 for detailed instructions (the JNI HBAs need to be renamed). Download the JNI-supplied driver (Revision 2.5.9) for the JNI card communicating with the tape library, which is fcaw.pkg under the jni heading. from http://www.jni.com/Drivers/drivers3.cfm?ID=10&OSID=8. CAUTION: Do not use fcaw.pkg under the emc subheading. Order the standard HBA model (HBAGL-SUNS). This model includes a driver that the customers should ignore or discard since they will be using the drivers referenced in 1 and 2 above.
18. Supported for both 1 Gb and 2 Gb operation. See device vendor capability for link speed autonegotiation details.
19. Moving the tape connection on the back panel of the ADIC (Pathlight) SAN Gateway requires a reboot of the bridge.
20. ADIC Management Console (AMC) 2.6 or above.
21. Shortwave connections only. Must submit an RPQ for longwave environments.
22. ADIC (Pathlight) SAN Gateway Virtual Private SAN (VPS) was used during validation to map SCSI-attached target devices to server HBAs.
23. Corresponds to IBM SDG 2108 model G07.
24. Set switch to 1 GB mode
25. Bridge ports should be configured as FC-SW
26. Recommend two SCSI tape targets per SCSI bus including robotics device.
27. All switches must be set Open Fabric mode when using an MDR bridge with any other combination of ED-1032, ED-xM, ES-xM, or McData switches.
28. "x" corresponds to the number of independent SCSI buses available (x = 1,2, or 4).
29. OEMed as STK 3x00.
30. An HP A4689A corresponds to a Crossroads 4450. An HP A4688A corresponds to a Crossroads 4250.
31. OEMed as STK 3250 and ADIC FC250
32. Must be used in Gb mode. Check with vendor for availability for shipment to Pacific Rim Not supported with the Comm Vault Galaxy.
33. Maximum number of NWFS volumes that can be mounted is 64.
34. Shared HBA environments between disk and tape/tape libraries are not supported for Novell.
35. Recommended Firmware levels: 29V0
36. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
37. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
38. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
39. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
40. **V5.x:255 LUNs/Symmetrix Fibre director port (LUNs 001-0FE valid) Symmetrix 8000 Series only, OVMS director flag required (minimum 5265.48.30 or 5566.26.19), LUN 000 must be mapped to gatekeeper device, LUN 000 is not usable by Tru64 host.**
41. May operate in Open Fabric mode, but must be directly connected to a "M" type or McDATA switch.
42. Supported inside the HP A6356A Interface Manager
43. Review the current switch interoperability configurations for supported combinations of heterogeneous switches and firmware levels.
44. When working in a heterogeneous storage (Disk or Tape)environment the fabric components (switches, directors, and HBAs) along with the operating system level, HBA model, drivers and firmware must all be at the EMC supported levels. Non-EMC storage (Disk or Tape) connecting to this fabric environment must also be supported through their respective OEM vendors in the stated environment. Deviations in any of the supported levels for any component can either be handle through EMC's or the respective vendor's RPQ process. It is ensure that all storage remain supported through their respective OEM vendors.

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Tape Library

1. Check the backup software suppliers device matrix to ensure that these tape libraries, tape drives and Fibre Channel–to–SCSI Bridges are supported for your particular operating system.
2. The backup software supplier may require optional software packages for its software to use a tape library.
3. When operating in an "Open Fabric" environment, review the current Switch Interoperability Application and the Interoperability Solution Statement at http://avatar.eng.emc.com, part number 300–000–067, for a full list of firmware requirements and supported solutions.
4. SCSI attached libraries are supported with the FC–to–SCSI bridges defined in the Tape To ESN Connectivity Interoperability Application.
5. Fibre Channel based libraries contain an embedded FC–to–SCSI bridge. See the Tape To ESN Connectivity Interoperability Application for FC–to–SCSI bridge information.
6. Not qualified for direct attachment with DS– xM, ES– xM or McData switches

No.	Tape Library Device	Storage System	Tape Storage Type	Firmware Revision
1	ADIC Scalar 100	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	Fibre, SCSI	
2	ADIC Scalar 1000, ADIC Scalar 10K, ATL P2000, ATL P4000, ATL P6000, ATL P7000, HPQ SureStore 2/20, HPQ SureStore 4/40, HPQ SureStore 6/60, IBM 3584, STK 9310, STK 9710, STK 9740, STK L180, STK L20, STK L40, STK L700, STK L80	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	SCSI	
3	ADIC Scalar 100, ADIC Scalar 24	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	Fibre	
4	ADIC Scalar 218, HPQ Galactica, Sony Petasite	EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	SCSI	
5	ATL 7100	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	SCSI	2.41
6	ATL M1500	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	Fibre	2.06
7	ATL P1000	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	SCSI	2.01
8	ATL P3000	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	SCSI	1.45
9	Dell PV–128T	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	Fibre	1.41D
10	Dell PV–130T	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	SCSI	1.6.04
11	Dell PV–132T[1]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	Fibre	107D, 200D
12	Dell PV–136T	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	Fibre	2.88.0001
13	Exabyte 221L FC[3]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	FC–AL	10.3.2[2]
14	Exabyte X200	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	SCSI	
15	Exabyte X80 FC	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	Fibre	3.1.1
16	Exabyte X80 SCSI	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	SCSI	207
17	HPQ MSL5026	EMC CLARiiON CX200, EMC CLARiiON CX600/CX400	Fibre, SCSI	3.18
18	HPQ MSL5052	EMC CLARiiON CX200, EMC CLARiiON CX600/CX400	Fibre[4], SCSI	
19	IBM TLU 3583	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	Fibre, SCSI	4.11
20	Overland Storage LibraryPro	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	SCSI	4.20
	Overland Storage Neo Series[5]	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	Fibre[4], SCSI	3.18
22	QualStar TLS 4000 Family	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	SCSI	2.10G
23	Spectra Logic Spectra 12000, Spectra Logic Spectra 64000	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700	Fibre	FQUIP: 30128FQ1, SQUIP: 1.27.03
24	STK 9714	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	SCSI	2.0.02
25	STK 9730	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	SCSI	1.5.06
26	STK L180 (FC), STK L700 (FC)	EMC CLARiiON CX600/CX400, EMC CLARiiON FC4700, EMC Symmetrix 8000 Series, EMC Symmetrix DMX Series	FC–AL	

1. Supported with CLARiiON attach only
2. Specified version or above is recommended.
3. Currently not support with Emulex Sbus adapters
4. Fiber Channel Option revision T520
5. Fibre Channel library is not supported for direct attachment with DS–xM, ES–xM, or McData switches

EMC Data Manager (EDM) 5.0.0 Matrix

June 24, 2003 16:31

Supported Server OS and Platforms

The EDM 5.0.0 software requires Sun Microsystem's Solaris 2.8 operating system and Solaris patches. EMC ships EDM with Solaris 2.8 and the Solaris patches already installed.

The EDM 5.0.0 software runs on the following hardware from Sun Microsystems:

- Enterprise 450
- Ultra Enterprise 3500
- Ultra Enterprise 4500
- Ultra Enterprise 6500
- Ultra Enterprise 10000
- Sun Fire V280 (Customer must supply additional disk space for catalogs)
- Sun Fire V480 (Customer must supply additional disk space for catalogs)
- Sun Fire V880
- Sun Fire 3800/4800/6800

Supported Clients for Network Backups

Supported Network Backup and Recovery Clients.

Vendor & Platform	Operating System		Backup Client Features: Filesystem Clients	Database Clients	Remarks
EMC Celerra File Server	NAS	2.2.35.4 2.2.25.6 2.2.15.4 3.0.15 3.0.21 4.0, 4.1. 4.2.10, 5.0.10			Beginning with 3.0.15, the EMC HighRoad (MPFS – Multiplex Filesystem) option is also available, allowing for support of both NFS– and MPFS–mounted filesystems. For Solaris platforms, all available HighRoad (MPFS) must be installed.
Fujitsu PRIMEPOWER (GPF7000F and GPF7000S)	Solaris	2.6	ACL, FB, LFS, LNK, VxFS	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x	
Fujitsu PRIMEPOWER (GPF7000F and GPF7000S)	Solaris	2.7	ACL, FB, LFS, LNK, VxFS	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x	
Fujitsu PRIMEPOWER (GPF7000F and GPF7000S)	Solaris	8	ACL, FB, LFS, LNK, VxFS	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x	
HP 9000/700	HP–UX	10.20	Std, ACL, LNK	***Oracle 8.0.x, Informix 7.3.x***	
/000 All Classes	HP–UX	10.20	ACL, FB, LFS, LNK, VxFS	Oracle 7.3, 8.0.x, 8i, Sybase Backint ***3.1*** Informix ***7.3x, 9.2x***	
HP 9000 All Classes	HP–UX	11 (32– or 64–bit filesystems)	ACL, FB, LFS, LNK, VxFS	Oracle 9.0.1 (64–bit only), 9.2.x (64–bit) Sybase ***11.9x***, Sybase12. ***12.5*** Backint ***3.1, 4.5, 4.6*** Informix ***7.3x, 9.2x***	32– and 64–bit supported for Informix 7.3x, 9.1x, and 9.2x.
HP 9000 All Classes	HP–UX	11i v1.0 (HP–UX 11.11) (32–bit)	ACL, FB, LFS, LNK, VxFS	Oracle 8.0.x, 8.1.x, 9.0.1 (64–bit only) Informix 7.3, 9.1x, 9.2x Backint ***3.1, 4.5, 4.6*** Sybase 11.9.x, 12, ***12.5***	OPS clusters supported on Oracle 8.0.x and 8.1.x
HP 9000 All Classes	HP–UX	11i v1.0 (HP–UX 11.11) (64–bit)	ACL, FB, LFS, LNK, VxFS	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x (64–bit) Informix 7.3, 9.1x, 9.2x, 9.3 (32–bit and 64–bit Informix supported) ***Backint 3.1, 4.5, 4.6, 4.7*** Sybase 11.9.x, 12, ***12.5***	OPS clusters supported on Oracle 8.0.x and 8.1.x
HP Itanium	HP–UX	11.20 (64–bit)	ACL, FB, LFS, LNK, VxFS		
HP	Tru64 UNIX (formerly DEC UNIX)	4.0 x	ACL, FB, LFS, LNK, ADV	Oracle ***7.3, 8.0.x, 8.1.x*** Sybase 12 Backint ***3.1*** Informix	Tru64 UNIX 4.0 has no support for port control.
HP	Tru64 UNIX (formerly DEC UNIX)	5.0	ACL, FB, LFS, LNK, ADV	Oracle 8.0.x, 8.1.x, 9.0.1 ***Backint 4.5, 4.6*** Sybase 12, ***12.5***	

Vendor & Platform	Operating System		Backup Client Features: Filesystem Clients	Database Clients	Remarks
HP	Tru64 UNIX (formerly DEC UNIX)	5.1	ACL, FB, LFS, LNK, ADV	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x (64-bit) ***Backint 4.5, 4.6*** Sybase 12, ***12.5*** ***Informix 9.2.x***	Compaq Patch Kit 3 Build 17 is required.
HP Alpha	OpenVMS	6.2, 7.1-xxx, 7.2-xxx, 7.3	Std, ACL, LFS	None	Requires DEC TCP/IP for OpenVMS or MultiNet for OpenVMS
IBM RS/6000 & Power Parallel SP2	AIX	4.3.x	ACL, FB, JFS, LFS, LNK	Oracle ***7.3, 8.0.x, 8.1.x, 9.0.1, 9.2*** Sybase ***11.9x, 12.0, 12.5*** Backint ***3.1, 4.5, 4.6*** Informix ***7.3x, 9.2x***	Sybase12 support is AIX 4.3.x only. Oracle 8.0.x support is 32-bit only. Oracle 8.1.x is required for RS/6000 Proxy Symmetrix Connect support.
IBM RS/6000 & Power Parallel SP2	AIX	***5.1***	ACL, FB, JFS, JFS2, LFS, LNK	Oracle ***7.3, 8.0.x, 8.1.x, 9.0.1, 9.2*** Sybase ***12.5*** Backint ***4.5, 4.6*** Informix	Sybase12 support is AIX 4.3.x only. Oracle 8.0.x support is 32-bit only. Oracle 8.1.x is required for RS/6000 Proxy Symmetrix Connect support.
IBM RS/6000 & Power Parallel SP2	AIX	5.2	ACL, FB, JFS, JFS2, LFS, LNK	Oracle 9.2 Backint 4.7	
IBM Intel x86	OS/2	4.0 Warp	Std	None	
Microsoft Intel x86	Windows 2000		Std, FB, LFS	Exchange 5.5, Exchange 2000 SQL7, SQL2000 Lotus Notes Oracle 8.1.x	Windows 2000 support is for Professional and Advanced Server. Windows 2000 Datacenter is supported for 32-bit filesystems only. Exchange 2000 requires Exchange client v3.1. Lotus Notes requires Domino 5.0.4 or higher and Notes client 1.0.1 or higher. Oracle 8.1.6 requires Oracle client v3.0.1. SQL2000 has full support for SQL client v4.0. Filesystems and applications requires at least filesystem client v3.0.1.
Microsoft Intel x86	Windows NT server, workstation	4.0	Std, FB, LFS	Backint Oracle 7.3, 8.0.x, 8.1.x Exchange 5.5 SQL 7.0, SQL2000 Lotus Notes cc:Mail	
[M]icrosoft Intel x86	Windows Server 2003		Std, FB, LFS	SQL Server 2000 SP3	Requires minimum release 4.0.0 of EDMBackup for Windows
Microsoft Intel x86	Windows XP		Std, FB, LFS		
NCR System 3000	UNIX SVR4 MP-RAS	3.02	VxFS, FB, LNK		No port control support.
Novell Intel x86	NetWare	3.2, 4.2, 5.10, 6.0	Std	None	NetWare Cluster Services supported with v3.0.2A.
Red Hat Intel x86	Linux	6.2	FB, LNK	None	Requires patch from Red Hat. For details, see the Red Hat Linux Install Requirements section of the EDM Release Notes. No raw partition support.
Red Hat Intel x86	Linux	7.0	FB, LNK	None	For patch information, contact EMC Customer Service. No raw partition support.
Red Hat Intel x86	Linux	7.1	FB, LFS, LNK	Oracle 8i	
Red Hat Intel x86	Linux	7.2	FB, LFS, LNK		
Red Hat Intel x86	Linux	7.3	FB, LFS, LNK	Oracle 8i	
Red Hat Intel x86	Linux	8.0	FB, LFS, LNK		
Red Hat Intel x86	Linux	AS 2.1	FB, LFS, LNK		Requires at least EDM patch 500_07.
Sequent NUMA-Q Intel x86	DYNIX/ptx	4.5.x	ACL, FB, EFS, LFS, LNK	None	No port control support.
Sequent NUMA-Q Intel x86	DYNIX/ptx	4.6.1	ACL, FB, EFS, LFS, LNK	None	No port control support.
Sequent Symmetry Intel x86	DYNIX/ptx	4.4.2 and up	ACL, FB, EFS, LFS, LNK	None	No port control support.
[S]iemens Pyramid [N]ile Series [R]M Series	DC/OSx	1.1	FB, LNK, VxFS	None	No port control support.
Siemens Pyramid Nile Series RM Series		5.4x	FB, LNK, VxFS	None	No port control support.
Silicon Graphics IP Series	IRIX	6.2	FB, LNK	None	
Silicon Graphics IP Series	IRIX	6.4, 6.5	FB, LFS, LNK, XFS	None	IRIX 6.4 requires SGI patch SG0003577. For IRIX 6.5, v6.5.9 or higher is recommended.
Sun 4 (SPARC)	Solaris	2.6	ACL, FB, LFS, LNK, VxFS	Oracle Sybase Informix Backint 4.5, 4.6	
Sun 4 (SPARC)	Solaris	7	ACL, FB, LNK, LFS, VxFS	Oracle 8.0.x, 8.1.x, 9.0.1 Sybase, Sybase12 Informix Backint	
Sun 4 (SPARC)	Solaris	8	ACL, FB, LFS, LNK, VxFS	Oracle 8.0.x, 8.1.x, 9.0.1 Sybase 11.9.x, 12 Informix 9.1x, 9.2x, 9.3 Backint 4.5, 4.6	
Sun 4 (SPARC)	Solaris	9	ACL, FB, LFS, LNK, VxFS	Oracle 9.2	
Sun Intel x86	Solaris	7, 8	ACL, FB, LFS, LNK, VxFS	None	
Sun Ultra III (SPARC)	Solaris	8 (64-bit)	ACL, FB, LFS, LNK, VxFS	Backint 4.6 Oracle 8.1.x (64-bit), 9.0.1 (32/64-bit), 9.2.x (32/64-bit) Sybase 12, 12.5	

Vendor & Platform	Operating System		Backup Client Features: Filesystem Clients	Database Clients	Remarks
Sun Ultra III (SPARC)	Solaris	9	ACL, FB, LFS, LNK, VxFS	Backint 4.6 Oracle 8.1.x (64-bit), 9.0.1 (32/64-bit), 9.2.x (32/64-bit) Sybase 12, 12.5	

1. cc:Mail and Lotus Notes (except the native Domino R5 client) require St. Bernard Software's OFM.

Limitations on File Size for Network Backups

Size Limits for Certain Clients

Platform and OS Release	Large File Support	Raw Partition
DEC UNIX 4.0 or higher	1 TB minus 1 block of 512 bytes	1 TB minus 1 block of 512 bytes
HP-UX 10.20 or higher	1 TB minus 1 block of 1024	1 TB minus 1 block of 1024
IBM AIX 4.3 or higher	64 GB minus 1 block of 512	64 GB minus 1 block of 512
Pyramid Nile DC/OSx 1.1 or higher	see footnote[2]	4 GB minus 1 block of 512
Sequent DYNIX/ptx 4.4.x or higher	1 TB minus 1 block of 512[1]	1 TB minus 2 blocks of 512[1]
SGI 6.2	see footnote[2]	1 TB minus 2 blocks of 512
SGI 6.4 or higher	1 TB minus 1 block of 512	1 TB minus 2 blocks of 512
Sun Solaris 2.6 or higher	1 TB minus 1 block of 512	1 TB minus 2 blocks of 512
Sun Solaris 2.6 Local Client	1 TB minus 1 block of 512	1 TB minus 2 blocks of 512
Other UNIX clients	2 GB minus 1 block of native block size	2 GB minus 1 block of native block size
NetWare	4 GB	N/A
OS/2	4 GB	N/A
OpenVMS	Up to OpenVMS maximum size	N/A
Windows NT 4.0, Windows 2000	8.388 TB	N/A

1.These limits apply only if the special binaries named in the section Large File Support on Sequent DYNIX 4.2.3 Clients are installed.
2.2 GB minus 1 block of the system's native disk block size for all undesignated UNIX clients.

DM Symmetrix Path Support

This table lists platforms and database clients that EDM Symmetrix Path supports.

- ***Supported PowerPath versions 2.1.x, 3.0.x***
- ***Supported SymAPI versions 5.0.x, 5.1.x, 5.2.x***
- ***EDM 5.0 patch 6 and above contains Symm Socket Layer 1.7.x (this drops support for HP-UX 10.20).***
- ***Minimum microcode level 64 (69 microcode supported on EDM 5.0 patch 6 and above)***

Supported EDM Symmetrix Path Backup Clients

Vendor & Platform	Operating System	Database Version	Remarks
Fujitsu PRIMEPOWER (Models GPF7000F and GPF7000S)	Solaris 2.6	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x (32-bit)	
Fujitsu PRIMEPOWER (Models GPF7000F and GPF7000S)	Solaris 7	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x (32/64-bit)	
Fujitsu PRIMEPOWER (Models GPF7000F and GPF7000S)	Solaris 8	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x (32/64-bit)	
HP 9000 All classes	HP-UX 10.20	Oracle 7.3, 8.0.x, 8i, Backint ***3.1*** Sybase ***11.9.x*** Informix ***7.3x, 9.2x***	HP-UX 10.20 is NOT supported for EDM 5.0 patch 500_06 or higher.
HP 9000 All classes	HP-UX 11.00	Oracle 7.3, 8.0.x (32/64 bit), 8.1.x (32/64 bit), 9.0.1 (64 bit), 9.2.x (64-bit) Backint ***3.1, 4.5, 4.6*** Sybase 11.5, 11.9.x, 12.5 Informix ***7.3x, 9.2x, 9.3.x 32-bit***	
HP 9000 All classes	HP-UX 11i v1.0 (HP-UX 11.11)	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x (64-bit) Informix 7.3x, 9.1x, 9.2x, 9.3 Sybase 11.9.x, 12, 12.5 ***Backint 4.5, 4.6***	***HP-UX 11.x requires PHSS_24627***
IBM RS/6000 SP2	AIX 4.3.x	Oracle 7.3, 8.0.x, 8.1.x, 9.0.1, ***9.2*** Backint ***4.5, 4.6*** Sybase 12.0, 12.5 Informix ***7.3x, 9.2x, 9.3.x 32-bit***	Oracle 8.1.x is required for RS/6000 Proxy Symmetrix Connect support. ***64-bit Oracle requires minimum EDM patch PE500_06.***
IBM RS/6000 SP2	AIX ***5.1***	Oracle 7.3, 8.0.x, 8.1.x, 9.0.1, ***9.2*** Backint Sybase 12.0, 12.5 Informix	Oracle 8.1.x is required for RS/6000 Proxy Symmetrix Connect support. ***64-bit Oracle requires minimum EDM patch PE500_06.***
Microsoft Intel x86	Windows 2000	SQL 7.0, SQL2000 Exchange 5.5, Exchange 2000 ***Lotus Domino/Notes R5.0.x***	Windows 2000 support is for Professional and Advanced Server. Datacenter is supported for 32-bit filesystems only. Exchange 2000 requires Exchange client v3.0. Lotus Notes requires Domino 5.0.4 or higher and Notes client 1.0.1 or higher.
Microsoft Intel x86	Windows NT 4.0	SQL Server 7.0, 2000 Oracle 7.3, 8.0.x, 8.1.x Backint Lotus Notes cc:Mail Exchange 5.5	
Novell Intel x86	NetWare 5.10, 6.0, 6.5		No SFTIII support. NetWare Cluster Services supported with v3.0.2A
Sun-4 (SPARC)	Solaris 2.6	Oracle7.3, 8.0.x, 8.1.x, 9.0.1, 9.2.x (32-bit) Backint ***3.1***, 4.5 Sybase 11.9.x Informix ***7.3x, 9.2x, 9.3.x 32-bit***	*PowerPath is REQUIRED for Oracle 8.x, optional in all other cases
Sun-4 (SPARC)	Solaris 7	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x (32-bit) Backint ***3.1, 4.5, 4.6*** Sybase 11.9.x, Sybase12 Informix ***7.3x, 9.2x***	
Sun-4 (SPARC)	Solaris 8	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x (32/64-bit) Sybase 11.9.x, 9.3, 12 Informix 9.2x Backint 4.5, 4.6	
Sun-4 (SPARC)	***Solaris 9***	***Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x (32/64-bit)*** ***Sybase 11.9.x, 9.3, 12*** ***Informix 9.2*** ***Backint 4.5, 4.6***	

Vendor & Platform	Operating System	Database Version	Remarks
Sun Ultra III (SPARC)	Solaris 8	Oracle 8.0.x, 8.1.x (32/64-bit), 9.0.1 (32/64-bit), 9.2.x (32/64-bit) Sybase 11.9.x Backint 4.5, 4.6	

EDM Symmetrix Connect Support

This table lists the clients that Symmetrix Connect supports. See Acronyms Used for EDM for acronym definitions.

- ***Supported PowerPath versions 2.1.x, 3.0.x***
- ***Supported SymAPI versions 5.0.x, 5.1.x, 5.2.x***
- ***Minimum microcode level 64 (69 microcode supported on EDM 5.0 patch 6 and above)***

Supported EDM Symmetrix Connect Backup Clients

Vendor & Platform	Operating System	Logical Volume Manager	Filesystem Type[1]	Database Version	Remarks
Fujitsu PRIMEPOWER (Models GPF7000F and GPF7000S)	Solaris 2.6	VxVM 3.1, VxFS 3.3.x	ACL, FB, LFS, LNK, ADV, VxFS	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x	
Fujitsu PRIMEPOWER (Models GPF7000F and GPF7000S)	Solaris 7	VxVM 3.1, VxFS 3.3.x	UFS, VxFS	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x	VxVM 3.1 and VxFS 3.3.x required
Fujitsu PRIMEPOWER (Models GPF7000F and GPF7000S)	Solaris 8	VxVM 3.1, VxFS 3.3.x	UFS, VxFS	Oracle 8.0.x, 8.1.x, 9.0.1, 9.2.x	VxVM 3.1 and VxFS 3.3.x required.
HP 9000 All classes	HP-UX 10.20	HP-LVM	HFS, VxFS	Oracle 7.3.x, 8.0.x, 8i, Backint 3.1, 4.0	
HP 9000 All classes	HP-UX 11.00	HP-LVM	HFS, VxFS	Oracle 7.3.x, 8.0.x, 8.1.x, 9.0.1, 9.2.x Backint 3.1, 4.0, 4.5, 4.6, 4.7	
HP 9000 All classes	11i v1.0 (HP-UX 11.11) (32, 64 bit)	HP-LVM	HFS, VxFS	Oracle 7.3.x, 8.0.x, 8.1.x, 9.0.1, 9.2.x Backint 3.1, 4.0, 4.5, 4.6, 4.7	***HP-UX 11.11 requires PHSS_24638***
HP	Tru64 UNIX V4.0x	LSM	UFS, AdvFS	Oracle 7.3, 8.0.x, 8.1.x, 9.0.1, 9.2.x (32-bit)	AdvFS restricted to one fileset/domain
HP	Tru64 UNIX V5.x	LSM	UFS, AdvFS	Oracle 8.1.x	AdvFS restricted to one fileset/domain
I RS/6000	AIX 4.3.x	IBM-LVM	JFS	Oracle 7.3.x, 8.0.x, 8.1.x, 9.0.1, 9.2.0 Backint 3.1, 4.0, 4.5, 4.6	Backup of individual files within compressed filesystems not supported.
IBM RS/6000	AIX 5.1, ***5.2***	IBM-LVM	JFS, ***JFS2***	Oracle 9.2, Backint 4.7	
Microsoft Intel x86	Windows NT 4.0	NT Disk Administrator	NTFS	Oracle 7.3.x, 8.0.x, 8.1.x, 9.2.x Exchange 5.5 SQL Server 7.0, 2000	No support for RMAN Proxy Copy.
Microsoft Intel x86	Windows 2000	Logical Disk Manager	NTFS	SQL Server 7.0, 2000 Oracle 8.1.7, 9.2.x Exchange 5.5	No support for RMAN Proxy Copy.
Microsoft Intel x86	***Windows 2003***	***Logical Disk Manager***	***NTFS***	***SQL Server 2000 SP3 Oracle 9.2.x***	***Symcli 5.2 or above needed for Emulex Storport driver support***
Sequent Symmetry or NUMA-Q Intel x86s	Dynix/ptx 4.4.2 or higher 4.5.x, 5.0.0	Sequent Volume Manager (VERITAS)	UFS, EFS	Oracle 7.3.3 minimum, 8.0.x, 8.1.x	RMAN support for Dynix 4.4.x only.
Sun 4 (SPARC)	Solaris 2.6, 7	VxVM 3.0.x, 3.1.x	UFS, VxFS 3.x	Oracle 7.3.x, 8.0.x, 8.1.x (32/64-bit Oracle 8.0.x supported for Solaris 2.7), 9.0.1, 9.2.x Backint 3.1, 4.0, 4.5, 4.6 RMAN	RMAN Proxy Copy requires Oracle8i and Solaris 2.6 or higher.
Sun 4 (SPARC)	Solaris 8	VxVM 3.0.x, 3.1.x	UFS, VxFS 3.x	Oracle 8.1.x, 9.0.1, 9.2.x Backint 4.5, 4.6	
Sun 4 (SPARC)	***Solaris 9***	***VxVM 3.5***	***UFS, VxFS 3.5***	***Oracle 8.1.x, 9.0.1, 9.2.x Backint 4.5, 4.6***	
Sun Ultra III (SPARC)	Solaris 8	VxVM 3.0.x, 3.1.x	UFS, VxFS 3.x	Oracle 8.1.x (32/64-bit), 9.0.1 (64-bit), 9.2.x (64-bit) RMAN Backint 4.6	

1. See EDM Acronym Definitions

Network Data Management Protocol Support (NDMP)

EDM 5.0.0 supports NDMP backup and restore of EMC Celerra File Server and of EMC CLARiiON FC4700/IP4700.

File server versions for NDMP support are:

- Celerra File Server version 2.2.x.x, minimum 2.2.46.4, network or the EMC HighRoad (MPFS) option for Celerra 3.x versions.
- FC4700/IP4700 release R2.0 with a minimum of R2.0 p19.1.

Network Data Management Protocol Support (NDMP) Tape Library Unit Support

See Supported Tape Library/Drive Configurations for tape library unit and drive support for EDM NDMP. Contact an EDM Sales Representative for details.

Supported Media for EMC Supplied Tape Library Units

For DLT tape IV half-inch data cartridges the following vendors are supported:

- Fujifilm
- Maxell
- Quantum
- EMC

For LTO tape the following vendors are supported:

- Fujifilm
- Maxell

Supported Tape Library/Drive Configurations

Refer to the EDM Matrix, available at EMC.com, or contact your EDM sales representative for support of any devices not listed.

EDM Acronym Definitions

This table describes acronyms and abbreviations that appear in the EDM matrix.

Acronyms Used for EDM

Acronym	Definition
ACL	Access Control List
ADV	Compaq/DEC Advanced Filesystem
EFS	Enhanced Filesystem
FB	EDM File Browser
FS	Filesystem
JFS	Journal Filesystem
JFS2	Enhanced Journal Filesystem
LFS	Large File Support(See Size Limits for Certain Clients for limits)
LNK	EDM Transfer Protocol, also called EDM-Link, a replacement for remote shell support (rsh)
NDMP	Network Data Management Protocol
RAW	Raw Filesystem
RPQ	Request for Price Quotation
STD	Standard-speed client
VxFS	VERITAS File System
VxVM	VERITAS Volume Manager
XFS	SGI Extended Filesystem

Non-EMC Backup Software Solutions

This section lists all the Open Systems topologies and associated configurations and components that are currently supported.

- EMC only specifies backup related components and revisions for those configurations that have EMC unique content. For configurations where the backup server is not connected to an EMC storage system, the backup software supplier should be consulted for questions about supported backup server hardware and software components (e.g., tape libraries, backup servers, and operating systems supported).
- An RPO is required for CLARiiON configurations with both VERITAS NetBackup and VERITAS Cluster Server. Per VERITAS, these configurations must be installed by VERITAS Professional Services.
- For supported tape libraries and drives, see the table Tape Libraries.

	Backup Topology						
	Local and LAN-Based Topologies	LAN Free, SAN with Dedicated Tape Drives[1,2]			LAN Free, SAN with Shared Tape Drives[1,2]		
Backup Server/Client Platform	Local, LAN-Based, and Private LAN	SAN	SAN and LAN	SAN and Private LAN	SAN	SAN and LAN	SAN and Private LAN
HP	See Table:Local, LAN-Based, and Private LAN Topologies	See Table:SAN with Dedicated Tape Drives	See Table:SAN and LAN with Dedicated Tape Drives	See Table:SAN and Private LAN with Dedicated Tape Drives	See Table:SAN with Shared Tape Drives	See Table:SAN and LAN with Shared Drives	See Table:SAN and Private LAN with Shared Tape Drives
IBM	See Table:Local, LAN-Based, and Private LAN Topologies	See Table:SAN with Dedicated Tape Drives	See Table:SAN and LAN with Dedicated Tape Drives	See Table:SAN and Private LAN with Dedicated Tape Drives	See Table:SAN with Shared Tape Drives	See Table:SAN and LAN with Shared Drives	See Table:SAN and Private LAN with Shared Tape Drives
Intel: Novell NetWare	See Table:Local, LAN-Based, and Private LAN Topologies	See Table:SAN with Dedicated Tape Drives	See Table:SAN and LAN with Dedicated Tape Drives	See Table:SAN and Private LAN with Dedicated Tape Drives	See Table.SAN with Shared Tape Drives	See Table:SAN and LAN with Shared Drives	See Table:SAN and Private LAN with Shared Tape Drives
Intel: Windows 2000	See Table:Local, LAN-Based, and Private LAN Topologies	See Table:SAN with Dedicated Tape Drives	See Table:SAN and LAN with Dedicated Tape Drives	See Table:LAN and Private LAN with Dedicated Tape Drives	See Table:SAN with Shared Tape Drives	See Table:SAN and LAN with Shared Drives	See Table:SAN and Private LAN with Shared Tape Drives
Intel: Windows NT 4	See Table:Local, LAN-Based, and Private LAN Topologies	See Table:SAN with Dedicated Tape Drives	See Table:SAN and LAN with Dedicated Tape Drives	See Table:SAN and Private LAN with Dedicated Tape Drives	See Table.SAN with Shared Tape Drives	See Table:SAN and LAN with Shared Drives	See Table:SAN and Private LAN with Shared Tape Drives
Linux	See Table:Local, LAN-Based, and Private LAN Topologies	See Table:SAN with Dedicated Tape Drives	See Table:SAN and LAN with Dedicated Tape Drives	See Table:SAN and Private LAN with Dedicated Tape Drives	See Table:SAN with Shared Tape Drives	See Table:SAN and LAN with Shared Drives	See Table:SAN and Private LAN with Shared Tape Drives
	See Table:Local, LAN-Based, and Private LAN Topologies	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported
Sun	See Table:Local, LAN-Based, and Private LAN Topologies	See Table:SAN with Dedicated Tape Drives	See Table:SAN and LAN with Dedicated Tape Drives	See Table:SAN and Private LAN with Dedicated Tape Drives	See Table:SAN with Shared Tape Drives	See Table:SAN and LAN with Shared Drives	See Table:SAN and Private LAN with Shared Tape Drives

1.A dedicated tape drive is a tape drive within a library that is statically and permanently associated with one backup client. A shared tape drive is one that is dynamically and temporarily associated to a backup client.
2.Ancor switch is not supported. Hub (loop) configurations may not connect through a FC/SCSI bridge to a tape library.

Understanding Backup Software License Guidelines

With any backup application you must be aware of the licensing guidelines. For example, every vendor has standard support for a typical small tape library that consists of 1 drive and perhaps unlimited slots. If support for more than one tape drive is required, then another option (e.g., Tape Library Option) is required. Also, most client options include support for a set number of clients. Additional licenses must be purchased for additional installations.

The following chart provides a general overview of the options and agents that are available from the major backup application vendors. Please use it as a guideline for understanding customer solutions. Most vendors have all or a subset of these features but may use different names or terminology.

Backup Application License Guidelines

Main Component	Description	Questions to Ask
Basic Server Edition	Single Server Support	How many tape drives are supported?
Advanced Server	Multiple Server Support	Usually includes support for one drive and unlimited slots.
Enhanced Options & Agents		
Tape Library Option	Advanced library features	In most cases provides unlimited tape device support.
Cross-Platform Management	Heterogeneous platform support	What platforms does it support?
Clustering		
Open File Agent	Backup of files in use	
Disaster Recovery		What type of DR?
Client Agents		
_000, NetWare, UNIX, Linux, OS/2, Windows 3.x, 9X, etc.	This option is usually sold on a per client basis or on a given limit such as 5 or 25 clients per package.	How many clients does your customer have?
Storage Area Network		
SAN Option	Support for Fibre Channel configurations. Allows multiple servers to share tape devices.	
Serverless Backup	Backup directly to a library avoiding server resources	
Database Protection		
Exchange, SQL, Oracle, Sybase, Informix, Lotus, etc	Database protection with various levels of support while online	License for how many databases?
High Speed Performance		
Image Option	Block level image of data rather than file by file including file-level restores	
Tape RAID	Provides striping across multiple tape devices	Improves performance and protection.
Archival Support		
Optical Library Option		

Backup Topologies

Local, LAN-Based, and Private LAN Topologies

Backup Vendor/Product	Backup Server or Client with Attached CLARiiON Storage Systems	Backup Server or Client with No Attached CLARiiON Storage Systems	Backup Components
EMC Data Manager (EDM)	Must confirm to restrictions in the other sections of this document.	No restrictions	Consult EDM support matrix.
Other vendors	Must confirm to restrictions in the other sections of this document.	No restrictions	Consult vendor's support matrix.

1.Currently, EDM backup servers are not configured with CLARiiON storage systems.

Configuration Rules

Use the following rules when configuring local, LAN-based and private LAN topologies and SAN-connected servers that are backed up by a local, LAN-based or private LAN topology (that is, topologies where the backup data does not flow over the SAN):

- Any backup server or client server that connects to EMC storage systems must adhere to the requirements in the other sections of this document.
- EMC places no restrictions on any backup server or client server that is not connected to EMC storage systems.
- Consult the backup software supplier's support matrix for component compatibility (server platform, operating systems, HBAs, tape driver, and tape libraries).

SAN with Dedicated Tape Drives

For information about supported tape libraries, tape drives, and Fibre Channel–to–SCSI bridges, see the table Tape to ESN Connectivity Information.

Backup Server/Client Platform[1]	Qualified Operating Systems	Backup Software Product
Sun Microsystems[2]	Solaris 2.6, 8	BakBone NetVault 6.5.1 LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.2, 6.1.3 Syncsort Backup Express VERITAS NetBackup Data Center, Rev 3.4 with Cumulative Patch J0850645
Sun Microsystems[2]	Solaris 8	Computer Associates BrightStor Enterprise Backup v10.0 SP5 HotFix #1, HotFix #2 for SP5 HP OmniBack II 4.1[3] LEGATO NetWorker 7.0
Sun Microsystems[2]	Solaris 9	HP OmniBack II 4.1[4] LEGATO NetWorker 6.1.2, 6.1.3, 7.0 VERITAS NetBackup Data Center 4.5
Intel: Novell	NetWare 5.10 SP4, SP5	BakBone NetVault 6.5.1 Computer Associates ARCserve 7, 9 for Novell NetWare VERITAS BackupExec for NetWare V8.5, 9.0[3]
Intel: Novell	NetWare 6.0 SP1, SP2, SP3	Computer Associates ARCserve 7, 9 for Novell NetWare VERITAS Backup Exec for NetWare V9.0[3]
Intel: Windows NT 4	SP6A	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, 4.1 Computer Associates BrightStor ARCserve 2000, SP4; 9.0 Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4 HP OmniBack II 4.1[4] LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.2, 7.0 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec for Windows NT and Windows 2000, Revision 8.6[2]; 9.0 VERITAS NetBackup Data Center, Rev 3.4 (with Cumulative Patch J0850482), 4.5[5]
Intel: Windows 2000[6]	SP1, SP2, SP3[7]	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, 4.1 Computer Associates BrightStor ARCserve 2000, SP4; 9.0 Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4 HP OmniBack II 4.1[4] LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfixes LGTpa31689 and LGTpa31323, 6.1.1, 6.2, 7.0 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec for Windows NT and Windows 2000, Revision 8.6[2]; 9.0 VERITAS NetBackup Data Center, Rev 3.4 (with Cumulative Patch J0850482), 4.5[5]
Intel: Windows 2003	***Initial release***	***Computer Associates BrightStor ARCserve Backup v9***[11 12] ***Computer Associates BrightStor Enterprise Backup 10.5***[11 12]
Hewlett Packard[8]	HP–UX 11.0	BakBone NetVault 6.5.1 LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.3 VERITAS NetBackup Data Center, Rev 3.4, with Cumulative Patch J0850482
IBM[9]	AIX 4.3.3	LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.3, 7.0 VERITAS NetBackup Data Center, Rev 3.4, with Cumulative Patch J0850482[10] Tivoli Storage Manager 4.2.1[10]
Linux	Red Hat Linux 7.3, 8.0, Advanced Server 2.1	LEGATO NetWorker 6.1.3, 7.0
Linux	Red Hat Linux Advanced Server 2.1	VERITAS NetBackup Data Center 4.5

1. See CLARiiON Open Systems Support Matrix tables for supported servers.
2. For CLARiiON environments, see the table Tape to ESN Connectivity Information. This requirement does not apply to SBus systems using the Emulex LP9002S–F2 HBA.
3. Sharing a tape library between Window NT4 and Windows 2000 platforms running Backup Exec 8.6 and NetWare systems running Backup Exec for NetWare 9.0 is not supported.
4. Customers must run the OmniBack II 4.1 Device Test Tool (DTT) as a check to determine whether or not their FC/SAN environment is supported by OmniBack II 4.1. This tool is available on the HP Web site.
5. Server Free backup is not supported.
6. Windows 2000 using Emulex HBAs use driver 2.11a2 instead of 2.13a4.
7. Exceptions include: BakBone NetVault, Syncsort Backup Express, and Trivoli Manager.
8. Supported only as backup client. Only V–Class, N–Class, and L–Class models supported.
9. Supported only as backup client. SP series systems are not supported.
10. A dedicated HBA running the IBM native driver is required for Tivoli to communicate with tape drives and tape library autochangers.
11. Supported only with QLogic HBAs.
12. Supported only with the Dell PV–132T and PV–136T tape libraries and SDLT 320, LTO–1 and LTO–2 SCSI tape drives

SAN and LAN with Dedicated Tape Drives

nformation about supported tape libraries, tape drives, and Fibre Channel–to–SCSI bridges, see the table Tape to ESN Connectivity Information.

Backup Server and SAN Client Platform[1]	Qualified Operating Systems	Backup Software Product
Sun Microsystems[2]	Solaris 2.6, 8	BakBone NetVault 6.5.1 LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.2, 6.1.3 Syncsort Backup Express VERITAS NetBackup Data Center, Rev 3.4 with Cumulative Patch J0850645
Sun Microsystems[2]	Solaris 8	Computer Associates BrightStor Enterprise Backup v10.0 SP5 HotFix #1, HotFix #2 for SP5 HP OmniBack II 4.1[3] LEGATO NetWorker 7.0
Sun Microsystems[2]	Solaris 9	HP OmniBack II 4.1[4] LEGATO NetWorker 6.1.2, 6.1.3, 7.0 VERITAS NetBackup Data Center 4.5
Intel: Novell	NetWare 5.10 SP4, SP5	BakBone NetVault 6.5.1 Computer Associates ARCserve 7, 9 for Novell NetWare VERITAS Backup Exec for NetWare V8.5, 9.0[3]
Intel: Novell	NetWare 6.0 SP1, SP2, SP3	Computer Associates ARCserve 7, 9 for Novell NetWare VERITAS Backup Exec for NetWare V9.0[3]
Intel: Windows NT 4	SP6A	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, 4.1 Computer Associates BrightStor ARCserve 2000, SP4; 9.0 Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4 HP OmniBack II 4.1[4] LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.2, 7.0 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec for Windows NT and Windows 2000, Revision 8.6[2]; 9.0 VERITAS NetBackup Data Center, Rev 3.4 (with Cumulative Patch J0850482), 4.5[5]

Backup Server and SAN Client Platform	Qualified Operating Systems	Backup Software Product
Intel Windows 2000[6]	SP1, SP2, SP3[7]	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, 4.1 Computer Associates BrightStor ARCserve 2000, SP4; 9.0 Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4 HP OmniBack II 4.1[4] LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfixes LGTpa31689 and LGTpa31323, 6.1.1, 6.2, 7.0 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec for Windows NT and Windows 2000, Revision 8.6[3]; 9.0 VERITAS NetBackup Data Center, Rev 3.4 (with Cumulative Patch J0850482), 4.5[5]
Intel: Windows 2003	***Initial release***	***Computer Associates BrightStor ARCserve Backup v9[11 12]*** ***Computer Associates BrightStor Enterprise Backup 10.5[11 12]***
Hewlett Packard[8]	HP-UX 11.0	BakBone NetVault 6.5.1 LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.3 VERITAS NetBackup Data Center, Rev 3.4, with Cumulative Patch J0850482
IBM[9]	AIX 4.3.3	LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.3, 7.0 VERITAS NetBackup Data Center, Rev 3.4, with Cumulative Patch J0850482[10] Tivoli Storage Manager 4.2.1[10]
Linux	Red Hat Linux 7.3, 8.0, Advanced Server 2.1	LEGATO NetWorker 6.1.3, 7.0
Linux	Red Hat Linux Advanced Server 2.1	VERITAS NetBackup Data Center 4.5

1. See CLARiiON Open Systems Support Matrix tables for supported servers.
2. For CLARiiON environments, see the table Tape to ESN Connectivity Information. This requirement does not apply to SBus systems using the Emulex LP9002S-F2 HBA.
3. Sharing a tape Library between Window NT4 and Windows 2000 platforms running Backup Exec 8.6 and NetWare systems running Backup Exec for NetWare 9.0 is not supported.
4. Customers must run the OmniBack II 4.1 Device Test Tool (DTT) as a check to determine whether or not their FC/SAN environment is supported by OmniBack II 4.1. This tool is available on the HP Web site.
5. Server Free backup is not supported.
6. Windows 2000 using Emulex HBAs use driver 2.11a2 instead of 2.13a4.
7. Exceptions include: BakBone NetVault, Syncsort Backup Express, and Trivoli Manager.
8. Supported only as backup client. Only V-Class, N-Class, and L-Class models supported.
9. Supported only as backup client. SP series systems are not supported.
10. A dedicated HBA running the IBM native driver is required for Tivoli to communicate with tape drives and tape library autochangers.
11. Supported only with QLogic HBAs.
12. Supported only with the Dell PV-132T and PV-136T tape libraries and SDLT 320, LTO-1 and LTO-2 SCSI tape drives

LAN and LAN with Dedicated Tape Drives

LAN Backup Client Platform[1]	Qualified Operating Systems	Backup Software Product
All	Consult the Backup software supplier	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, ***4.2*** Computer Associates BrightStor ARCserve 2000, SP4; 9.0 (including ARCserve 7, 9 for NetWare) Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4, SP5. 10.0, ***10.5*** LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfixes LGTpa31323 (Windows 2000 only) and LGTpa31689, 6.1.1, 6.2 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec V8.6, 9.0 for Windows and V8.5, 9.0 for NetWare VERITAS NetBackup Data Center, Rev 3.4 (with Cumulative Patch J0850482), 4.5[2]

1. See CLARiiON Open Systems Support Matrix tables for supported servers.
2. Server Free backup is not supported.

SAN and Private LAN with Dedicated Tape Drives

For information about supported tape libraries, tape drives, and Fibre Channel-to-SCSI bridges, see the table Tape to ESN Connectivity Information.

Backup Server and SAN Client Platform[1]	Qualified Operating Systems	Backup Software Product
Sun Microsystems[2]	Solaris 2.6, 8	BakBone NetVault 6.5.1 LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.2, 6.1.3 Syncsort Backup Express VERITAS NetBackup Data Center, Rev 3.4, with Cumulative Patch J0850645
Sun Microsystems[2]	Solaris 8	Computer Associates BrightStor Enterprise Backup v10.0 SP5 HotFix #1, HotFix #2 for SP5 HP OmniBack II 4.1[4] LEGATO NetWorker 7.0
Sun Microsystems[2]	Solaris 9	HP OmniBack II 4.1[4] LEGATO NetWorker 6.1.2, 6.1.3, 7.0 VERITAS NetBackup Data Center 4.5
Intel: Novell	NetWare 5.10 SP4, SP5	BakBone NetVault 6.5.1 VERITAS Backup Exec for NetWare V8.5, 9.0[3]
Intel: Novell	NetWare 6.0 SP1, SP2, SP3	Computer Associates ARCserve 7, 9 for Novell NetWare VERITAS Backup Exec for NetWare V9.0[3]
Intel: Windows NT 4	SP6A	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, 4.1 Computer Associates BrightStor ARCserve 2000, SP4; 9.0 Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4 HP OmniBack II 4.1[4] LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.2, 7.0 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec for Windows NT and Windows 2000, Revision 8.6[3]; 9.0 VERITAS NetBackup Data Center, Rev 3.4 (with Cumulative Patch J0850482), 4.5[5]
Intel: Windows 2000[6]	SP1, SP2, SP3[7]	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, 4.1 Computer Associates BrightStor ARCserve 2000, SP4; 9.0 Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4 HP OmniBack II 4.1[4] LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfixes LGTpa31689 and LGTpa31323, 6.1.1, 6.2, 7.0 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec for Windows NT and Windows 2000, Revision 8.6[3]; 9.0 VERITAS NetBackup Data Center, Rev 3.4 (with Cumulative Patch J0850482), 4.5[5]
Intel: Windows 2003	***Initial release***	***Computer Associates BrightStor ARCserve Backup v9[11 12]*** ***Computer Associates BrightStor Enterprise Backup 10.5[11 12]***
Hewlett Packard[8]	HP-UX 11.0	BakBone NetVault 6.5.1 LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.3 VERITAS NetBackup Data Center, Rev 3.4 with Cumulative Patch J0850482
IBM[9]	AIX 4.3.3	LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.3, 7.0 VERITAS NetBackup Data Center, Rev 3.4, with Cumulative Patch J0850482[10] Tivoli Storage Manager 4.2.1[10]
Linux	Red Hat Linux 7.3, 8.0, Advanced Server 2.1	LEGATO NetWorker 6.1.3, 7.0
Linux	Red Hat Linux Advanced Server 2.1	VERITAS NetBackup Data Center 4.5

1. See CLARiiON Open Systems Support Matrix tables for supported servers.
2. For CLARiiON environments, see the table Tape to ESN Connectivity Information. This requirement does not apply to SBus systems using the Emulex LP9002S-F2 HBA.

3. Sharing a tape Library between Window NT4 and Windows 2000 platforms running Backup Exec 8.6 and NetWare systems running Backup Exec for NetWare 9.0 is not supported.
4. Customers must run the OmniBack II 4.1 Device Test Tool (DTT) as a check to determine whether or not their FC/SAN environment is supported by OmniBack II 4.1. This tool is available on the HP Web site.
5. Server Free backup is not supported.
6. Windows 2000 using Emulex HBAs use driver 2.11a2 instead of 2.13a4.
7. Exceptions include: BakBone NetVault, Syncsort Backup Express, and Trivoli Manager.
8. Supported only as backup client. Only V–Class, N–Class, and L–Class models supported.
9. Dupported only as backup client. SP series systems are not supported.
10. A dedicated HBA running the IBM native driver is required for Tivoli to communicate with tape drives and tape library autochangers.
11. Supported only with QLogic HBAs.
12. Supported only with the Dell PV–132T and PV–136T tape libraries and SDLT 320, LTO–1 and LTO–2 SCSI tape drives

SAN and Private LAN with Dedicated Tape Drives

LAN Backup Client Platform1	Qualified Operating Systems	Backup Software Product
All	Consult the Backup software supplier	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, ***4.2*** Computer Associates BrightStor ARCserve 2000, SP4; 9.0 (including ARCserve 7, 9 for NetWare) Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4, SP5, 10.0, ***10.5*** LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfixes LGTpa31323 (Windows 2000 only) and LGTpa31689, 6.1.1, 6.2 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec V8.6, 9.0 for Windows and V8.5, 9.0 for NetWare VERITAS NetBackup Data Center, Rev 3.4 (with Cumulative Patch J0850482), 4.5 2

1. See CLARiiON Open Systems Support Matrix tables for supported servers.
2. Server Free backup is not supported.

SAN with Shared Tape Drives

For information about supported tape libraries, tape drives, and Fibre Channel–to–SCSI bridges, see the table Tape to ESN Connectivity Information.

Backup Server/Client Platform[1]	Qualified Operating Systems	Backup Software Product
Sun Microsystems[2]	Solaris 2.6, 8	BakBone NetVault 6.5.1 LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.2, 6.1.3 Syncsort Backup Express VERITAS NetBackup Data Center, Rev 3.4, with Shared Storage Option (SSO), and Cumulative Patch J0850645
Sun Microsystems[2]	Solaris 8	Computer Associates BrightStor Enterprise Backup v10.0 SP5 HotFix #1, HotFix #2 for SP5 HP OmniBack II 4.1[4] LEGATO NetWorker 7.0
Sun Microsystems[2]	Solaris 9	HP OmniBack II 4.1[4] LEGATO NetWorker 6.1.2, 6.1.3, 7.0 VERITAS NetBackup Data Center 4.5
Intel: Novell	NetWare 5.10 SP4, SP5	BakBone NetVault 6.5.1 Computer Associates ARCserve 7, 9 for Novell NetWare with Storage Area Network option[3] VERITAS Backup Exec for NetWare V8.5, 9.0[3] with SAN Shared Storage Option
Intel: Novell	NetWare 6.0 SP1, SP2, SP3	Computer Associates ARCserve 7, 9 for Novell NetWare VERITAS Backup Exec for NetWare V9.0[3]
Intel: Windows NT 4	SP6A	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, 4.1 Computer Associates BnghtStor ARCserve 2000 with Storage Area Network option, SP4; 9.0 Computer Associates BnghtStor Enterprise Backup with SP3 and patch Q017382, SP4 HP OmniBack II 4.1[4] LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.2, 7.0 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec for Windows NT and Windows 2000, Revision 8.6[5]; 9.0, with SAN Shared Storage Option VERITAS NetBackup Data Center with Shared Storage Option (SSO), Rev 3.4 (with Cumulative Patch J0850482), 4.5[6]
Intel: Windows 2000[7]	SP1, SP2, SP3[8]	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, 4.1 Computer Associates BrightStor ARCserve 2000 with Storage Area Network option, SP4; 9.0 Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4 HP OmniBack II 4.1[4] LEGATO NetWorker 6.1 with hotfixes LGTpa31323 and LGTpa31689, 6.1.1, 6.2, 7.0 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec for Windows NT and Windows 2000, Revision 8.6[5]; 9.0, with SAN Shared Storage Option VERITAS NetBackup Data Center with Shared Storage Option (SSO), Rev 3.4 (with Cumulative Patch J0850482), 4.5[6]
Intel: Windows 2003	***Initial release***	***Computer Associates BrightStor ARCserve Backup v9[12 13]*** ***Computer Associates BrightStor Enterprise Backup 10.5[12 13]***
ıett Packard[9]	HP–UX 11.0	BakBone NetVault 6.5.1 LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.3 VERITAS NetBackup Data Center, Rev 3.4 with Shared Storage Option (SSO), and Cumulative Patch J0850482
IBM[10]	AIX 4.3.3	LEGATO NetWorker 6.0.2 with hotfix LGTpa30494, 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.3, 7.0 VERITAS NetBackup Data Center, Rev 3.4 with Shared Storage Option (SSO), and Cumulative Patch J0850482 Tivoli Storage Manager 4.2.1[11]
Linux	Red Hat Linux 7.3, 8.0, Advanced Server 2.1	LEGATO NetWorker 6.1.3 , 7.0
Linux	Red Hat Linux Advanced Server 2.1	VERITAS NetBackup Data Center 4.5

1. See CLARiiON Open Systems Support Matrix tables for supported servers.
2. For CLARiiON environments, see the table Tape to ESN Connectivity Information. This requirement does not apply to SBus systems using the Emulex LP9002S–F2 HBA.
3. Supported in environment with Computer Associates BrightStor ARCserve 2000 sharing a SAN–connected library between the NetWare. Windows NT4 and Windows 2000 servers.
4. Customers must run the OmniBack II 4.1 Device Test Tool (DTT) as a check to determine whether or not their FC/SAN environment is supported by OmniBack II 4.1. This tool is available on the HP Web site.
5. Sharing a tape library between Window NT4 and Windows 2000 platforms running Backup Exec 8.6 and NetWare systems running Backup Exec for NetWare 9.0 is not supported.
6. Server Free backup is not supported.
7. Windows 2000 using Emulex HBAs use driver 2.11a2 instead of 2.13a4.
8. Exceptions include: BakBone NetVault, Syncsort Backup Express, and Trivoli Manager.
9. Supported only as backup client. Only V–Class, N–Class, and L–Class models supported.
10. Supported only as backup client. SP series systems are not supported.
11. A dedicated HBA running the IBM native driver is required for Tivoli to communicate with tape drives and tape library autochangers.
12. Supported only with QLogic HBAs.
13. Supported only with the Dell PV–132T and PV–136T tape libraries and SDLT 320, LTO–1 and LTO–2 SCSI tape drives

SAN and LAN with Shared Drives

For information about supported tape libraries, tape drives, and Fibre Channel–to–SCSI bridges, see the table Tape to ESN Connectivity Information.

Backup Server/Client Platform	Qualified Operating Systems	Backup Software Product
Sun Microsystems[2]	Solaris 2.6, 8	BakBone NetVault 6.5.1 LEGATO NetWorker 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.2, 6.1.3 Syncsort Backup Express VERITAS NetBackup Data Center, Rev 3.4, with Shared Storage Option (SSO) with Cumulative Patch J0850645

Backup Server/Client Platform[1]	Qualified Operating Systems	Backup Software Product
Sun Microsystems[2]	Solaris 8	Computer Associates BrightStor Enterprise Backup v10.0 SP5 HotFix #1, HotFix #2 for SP5 HP OmniBack II 4.1[4] LEGATO NetWorker 7.0
Sun Microsystems[2]	Solaris 9	HP OmniBack II 4.1[4] LEGATO NetWorker 6.1.2, 6.1.3, 7.0 VERITAS NetBackup Data Center 4.5
Intel: Novell	NetWare 5.10 SP4, SP5	BakBone NetVault 6.5.1 Computer Associates ARCserve 7, 9 for Novell NetWare with Storage Area Network option[3] VERITAS Backup Exec for NetWare V8.5, 9.0[5] with SAN Shared Storage Option
Intel: Novell	NetWare 6.0 SP1, SP2, SP3	Computer Associates ARCserve 7, 9 for Novell NetWare VERITAS Backup Exec for NetWare V9.0[5]
Intel: Windows NT 4	SP6A	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, 4.1 Computer Associates BrightStor ARCserve 2000 with Storage Area Network option, SP4; 9.0 Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4 HP OmniBack II 4.1[4] LEGATO NetWorker 6.1 with hotfix LGTpa31689, 6.1.1, 6.2, 7.0 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec for Windows NT and Windows 2000, Revision 8.6[5]; 9.0. with SAN Shared Storage Option VERITAS NetBackup Data Center with Shared Storage Option (SSO), Rev 3.4 (with Cumulative Patch J0850482), 4.5[6]
Intel: Windows 2000[7]	SP1, SP2, SP3[8]	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, 4.1 Computer Associates BrightStor ARCserve 2000 with Storage Area Network option, SP4; 9.0 Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4 HP OmniBack II 4.1[4] LEGATO NetWorker 6.1 with hotfixes LGTpa31323 and LGTpa31689, 6.1.1, 6.2, 7.0 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec for Windows NT and Windows 2000, Revision 8.6[5]; 9.0. with SAN Shared Storage Option VERITAS NetBackup Data Center with Shared Storage Option (SSO), Rev 3.4 (with Cumulative Patch J0850482), 4.5[6]
Intel: Windows 2003	***Initial release***	***Computer Associates BrightStor ARCserve Backup v9[12 13]*** ***Computer Associates BrightStor Enterprise Backup 10.5[12 13]***
Hewlett Packard[9]	HP-UX 11.0	BakBone NetVault 6.5.1 LEGATO NetWorker 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.3 VERITAS NetBackup Data Center, Rev 3.4 with Shared Storage Option (SSO), and Cumulative Patch J0850482
IBM[10]	AIX 4.3.3	LEGATO NetWorker 6.1 with hotfix LGTpa31689, 6.1.1, 6.1.3, 7.0 VERITAS NetBackup Data Center, Rev 3.4 with Shared Storage Option (SSO), and Cumulative Patch J0850482 Tivoli Storage Manager 4.2.1[11]
Linux	Red Hat Linux 7.3, 8.0, Advanced Server 2.1	LEGATO NetWorker 6.1.3, 7.0
Linux	Red Hat Linux Advanced Server 2.1	VERITAS NetBackup Data Center 4.5

1. See CLARiiON Open Systems Support Matrix tables for supported servers.
2. For CLARiiON environments, see the table Tape to ESN Connectivity Information. This requirement does not apply to SBus systems using the Emulex LP9002S-F2 HBA.
3. Supported in environment with Computer Associates BrightStor ARCserve 2000 sharing a SAN-connected library between the NetWare, Windows NT4 and Windows 2000 servers.
4. Customers must run the OmniBack II 4.1 Device Test Tool (DTT) as a check to determine whether or not their FC/SAN environment is supported by OmniBack II 4.1. This tool is available on the HP Web site.
5. Sharing a tape library between Window NT4 and Windows 2000 platforms running Backup Exec 8.6 and NetWare systems running Backup Exec for NetWare 9.0 is not supported.
6. Server Free backup is not supported.
7. Windows 2000 using Emulex HBAs use driver 2.11a2 instead of 2.13a4.
8. Exceptions include: BakBone NetVault, Syncsort Backup Express, and Trivoli Manager.
9. Supported only as backup client. Only V-Class, N-Class, and L-Class models supported.
10. Supported only as backup client. SP series systems are not supported.
11. A dedicated HBA running the IBM native driver is required for Tivoli to communicate with tape drives and tape library autochangers.
12. Supported only with QLogic HBAs.
13. Supported only with the Dell PV-132T and PV-136T tape libraries and SDLT 320, LTO-1 and LTO-2 SCSI tape drives

SAN and LAN with Shared Drive

LAN Backup Client Platform[1]	Qualified Operating Systems	Backup Software Product
All	Consult the Backup software supplier	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, ***4.2*** Computer Associates BrightStor ARCserve 2000, SP4; 9.0 (including ARCserve 7, 9 for NetWare) Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4, SP5, 10.0, ***10.5*** LEGATO NetWorker 6.1 with hotfixes LGTpa31323 (Windows 2000 only) and LGTpa31689, 6.1.1, 6.2 Syncsort Backup Express Tivoli Storage Manager 4.2.1[5] VERITAS Backup Exec V8.6[5], 9.0 for Windows and V8.5, 9.0 for NetWare VERITAS NetBackup Data Center, Rev 3.4 (with Cumulative Patch J0850482), 4.5[2]

1. See CLARiiON Open Systems Support Matrix tables for supported servers.
2. Server Free backup is not supported.

SAN and Private LAN with Shared Tape Drives

For information about supported tape libraries, tape drives, and Fibre Channel-to-SCSI bridges, see the table Tape to ESN Connectivity Information.

Backup Server and SAN Client Platform[1]	Qualified Operating Systems	Backup Software Product
Sun Microsystems[2]	Solaris 2.6, 8	BakBone NetVault 6.5.1 LEGATO NetWorker 6.1 LGTpa31689, 6.1.1, 6.1.2, 6.1.3 Syncsort Backup Express VERITAS NetBackup Data Center, Rev 3.4, with Shared Storage Option (SSO) with Cumulative Patch J0850645
Sun Microsystems[2]	Solaris 8	Computer Associates BrightStor Enterprise Backup v10.0 SP5 HotFix #1, HotFix #2 for SP5 HP OmniBack II 4.1[4] LEGATO Networker 7.0
Sun Microsystems[2]	Solaris 9	HP OmniBack II 4.1[4] LEGATO NetWorker 6.1.2, 6.1.3, 7.0 VERITAS NetBackup Data Center 4.5
Intel: Novell	NetWare 5.10 SP4, SP5	BakBone NetVault 6.5.1 Computer Associates ARCserve 7, 9 for Novell NetWare with Storage Area Network option[3] VERITAS Backup Exec for NetWare V8.5, 9.0[5] with SAN Shared Storage Option
Intel: Novell	NetWare 6.0 SP1, SP2, SP3	Computer Associates ARCserve 7, 9 for Novell NetWare VERITAS Backup Exec for NetWare V9.0[5]

Backup Server and SAN Client Platform[1]	Qualified Operating Systems	Backup Software Product
Intel: Windows NT 4	SP6A	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, 4.1 Computer Associates BrightStor ARCserve 2000 with Storage Area Network option, SP4; 9.0 Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4 HP OmniBack II 4.1[4] LEGATO NetWorker 6.1 LGTpa31689, 6.1.1, 6.2, 7.0 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec for Windows NT and Windows 2000, Revision 8.6[5]; 9.0, with SAN Shared Storage Option VERITAS NetBackup Data Center with Shared Storage Option (SSO), Rev 3.4 (with Cumulative Patch J0850482), 4.5[6]
Intel: Windows 2000[7]	SP1, SP2, SP3[8]	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, 4.1 Computer Associates BrightStor ARCserve 2000 with Storage Area Network option, SP4; 9.0 Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4 HP OmniBack II 4.1[4] LEGATO NetWorker 6.1 with hotfixes LGTpa31323 and LGTpa31689, 6.1.1, 6.2, 7.0 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec for Windows NT and Windows 2000, Revision 8.6[5]; 9.0, with SAN Shared Storage Option VERITAS NetBackup Data Center with Shared Storage Option (SSO), Rev 3.4 (with Cumulative Patch J0850482), 4.5[6]
Intel: Windows 2003	***Initial release***	***Computer Associates BrightStor ARCserve Backup v9[12 13]*** ***Computer Associates BrightStor Enterprise Backup 10.5[12 13]***
Hewlett Packard[9]	HP-UX 11.0	BakBone NetVault 6.5.1 LEGATO NetWorker 6.1 LGTpa31689, 6.1.1, 6.1.3 VERITAS NetBackup Data Center, Rev 3.4 with Shared Storage Option (SSO), and Cumulative Patch J0850482
IBM[10]	AIX 4.3.3	LEGATO NetWorker 6.1 LGTpa31689, 6.1.1, 6.1.3, 7.0 VERITAS NetBackup Data Center, Rev 3.4 with Shared Storage Option (SSO), and Cumulative Patch J0850482[11] Tivoli Storage Manager 4.2.1[11]
Linux	Red Hat Linux 7.3, 8.0, Advanced Server 2.1	LEGATO NetWorker 6.1.3, 7.0
ux	Red Hat Linux Advanced Server 2.1	VERITAS NetBackup Data Center 4.5

1. See CLARiiON Open Systems Support Matrix tables for supported servers.
2. For CLARiiON environments, see the table Tape to ESN Connectivity Information. This requirement does not apply to SBus systems using the Emulex LP9002S-F2 HBA.
3. Supported in environment with Computer Associates BrightStor ARCserve 2000 sharing a SAN-connected library between the NetWare, Windows NT4 and Windows 2000 servers.
4. Customers must run the OmniBack II 4.1 Device Test Tool (DTT) as a check to determine whether or not their FC/SAN environment is supported by OmniBack II 4.1. This tool is available on the HP Web site.
5. Sharing a tape library between Window NT4 and Windows 2000 platforms running Backup Exec 8.6 and NetWare systems running Backup Exec for NetWare 9.0 is not supported.
6. Server Free backup is not supported.
7. Windows 2000 using Emulex HBAs use driver 2.11a2 instead of 2.13a4.
8. Exceptions include: BakBone NetVault, Syncsort Backup Express, and Trivoli Manager.
9. Supported only as backup client. Only V-Class, N-Class, and L-Class models supported.
10. Dupported only as backup client. SP series systems are not supported.
11. A dedicated HBA running the IBM native driver is required for Tivoli to communicate with tape drives and tape library autochangers.
12. Supported only with QLogic HBAs.
13. Supported only with the Dell PV-132T and PV-136T tape libranes and SDLT 320, LTO-1 and LTO-2 SCSI tape drives

SAN and Private LAN with Shared Tape Drives

LAN Backup Client Platform[1]	Qualified Operating Systems	Backup Software Product
All	Consult the Backup software supplier	BakBone NetVault 6.5.1 CommVault Galaxy 3.1 GSP1, 3.7.1, ***4.2*** Computer Associates BrightStor ARCserve 2000, SP4; 9.0 (including ARCserve 7, 9 for NetWare) Computer Associates BrightStor Enterprise Backup with SP3 and patch Q017382, SP4, SP5, 10.0, ***10.5*** LEGATO NetWorker 6.1 with hotfixes LGTpa31323 (Windows 2000 only) and LGTpa31689, 6.1.1, 6.2 Syncsort Backup Express Tivoli Storage Manager 4.2.1 VERITAS Backup Exec V8.6, 9.0 for Windows and V8.5, 9.0 for NetWare VERITAS NetBackup Data Center, Rev 3.4 (with Cumulative Patch J0850482), 4.5[2]

1. See CLARiiON Open Systems Support Matrix tables supported servers.
2. Server Free backup is not supported.

VERITAS Support Matrix

EMC has qualified the following VERITAS-related products, as specified in the following tables. Click here for more information.

Integrated Products
- EMC Foundation Suite by VERITAS
- EMC Database Edition for Oracle by VERITAS
- EMC GeoSpan for VERITAS Cluster Server

VERITAS Volume Manager (VxVM)

VERITAS File System (VxFS)

VERITAS Cluster Server (VCS)

Integrated Products

Product Name	Included Product	Supported OS	Supported Products	Status/ Release Planned	DMP	PowerPath	Storage Model(s)	Minimum Microcode	Required Microcode for Full Features	Highest Microcode Qualified	Supported SymAPI	Comments	Max Hosts
EMC Foundation Suite by VERITAS													
EMC Foundation Suite by VERITAS Version 2.2 on Solaris	VxVM 3.1.1, VxFS 3.4, VxTF 2.2[1], VMSA 3.1.1	Solaris 2.6, 7, 8	N/A	GA	Y	2.0.2 and higher	Symmetrix 3000/5000 series[2], 8000 series	5x65	5x66	5x67	4.2	Device suppression is not supported. VxTF can't be used with Informix database.	N/A
EMC Foundation Suite by VERITAS Version 3.0 on Solaris	VxVM 3.1.1P2, VxFS 3.4P1, VxTF 3.0, VMSA 3.1.1, VxTFag 3.0	Solaris 2.6, 7, 8	VCS 1.3 VCS 2.0	GA	Y	2.1 and higher	Symmetrix 3000/5000 series[2], 8000 series	5x65	5x66	5x67	4.3.1 to 4.3.X	Supports VxTF in a VCS environment. Includes 3 VCS Agents: Device Group Agent (VxSymDevGrp), Log Agent (VxSymLog), Recovery Agent (VxSymRecover) VxTF can't be used with Informix database.	N/A
EMC Foundation Suite by VERITAS Version 4.0 on Solaris	***VxVM 3.5, VxFS 3.5, VxTF 4.0, VEA 3.5, VxTFag 4.0***	***Solaris 8***	***VCS 3.5***	***GA***	***Y***	***3.02***	***Symmetrix 3000/5000 series, 8000 series, DMX series***	***5x67***	***5x67, 5x68, 5669***	***5568, 5669***	***5.1***	***Supports VxTF in a VCS environment.*** ***Includes 3 VCS Agents: Device Group Agent (VxSymDevGrp), Log Agent (VxSymLog), Recovery Agent (VxSymRecover)*** ***VxTF can't be used with Informix database.***	***N/A***
EMC Database Edition for Oracle by VERITAS													
EMC Database Edition for Oracle by VERITAS Version 2.2 on Solaris	VxVM 3.1.1, VxFS 3.4, VxTF 2.2[1], Database Edition/Advanced Cluster (DBED/AC) 2.2, VMSA 3.1.1	Solaris 2.6, 7, 8	N/A	GA	Y	2.0.2 and higher	Symmetrix 3000/5000 series[2], 8000 series	5x65	5x66	5x67	4.2	Device suppression is not supported VxTF can't be used with Informix database.	N/A
C Database dition for Oracle by VERITAS Version 3.0 on Solaris	VxVM 3.1.1P2, VxFS 3.4P1, VxTF 3.0, Database Edition/Advanced Cluster (DBED/AC) 2.2, VMSA 3.1.1, 3.0	Solaris 2.6, 7, 8	VCS 1.3 VCS 2.0	GA	Y	2.1 and higher	Symmetrix 3000/5000 series[2], 8000 series	5x65	5x66	5x67	4.3.1 to 4.3.X	Supports VxTF in a VCS environment. Includes 3 VCS Agents: Device Group Agent (VxSymDevGrp), Log Agent (VxSymLog), Recovery Agent (VxSymRecover) VxTF can't be used with Informix database.	N/A
EMC Database Edition for Oracle by VERITAS Version 4.0 on Solaris	***VxVM 3.5, VxFS 3.5, VxTF 4.0, VEA 3.5, VxTFag 4.0***	***Solaris 8***	***VCS 3.5***	***GA***	***Y***	***3.02***	***Symmetrix 3000/5000 series, 8000 series, DMX series***	***5x67***	***5x67, 5x68, 5669***	***5568, 5669***	***5.1***	***Supports VxTF in a VCS environment.*** ***Includes 3 VCS Agents: Device Group Agent (VxSymDevGrp), Log Agent (VxSymLog), Recovery Agent (VxSymRecover)*** ***VxTF can't be used with Informix database.***	***N/A***
EMC GeoSpan for VERITAS Cluster Server: Refer to the Symmetrix Geographically Dispersed Cluster Table													

1.VxTF is not supported in clustered environments.
2.Except Symmetrix 3700/5700.
3.Supported only with WideSky 5.1.
4.C-bit must be enabled for VxVM.
5.Requires Sun recommended patch cluster with minimum kernel patch 108528 20.

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6.Refer to EFSIEDE 4.0 Release Notes for complete patch requirements.
7.If running VERITAS version of VxVM/VxFS, VERITAS FS3.5 FP1 is required.

VERITAS Volume Manager (VxVM)[1]

Product Name	Included Product	Supported OS	Status/ Release Planned	DMP	PowerPath	Model	Minimum Microcode	Highest Microcode Qualified	Comments
Sun Solaris									
VxVM 3.0q[4] SUNW only release	VMSA 3.0	Solaris 2.6, 7	Qualified	Y[3]	1.3 (pseudo) 1.5	Symmetrix 3000/5000 series	5x65	5x65	Released only by SUN.
VxVM 3.0.1n[4]	VMSA 3.0	Solaris 2.6, 7	Qualified	Y[3]	1.3 (pseudo) 1.5	Symmetrix 3000/5000 series	5x65	5x65	
VxVM 3.0.2c[4]	VMSA 3.0.3	Solaris 2.6, 7	Qualified	Y[3]	1.5	Symmetrix 3000/5000 series	5x65	5x65	
VxVM 3.0.3[4]	VMSA 3.0.3	Solaris 2.6, 7, 8	Not Qualified	Y[3]	N/A	Symmetrix N/A	5x65	N/A	This version is actually 3.0.2 with Solaris 8. No bug fixes or new features included.
VxVM 3.0.4[4]	VMSA 3.0.6	Solaris 2.6, 7, 8	Qualified	Y[3,4]	1.5.0.3 or higher	Symmetrix 3000/5000 series, 8000 series	5x65[5]	***5x69***	
VxVM 3.1[2]	VMSA 3.1K-2	Solaris 2.6, 7, 8	Qualified	Y[3]	1.5.0.3 or higher	Symmetrix 3000/5000 series, 8000 series	5x65[5]	***5x69***	
VxVM 3.1.1[3]	VMSA 3.1.1	Solaris 2.6, 7, 8	Qualified	Y[3]	2.0.2 and higher	Symmetrix 3000/5000 series[23], 8000 series	5x65	5x68	Device suppression is not supported.
VxVM 3.1.1	VMSA 3.1.1	Solaris 2.6, 7, 8	Qualified	N	3.0.1[6] or higher	CLARiiON FC4500, FC4700, FC5300	6.32.14, 5.32.14 8.43.53 5.24.05	6.32.14, 5.32.14 8.43.53 5.24.05	ATF 3.4.0 DMP must be disabled with ATF. VxVM volumes become inaccessible if a system is booted with a failed path. Install latest VERITAS patches.
/M 3.2	VMSA 3.2	Solaris 2.6, 7, 8, 9	Qualified	Y[3]	2.0.3 or higher	Symmetrix 3000/5000 series[23], 8000 series, DMX series	5x65	5x69	Device suppression is not supported.
VxVM 3.2	VMSA 3.2[7]	Solaris 2.6, 7, 8, 9	Qualified	Y[3,8]	3.0.1[6] or higher	CLARiiON FC4500, FC4700, FC5300, CX600, CX400	6.32.14, 5.32.14 8.46.x6 5.24.05 02.02.x.60.5.xxx 02.02.x.40.5.xxx	6.32.14, 5.32.14 8.46.x6 5.24.05 02.02.x.60.5.xxx 02.02.x.40.5.xxx	ATF 3.4.0 Install latest VERITAS patches. PowerPath, ATF and CLR-ASL are mutually exclusive. PowerPath and CLR-ASL are qualified on FC4700 and CX600, CX400 only.
VxVM 3.5 ***MP1***	VEA 3.5	Solaris 2.6, 7, 8, 9	Qualified	Y[3]	3.0.1[6] or higher	Symmetrix 3000/5000 series[23], 8000 series, DMX series	5x65	5x69	Device suppression is not supported.
VxVM 3.5 ***MP1***	VEA 3.5[7]	Solaris 2.6, 7, 8, 9	Qualified	Y[3,8]	3.0.1[6] or higher	CLARiiON FC4500, FC4700, FC5300, CX600, CX400	6.32.14, 5.32.14 8.46.x6 5.24.05 02.02.x.60.5.xxx 02.02.x.40.5.xxx	6.32.16, 5.32.16 8.47.xx 5.24.07 02.02.x.60.5.xxx 02.02.x.40.5.xxx	ATF 3.4.0 Install latest VERITAS patches. PowerPath, ATF, and CLR-ASL are mutually exclusive. PowerPath and CLR-ASL are qualified on FC4700 and CX600, CX400 only.
HP-UX									
VxVM 3.0	VMSA 3.0	HP-UX 11.0	Not qualified	Y	N/A	N/A	N/A	N/A	Not supported.
VxVM 3.1	VMSA 3.1	HP-UX 11.0	Not qualified	Y	N/A	N/A	N/A	N/A	Not supported.
VxVM 3.1	VMSA 3.1	HP-UX 11i v1.0 (HP-UX 11.11)	Qualified	Y	2.1, 2.1.2, 2.1.3, 3.0, 3.0.1	Symmetrix 3000/5000 series[23], 8000 series	5x66, 5x67	N/A	Support limited to 4K Symmetrix devices.
VxVM 3.1	VMSA 3.1	HP-UX 11i	Qualified	N	N/A	CLARiiON FC4700, CX400, CX600	8.46 xx 02.02.x.60.5.xx 02.02.x.40.5.xx	8.47 xx 02.02.x.60.5.xx 02.02.x.40.5.xx	No DMP failover.
VxVM 3.2	VMSA 3.2	HP-UX 11i v1.0 (HP-UX 11.11)	Qualified	Y	2.1.2, 2.1.3, 3.0, 3.0.1	Symmetrix 3000/5000 series[23], 8000 series	5x67, 5x68	N/A	Support limited to 4K Symmetrix devices.
VxVM 3.2	VMSA 3.2	HP-UX 11i v1.0 (HP-UX 11.11)	Qualified	Y	3.0.1	Symmetrix DMX series	5669	N/A	
M 3.2	VMSA 3.2	HP-UX 11i	Qualified	N	N/A	CLARiiON FC4700, CX400, CX600	8.46 xx 02.02.x.60.5.xx 02.02.x.40.5.xx	8.47 xx 02.02.x.60.5.xx 02.02.x.40.5.xx	No DMP failover.
VxVM 3.5	VEA 3.5	HP-UX 11i v1.0 (HP-UX 11.11)	Qualified	Y	3.0.1	Symmetrix 3000/5000 series[23], 8000 series	5x67, 5x68	N/A	External boot supported. MC/Service Guard 11.13 and 11.14 supported.
VxVM 3.5	VEA 3.5	HP-UX 11i v1.0 (HP-UX 11.11)	Qualified	Y	N/A	Symmetrix DMX series	5669	N/A	External boot supported. MC/Service Guard 11.13 and 11.14 supported.
VxVM 3.5	VMSA 3.5	HP-UX 11i	Qualified	N	N/A	CLARiiON FC4700	8.46 xx 02.02.x.60.5.xx 02.02.x.40.5.xx	8.47 xx 02.02.x.60.5.xx 02.02.x.40.5.xx	No DMP failover.
Windows NT									
VxVM 2.7		NT 4.0 SP6A	Qualified	Y[10]	2.1.1, 3.0, 3.0.1	Symmetrix 8000 series, DMX series	5x67, 5x68, 5669	N/A	
Windows 2000									
VxVM 2.5[12]		Windows 2000 Server SP1, SP2, SP3 Advanced Server SP1, SP2, SP3 Datacenter SP1, SP2, SP3	Qualified	N	2.0.3	Symmetrix 8000 series	5x65, 5x66	5x67	
VxVM 2.7		Windows 2000 Server SP1, SP2, SP3 Advanced Server SP1, SP2, SP3 Datacenter SP1, SP2, SP3	Qualified	Y[10]	2.1[10]	Symmetrix 8000 series	5x65, 5x66	5568	
VxVM 3.0[14]		Windows 2000 Server SP1, SP2, SP3 Advanced Server SP1, SP2, SP3 Datacenter SP1, SP2, SP3	Qualified	Y[10]	2.1[10,15] 3.0[10,15]	Symmetrix 8000 series, DMX series	5x67,5x68, 5669	N/A	EMC GeoSpan for MSCS supported.

Product Name	Included Product	Supported OS	Status/ Release Planned	DMP	PowerPath	Model	Minimum Microcode	Highest Microcode Qualified	Comments
VxVM 3.1		Windows 2000 Server SP1, SP2, SP3 Advanced Server SP1, SP2, SP3 Datacenter SP1, SP2, SP3	Qualified	Y[10] [11, 13]	3.0[10, 16] 3.02[10]	Symmetrix 8000 series, DMX series	5x67, 5x68, 5669	N/A	EMC GeoSpan 1.2.1 for MSCS is supported.
VxVM 3.0[15]		Windows 2000 Server SP1, SP2, SP3 Advanced Server SP1, SP2, SP3 Datacenter SP1, SP2, SP3	Qualified	N[10]	3.0[10, 16]	CLARiiON FC4700[9], CX600[19], CX400[19], CX200[19]	8.45.x 02.02.x.60.5.xxx 02.02.x.40.5.xxx 02.03.x.20.5.xxx	8.47.xx 02.02.x.60.5.xxx 02.02.x.40.5.xxx 02.03.x.20.5.xxx	These servers are *not* supported: Bull Express 5800: 320La, 320La-R, 330Ma-R, 330Mb-R, 340Ha-R; NEC 5800: 320La, 320La-R, 330Ma-R, 330Mb-R, 340Ha-R; Stratus ftServer: 3210, 3220, 3300, 5200, 5240, 6500.
VxVM 3.1[15]		Windows 2000 Server SP1, SP2, SP3 Advanced Server SP1, SP2, SP3 Datacenter SP1, SP2, SP3	Qualified	N[10]	3.0[10, 16]	CLARiiON FC4700[9], CX600[19], CX400[19], CX200[19]	8.45.x 02.02.x.60.5.xxx 02.02.x.40.5.xxx 02.03.x.20.5.xxx	8.47.xx 02.02.x.60.5.xxx 02.02.x.40.5.xxx 02.03.x.20.5.xxx	These servers are *not* supported: Bull Express 5800: 320La, 320La-R, 330Ma-R, 330Mb-R, 340Ha-R; NEC 5800: 320La, 320La-R, 330Ma-R, 330Mb-R, 340Ha-R; Stratus ftServer: 3210, 3220, 3300, 5200, 5240, 6500.
Linux									
VxVM 3.2[15, 20, 26]		Red Hat v2.1 Advanced Server v2.4.9-E.3	Qualified	Y[11] [22]	N/A	Symmetrix 8000 series[11, 21]	5x68	5568, 5569	
VxVM 3.2[15, 20, 26, 28]		Red Hat v2.1 Advanced Server upgraded to v2.4.9-E.12	Qualified	Y[11]	***3.02b0069***	Symmetrix 8000 series[11, 21] Symmetrix DMX series[11, 21]	5x68	5568, 5569	
VxVM 3.2[15, 20, 26, 27]		Red Hat v2.1 Advanced Server v2.4.9-E.3	Qualified	Y[22] [23]	N/A	CLARiiON FC4700[9], CX600[19], CX400[19], CX200[19]	8.45.x 02.02.x.60.5.xxx 02.02.x.40.5.xxx 02.03.x.20.5.xxx	8.47.xx 02.02.x.60.5.xxx 02.02.x.40.5.xxx 02.03.x.20.5.xxx	
VxVM 3.2[15, 20, 26, 27, 28]		Red Hat v2.1 Advanced Server upgraded to v2.4.9-E.12	Qualified	Y[22] [23]	N/A	CLARiiON FC4700[9], CX600[19], CX400[19], CX200[19]	8.45.x 02.02.x.60.5.xxx 02.02.x.40.5.xxx 02.03.x.20.5.xxx	8.47.xx 02.02.x.60.5.xxx 02.02.x.40.5.xxx 02.03.x.20.5.xxx	
VxVM 3.2[29]		AIX 5.1[25], ***5.2***[24, 25]	Qualified	Y[11]	N/A	Symmetrix 8000 series, DMX series	5x67.46 5x68.52 5669		
VxVM 3.2[29]		AIX 5.1[25], ***5.2***[24, 25]	Supported	Y[11]	N/A	Symmetrix DMX series	5669		

1.Manual manipulation of Veritas disk group IDs is required to mount BCVs.
2.When working with DMP and PowerPath the following should be done:
- When working with Native device names (c#t#d#) DMP should be enabled.
- When working with pseudo (emcpower) device names. DMP can be disabled.
- When working with Sun Cluster / DR DMP must be disabled.

3.DMP may not be disabled with VxVM 3.1.1 and higher. When VxVM 3.1.1 and higher is installed, DMP will be automatically re-enabled.
4.There is a new DMP driver that should be installed after the VxVM install. This driver (needs Microcode patch 9321 available for Microcode 5265-47 and up), solves the problem that DMP hangs if the device is in NR state.
5.If DMP is enabled, minimum microcode is 5568.45.17.
6.FC4700, CX600, CX400 only.
7.When neither ATF or PowerPath are present, VERITAS DMP as part of Volume Manager 3.2 can be used to manage CLARiiON arrays only if the CLR-ASL is installed.
8.vxdiskadm should be used to disable DMP control of clusters (HBAs) with CLARiiON arrays attached.
9.Native names only.
10.VxVM DMP support is not compatible with PowerPath. PowerPath overrides DMP functionality.
11.DMP functionality requires setting the C-bit on the Symmetrix directors.
12.Detailed information:

Application Build	HBA	MSCS Support	Notes
5.25.66	Emulex LP8000	Yes	Requires Driver 2.11a2
5.25.78	Emulex LP8000	Yes	MSCS w/VxVM 2.5 Dynamic Link support, HBA requires Driver 2.11a2, 5567.23.12s microcode
5.25.78	QLogic 2200		

13.Hot relocation must be disabled.
14.VxVM 3.0 with MSCS in a Symmetrix or CLARiiON environment requires VxVM 3.0 SP1 with Hot Fix 03.
VxVM 3.0 with PowerPath requires minimum PowerPath 3.0.
15.Admsnap does not support the option of specifying the VxVM objects for start and stop operations. The Admsnap script must specify the LUNs that make up the volume using individual Admsnap commands.
16.VxVM Service Pack 1 required for use with EMC PowerPath. Contact Customer Service for information on registry changes necessary for PowerPath/VxVM 3.0 compatibility.
17.Dynamic disks are not supported as Quorum disks with GeoSpan clusters (Quorum disk must a basic disk).
DMP not supported.
VM is not supported on CLARiiON with servers booting from the array.
equires Update 2.
21.VxVM is not supported on Symmetrix with servers booting from the array.
22.VxVM DMP and PowerPath may not be used on the same host.
23.The Admsnap utility is not supported in a Linux DMP environment.
24.***AIX 5.2 requires VxVM 3.2.2.0 patch for AIX.***
25.32 bit or 64 bit.
26.The package patch-2.5.4-10.i386.rpm is required and is available on Red Hat 2.1 Advanced Server CD #2.
27.Refer to Veritas technote #255172 for the required CLARiiON ASL installation to enable DMP support on the CLARiiON.
28.Refer to Veritas technote #243712 for instructions on the Foundation Suite installation.
29.Except Symmetrix 3700/5700.

VERITAS File System (VxFS)

Product Name	Supported OS	Status/ Release Planned	PowerPath	Storage Model(s)	Comments
Sun Solaris					
VxFS 3.2.5	Solaris 2.6	Qualified	Refer to VxVM information, or else contact EMC Customer Service.	Symmetrix 3000/5000 series	
VxFS 3.2.6	Solaris 2.6	Qualified	Refer to VxVM information, or else contact EMC Customer Service.	Symmetrix 3000/5000 series	
VxFS 3.3	Solaris 2.6	Qualified	Refer to VxVM information, or else contact EMC Customer Service.	Symmetrix 3000/5000 series	
VxFS 3.3.1	Solaris 2.6	Qualified	Refer to VxVM information, or else contact EMC Customer Service.	Symmetrix 3000/5000 series	
VxFS 3.3.2	Solaris 2.6, 7	Qualified	Refer to VxVM information, or else contact EMC Customer Service.	Symmetrix 3000/5000 series	The following VxFS 3.3.2 patches are recommended: 108474-01 (Solaris 2.6) 108475-01 (Solaris 2.7)

Product Name	Supported OS	Status/ Release Planned	PowerPath	Storage Model(s)	Comments
VxFS 3.3.3	Solaris 2.6, 7, 8	Qualified	Refer to VxVM information, or else contact EMC Customer Service.	Symmetrix 3000/5000 series	
VxFS 3.4	Solaris 2.6, 7, 8	Qualified	Refer to VxVM information, or else contact EMC Customer Service	Symmetrix 3000/5000 series[3], 8000 series, DMX series CLARiiON FC4700, CX600, CX400	
VxFS 3.4	Solaris 9	Qualified	Refer to VxVM information, or else contact EMC Customer Service	Symmetrix 3000/5000 series[3], 8000 series, DMX series CLARiiON FC4700, CX600, CX400	
VxFS 3.5	Solaris 2.6, 7, 8, 9	Qualified	Refer to VxVM information, or else contact EMC Customer Service.	Symmetrix 3000/5000 series[3], 8000 series, DMX series CLARiiON FC4700, CX600, CX400	
HP-UX					
HP JFS 3.0 and HP Online JFS 3.0	HP-UX 10.20	Supported	2.0, 2.0.1, 2.0.2, 2.1, 2.1.2, 2.1.3, 3.0, 3.0.1	Symmetrix 3000/5000 series[3], 8000 series	VxFS File System Type 3
HP JFS 3.1 and HP Online JFS 3.1	HP-UX 11.0	Supported	2.0, 2.0.1, 2.0.2, 2.1, 2.1.2, 2.1.3, 3.0, 3.0.1	Symmetrix 3000/5000 series[3], 8000 series	VxFS File System Type 3
HP JFS 3.3 and HP Online JFS 3.3	HP-UX 11i v1.0 (HP-UX 11.11)	Supported	2.0.2, 2.1, 2.1.2, 2.1.3, 3.0, 3.0.1	Symmetrix 3000/5000 series[3], 8000 series	VxFS File System Type 4. HP JFS 3.3 and HP Online JFS 3.3 is equivalent to VERITAS VxFS 3.3.
VxFS 3.3	HP-UX 11i v1.0 (HP-UX 11.11)	Supported	2.0.2, 2.1, 2.1.2, 2.1.3, 3.0, 3.0.1	Symmetrix 3000/5000 series[3], 8000 series	VxFS File System Type 4. HP JFS 3.3 and HP Online JFS 3.3 is equivalent to VERITAS VxFS 3.3.
VxFS 3.5	HP-UX 11i v1.0 (HP-UX 11.11)	Supported	3.0.2	Symmetrix 8000 series, DMX series	HP-UX 11i 64 bit only. Sep 2002 or later. The full VxFS 3.3 product, B3929CA, must be present on the system to upgrade to VxFS 3.5.
AIX					
VxFS 3.4	AIX 5.1	Qualified	N/A	Symmetrix 8000 series, DMX series	
Linux					
VxFS 3.4 Update 1[1,2]	Red Hat v2.1 Advanced Server v2.4.9-E3	Qualified	N/A	Symmetrix 8000 series CLARiiON FC4700, CX600, CX400, CX200	VxFS is part of the VERITAS Foundation Suite 2.0
VxFS 3.4 Update 1	Red Hat v2.1 Advanced Server upgraded to v2.4.9-E12	Qualified	N/A	Symmetrix 8000 series, DMX series CLARiiON FC4700, CX600, CX400, CX200	VxFS is part of the VERITAS Foundation Suite 2.0

1.The package patch-2.5.4-10.i386.rpm is required and is available on Red Hat 2.1 Advanced Server CD #2.
2.Refer to Veritas technote #243712 for instructions on the Foundation Suite installation.
3.Except Symmetrix 3700/5700.

VERITAS Cluster Server (VCS)

See the Clustered Host Tables for VCS support.

ANEXO SWITCH TIPO 05
PARTE 1

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COBRA Tecnologia S.A.
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SWITCH TIPO 5 **Concentrador de VPNs**

ATRIBUTO	REQUISITOS DO EDITAL	ATRIBUTOS OFERTADOS	ATRIBUTOS OFERTADOS ADICIONALMENTE	CONFIRMA ATENDIMENTO (SIM / NÃO)	PÁGINA DA DOCUMENTAÇÃO TÉCNICA
1- Descrição	Deverá operar como concentrador de VPN, devendo ser composto por sistema integrado de hardware e software, com o objetivo de concentrar, configurar e monitorar acessos remotos via VPN	A solução está composta por um concentrador de VPNs (Cisco 3060) e um servidor de autenticação com software Cisco Secure ACS 3.2 (Cisco CSACSE-1111-K9)	N/A	SIM	Anexo 15 - pág. 1 Anexo 15B (todas as páginas) Ver propostas Técnica e Comercial
	Capacidade de Firewall	Capacidade de Firewall	N/A	SIM	Anexo 15 - pág. 4
	Suporte aos protocolos de tunelamento PPTP, IPSec, L2TP, L2TP/IPSec for Windows 2000 e NAT transparent IPSec	Todos os exigidos	N/A	SIM	Anexo 15 - pág 5
	O suporte a serviços deve ser estendido a todo e qualquer serviço que funcione sobre o protocolo IP, com a possibilidade de customização	Conforme Edital	N/A	SIM	Anexo 15C (todas as páginas)
	Suporte a certificados digitais padrão X 509v3	Todos os exigidos	N/A	SIM	Anexo 15 - pág. 7
	Capacidade de tolerância a falhas (failover)	Todos os exigidos	N/A	SIM	Anexo 15 - pág. 4
	Suporte ao gerenciamento de chaves tipo IKE	Todos os exigidos	N/A	SIM	Anexo 15 - pág. 6
	Capacidade de registrar eventos e de envio de notificações por e-mail	Todos os exigidos	N/A	SIM	Anexo 15 - pág. 6
	Suporte aos protocolos de roteamento RIP, RIP2, OSPF e estático	Todos os exigidos	N/A	SIM	Anexo 15 - pág. 6

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2- Características e Funcionalidades do Sistema	Permitir aplicação de configurações e políticas de acesso	Todos os exigidos	N/A	SIM	Anexo 15F - pág. 14-1
	Possuir no mínimo 03 interfaces 10baseT	Conforme Edital	Possui 03 interfaces 10/100TX já montadas no equipamento	SIM	Anexo 15 - pág. 5
	O sistema deverá se integrar com um sistema de autenticação externa	Conforme Edital	N/A	SIM	Anexo 15D (todas as páginas) e Anexo 15E (todas as páginas)
	Capacidade para autenticação de no mínimo 5000 usuários	Até 5000 sessões simultâneas	N/A	SIM	Anexo 15 - pág. 2
	Suporte ao padrão LDAP	Todos os exigidos	N/A	SIM	Anexo 15 -pág. 7
	Integração com o domínio Microsoft Windows	Todos os exigidos	N/A	SIM	Anexo 15 - pág. 1
	Permitir configuração de níveis de acesso administrativos	Todos os exigidos	N/A	SIM	Anexo 15 - pág. 4
	Permitir a configuração de poíticas de segurança nas estações clientes	Conforme Edital	N/A	SIM	Anexo 16B
	Capacidade de gerenciamento de política para usuários e grupos	Todos os exigidos	N/A	SIM	Anexo 15 - pág. 7
	Controle de tempo e horário de acesso do usuário	Todos os exigidos	N/A	SIM	Anexo 15- pág. 7
	Suporte ao gerenciamento utilizando SNMP MIB II	Todos os exigidos	N/A	SIM	Anexo 15 - pág. 6
	Oferecer ferramentas de gerenciamento que possibilite a verificação de estatísticas de tráfego criptografado, negociações de handshake e resposta a pacotes	Conforme Edital	N/A	SIM	Anxo 16A pág. 17-2
	Possibilidade de crescimento (escalabilidade) conforme demanda, com configuração e gerência centralizadas	Conforme Edital	N/A	SIM	Anexo 16 (todas as páginas)

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3 - Características e Funcionalidades do Software Cliente VPN	Capacidade de geração de relatórios gerenciais	Conforme Edital	N/A	SIM	Anexo 16C (todas as páginas)
	Sistema de gerenciamento em Hardware do tipo Servidor	Conforme Edital	N/A	SIM	Anexo 16D (todas as páginas)
	Número mínimo de 5.000 licenças	Todos os exigidos	Sem limite de liceças	SIM	Anexo 15 - pág. 3
	Auto-atualização	Conforme Edital	N/A	SIM	Anexo 16E (todas as páginas) - Anexo 16F (todas as páginas) - Anexo 16G (todas as páginas)
	Suporte aos Sistemas Operacionais Windows 95, 98, ME, NT 4.0, 2000 e XP	Todos os exigidos	N/A	SIM	Anexo 15 - pág. 1
	Interface padronizada com o Logotipo da Contratada	Conforme Edital	N/A	SIM	Ver propostas Técnica e Comercial
4 - Características de Desempenho	Capacidade de tratar no mínimo 5000 usuários ao mesmo tempo	Capacidade para 5000 usuários simultâneos	N/A	SIM	Anexo 15 - pág. 2
	Capacidade de processamento de encriptação mínima de 100Mbps	Encryption Troughput	N/A	SIM	Anexo 15 -pág. 3
	Instalada na configuração máxima do equipamento	Conforme Edital	N/A	SIM	Anexo 15 (todas as páginas)
	Hot-Swappable / Hot-Pluggable	Conforme Edital	N/A	SIM	Ver Carta do Fabricante
5 - Fonte de Alimentação	Deverá possuir alimentação elétrica de acordo com a localidade ond serão instalados os equipamentos e operar na frequência de 60Hz	Voltagem de entrada de 100 a 240 VAC - 50/60 Hz	N/A	SIM	Anexo 15 - pág. 8

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	As fontes de alimentação deverão ser redundantes por fontes internas independentes, com alimentação redundante	Conforme Edital	N/A	SIM	Anexo 15 (todas as páginas)

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ANEXO (15)

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Data Sheet

Cisco **VPN 3000** Series Concentrator

Introduction

The Cisco® VPN Series 3000 Concentrator allow corporations to take full advantage of the unprecedented cost savings, flexibility, performance, and reliability of remote access VPN connections. Corporations use VPNs to establish secure, end-to-end private network connections over a public networking infrastructure. VPNs have become the logical solution for remote-access connectivity for two main reasons:

- Deploying a remote-access VPN enables corporations to reduce communications expenses by using the local dialup infrastructures of Internet service providers.
- Remote Access VPNs allow mobile workers, telecommuters and day extenders to take advantage of broadband connectivity.

To fully realize the benefits of high-performance, remote-access VPNs, a corporation must deploy a robust, highly available VPN solution, and dedicated VPN devices are optimal for this purpose.

The Cisco VPN 3000 Series Concentrator is a best-in-class, remote-access VPN solution for enterprise-class deployment. A standards-based, asy-to-use VPN client and scalable VPN tunnel termination devices are included, as well as a management system that enables corporations to easily install, configure, and monitor their remote access VPNs. Incorporating the most advanced, high-availability capabilities with a unique purpose-built, remote-access architecture, the Cisco VPN 3000 Concentrator allows corporations to build high-performance, scalable, and robust VPN infrastructures to support their mission-critical, remote-access applications.

Unique to the industry, it is the only scalable platform to offer components that are field-swappable and can be upgraded by the customer. These components, called Scalable Encryption Processing (SEP/SEP-E) modules, enable users to easily add capacity and throughput.

The Cisco VPN 3000 Concentrator supports the widest range of VPN client software implementations, including the Cisco VPN Client, the Microsoft Windows 2000/XP L2TP/IPsec Client, the Microsoft L2TP/IPSec VPN Client for Windows 98, Windows Millennium (ME), Windows NT Workstation 4.0, and Microsoft PPTP.

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Five Models

The Cisco VPN 3000 Concentrator is available in five different models:

Cisco VPN 3005 Concentrator

The Cisco VPN 3005 Concentrator is a VPN platform designed for small- to medium-sized organizations with bandwidth requirements up to full-duplex T1/E1 (4 Mbps maximum performance) and up to 100 simultaneous sessions. Encryption processing is performed in software. The Cisco VPN 3005 does not have built-in upgrade capability.

Cisco VPN 3015 Concentrator

The Cisco VPN 3015 Concentrator is a VPN platform designed for small- to medium-sized organizations with bandwidth requirements up to full-duplex T1/E1 (4 Mbps maximum performance) and up to 100 simultaneous sessions. Like the Cisco VPN 3005, encryption processing is performed in software, but the Cisco VPN 3015 is also field-upgradable to the Cisco VPN 3030 and 3060 models.

Cisco VPN 3030 Concentrator

The Cisco VPN 3030 Concentrator is a VPN platform designed for medium to large organizations with bandwidth requirements from full T1/E1 through T3/E3(50 Mbps maximum performance) and up to 1500 simultaneous sessions. Specialized SEP modules perform hardware-based acceleration. The Cisco VPN 3030 is field-upgradeable to the Cisco VPN 3060. Redundant and nonredundant configurations are available.

Cisco VPN 3060 Concentrator

The Cisco VPN 3060 is a VPN platform designed for large organizations demanding the highest level of performance and reliability, with high-bandwidth requirements from fractional T3 through full T3/E3 or greater (100 Mbps maximum performance) and up to 5000 simultaneous sessions. Specialized SEP modules perform hardware-based acceleration. Redundant and nonredundant configurations are available.

Cisco VPN 3080 Concentrator

The Cisco VPN 3080 Concentrator is optimized to support large enterprise organizations that demand the highest level of performance combined with support for up to 10,000 simultaneous remote access sessions. Specialized SEP modules perform hardware-based acceleration. The VPN 3080 is available in a fully redundant configuration only.

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Models Comparison

Table 1 The Cisco VPN 3000 Series Supports the Entire Range of Enterprise Applications

	Cisco VPN 3005	Cisco VPN 3015	Cisco VPN 3030	Cisco VPN 3060	Cisco VPN 3080
Simultaneous Users[1]	100	100	1,500	5,000	10,000
Maximum LAN-to-LAN Sessions	100	100	500	1000	1000
Encryption Throughput	4 Mbps	4 Mbps	50 Mbps	100 Mbps	100 Mbps
Encryption Method	Software	Software	Hardware	Hardware	Hardware
Available Expansion Slots	0	4	3	2	2
Encryption (SEP) Module	0	0	1	2	4
Redundant SEP	–	–	Option	Option	Yes
System Memory	32/64 MB (fixed)	128 MB	128/256 MB	256/512 MB	256/512 MB
Hardware Configuration	1U	Fixed 2U	Scalable 2U	Scalable 2U	Fixed 2U
Dual Power Supply	Single	Option	Option	Option	Yes
Client License	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited

1. For planning purposes, a simultaneous user is considered to be a remote access VPN user connected in all tunneling mode—this includes one IKE Security Association and two unidirectional IPsec SAs (Security Associations). For environments with rekeying or split tunneling, we recommend using a VPN remote access load-balancing environment with spare capacity because these particular sessions will use additional system resources that otherwise would be used to support additional users. The Cisco VPN 3000 Series Concentrator supports the entire range of enterprise applications.

Cisco VPN Client

Simple to deploy and operate, the Cisco VPN Client is used to establish secure, end-to-end encrypted tunnels to the Cisco VPN 3000 Concentrator. This thin design, IPsec-compliant implementation is provided with the Cisco VPN 3000 Concentrator and is licensed for an unlimited number of users. The client can be pre-configured for mass deployments and the initial logons require very little user intervention. VPN access policies are created and stored centrally in the Cisco VPN 3000 Concentrator and pushed to the client when a connection is established.

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Features and Benefits

Product Highlights

High-Performance, Distributed-Processing Architecture

- Cisco SEP modules provide hardware-based encryption, ensuring consistent performance throughout the rated capacity (Cisco VPN 3030–3080).
- Large-scale tunneling support provided for IPsec, PPTP and L2TP/IPsec connections.

Scalability (Cisco VPN 3015–3060)

- Modular design (four expansion slots) provides investment protection, redundancy and a simple upgrade path.
- System architecture is designed to supply consistent, high-availability performance.
- All digital design provides the highest reliability and 24-hour continuous operation.
- Robust instrumentation package provides run-time monitoring and alerts.
- Microsoft compatibility offers large-scale client deployment and smooth integration with related systems.

Security

- Full support of current and emerging security standards allows for integration of external authentication systems and interoperability with third-party products.
- Firewall capabilities through stateless packet filtering and address translation to ensure the required security of a corporate LAN.
- User and group level management offers maximum flexibility.

High Availability

- Redundant subsystems and multichassis failover capabilities ensure maximum system uptime.
- Extensive instrumentation and monitoring capabilities provide network managers with real-time system status and early-warning alerts.

Robust Management

- The Cisco VPN 3000 Concentrator can be managed using any standard Web browser (HTTP or HTTPS), as well as by Telnet, SSHv1, and using a console port. Files can be accessed through HTTPS, FTP, and SSH Copy (SCP).
- Configuration and monitoring capability is provided for both the enterprise and the service provider.
- Access levels are configurable by user and groups, allowing easy configuration and maintenance of security policies. For larger scale deployments, the VPN 3000 Concentrators are supported in several Cisco network management applications. Those applications include:
  - *IP Solution Center (ISC)*—Provisions site-to-site and remote access VPN services
  - *VPN Monitor*—Monitors and reports on remote access and site-to-site VPN tunnel connections
  - *Resource Manager Essentials (RME)*—Provides operational management features such as software distribution, syslog reporting, inventory management
  - *CiscoView*—Provides real time system status monitoring

Technical Specifications

Hardware

Processor

- Motorola PowerPC Processor

Memory

- Redundant system images (Flash)
- Variable memory options (see chart)

Encryption

- *Cisco VPN 3005, 3015*—Software encryption
- *Cisco VPN 3030–3080*—Hardware encryption

Embedded LAN Interfaces

- *Cisco VPN 3005*—Two autosensing, full-duplex 10/100BASE-TX Fast Ethernet (public/untrusted, private/trusted)
- *Cisco VPN 3015–3080*—Three autosensing, full-duplex 10/100BASE-TX Fast Ethernet (public/untrusted, private/trusted and DMZ)

Instrumentation

- *Cisco VPN 3005 Front panel*—Unit status indicator
- *Cisco VPN 3005 Rear panel*—Status LEDs for Ethernet ports
- *Cisco VPN 3015-3080 Front panel*—Status LEDs for system, expansion modules, power supplies, Ethernet modules, fan
- *Cisco VPN 3015–3080 Rear panel*—Status LEDs for Ethernet modules, expansion modules, power supplies
- *Cisco VPN 3015–3080*—Activity monitor displays number of sessions, aggregate throughput, or CPU utilization; push-button selectable

Software

Client Software Compatibility

- Cisco VPN Client (IPsec) for Windows 98, ME, NT 4.0, 2000, XP, Linux (Intel), Solaris (UltraSparc 32 and 64-bit), and Mac OS X 10.2 (Jaguar), including centralized split-tunneling control and data compression
- Microsoft PPTP/MPPE/MPPC, MSCHAPv1/v2, EAP/ RADIUS pass-through for EAP/TLS and EAP/GTC support
- Microsoft L2TP/IPsec forWindows 2000/XP (including XP DHCP option for route population)
- Microsoft L2TP/IPsec for Windows 98, Windows Millennium (ME), and Windows NT Workstation 4.0
- MovianVPN (Certicom) Handheld VPN Client with ECC
- Netlock (Mac OS 8 & 9) VPN Client

Tunneling Protocols

- IPsec, PPTP, L2TP, L2TP/IPsec, NAT Transparent IPsec, Ratified IPsec/UDP (with auto-detection and fragmentation avoidance), IPsec/TCP
- Support for Easy VPN (client and network extension mode)

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Encryption/Authentication

- IPsec Encapsulating Security Payload (ESP) using DES/3DES (56/168-bit) or AES (128, 192, 256-bit) with MD5 or SHA, MPPE using 40/128-bit RC4

Key Management

- Internet Key Exchange (IKE)
- Diffie-Hellman (DH) Groups 1, 2, 5, 7 (ECDH)

Routing

- RIP, RIP2, OSPF, RRI (Reverse Route Injection), static, automatic endpoint discovery, Network Address Translation (NAT), Classless Interdomain Routing (CIDR)
- IPsec fragmentation policiy control, including support for Path MTU Discovery (PMTUD)
- Interface MTU control

Third-Party Compatibility

- Certicom, iPass Ready, Funk Steel Belted RADIUS certified, NTS TunnelBuilder VPN Client (Macintosh and Windows), Microsoft Internet Explorer, Netscape Communicator, Entrust, Baltimore, SA Keon

High Availability

- VRRP protocol for multi-chassis redundancy and fail-over
- Remote Access Load Balancing clusters
- Destination pooling for client-based fail-over and connection re-establishment
- Redundant SEP modules (optional), power supplies, and fans (Cisco VPN 3015–3080)

Management

Configuration

- Embedded management interface is accessible through console port, Telnet, SSHv1, and Secure HTTP (HTTPS)
- Administrator access is configurable for five levels of authorization. Authentication can be performed externally through TACACS+
- Role-based management policy separates functions for service provider and end-user management

Monitoring

- Event logging and notification through e-mail (SMTP)
- Automatic FTP backup of event logs
- SNMP MIB-II support
- Configurable SNMP traps
- Syslog output
- System status
- Session data (including client assign IP, encryption type connection duration, client OS, version, etc)
- General statistics

Security

Authentication and Accounting Servers

- Support for redundant external authentication servers:
  - RADIUS
  - Kerberos/Active Directory authentication
  - Microsoft NT Domain authentication
  - Microsoft NT Domain authentication with Password Expiration (MSCHAPv2)

RSA Security Dynamics (SecurID Ready), including native support for RSA 5 (Load Balancing, Resiliency)

- User authorization through LDAP or RADIUS
- Internal Authentication server for up to 100 users
- X.509v3 digital certificates (including CRL/LDAP and CRL/HTTP, CRL Caching and Backup CRL Distribution Point support)
- RADIUS accounting
- TACACS+ Administrative user authentication

Internet-Based Packet Filtering

- Source and destination IP address
- Port and protocol type
- Fragment protection
- FTP session filtering
- Site-to-Site Filters and NAT (for overlapping address space)

Policy Management

- By individual user or group
  - Filter profiles (defined internally or externally)
  - Idle and maximum session timeouts
  - Time and day access control
  - Tunneling protocol and security authorization profiles
  - IP Pool
  - Authentication Servers

Certification

- FIPS 140-2 Level 2 (3.6) in process, FIPS 140-1 Level 2 (3.1), VPNC

Ports

- Console port-Asynchronous serial (DB-9)

Table 2 Physical Characteristics

Concentrator	Cisco VPN 3005	CiscoVPN 3015	Cisco VPN 3030	Cisco VPN 3060	Cisco VPN 3080
Height	1.75" (4.45cm)	3.5" (8.89cm)	3.5" (8.89cm)	3.5" (8.89cm)	3.5" (8.89cm)
Width	17.5" (44.45cm)	17.5" (4.45cm)	17.5" (4.45cm)	17.5" (4.45cm)	17.5" (4.45cm)
Depth	11.5" (29.21cm)	–	–	–	–
Unit without front bezel or SEPS/PS	–	15" (38.1cm)	15" (38.1cm)	15" (38.1cm)	15" (38.1cm)
Unit with front bezel, no SEPS/PS	–	16-3/16" (41.12 cm)	16-3/16" (41.12 cm)	16-3/16" (41.12 cm)	16-3/16" (41.12 cm)
Unit with front bezel and SEPS/PS	–	16.75" (42.55 cm)	16.75" (42.55 cm)	16.75" (42.55 cm)	16.75" (42.55 cm)
Weight	8.5 lbs(3.9kg)	27 lbs(12.3kg)	28 lbs(12.7kg)	33 lbs(15kg)	33 lbs(15kg)

Table 3 Power Type and Requirements

Concentrator	Cisco VPN 3005	CiscoVPN 3015-3080
Nominal	15 watts (51.22BTU/hr)	35 watts (119.50BTU/hr)
Maximum	25 watts (85.36BTU/hr)	50 watts (170.72BTU/hr)
Input Voltage	100-240VAC	100-240VAC
Frequency	50/60 Hz	50/60 Hz
Power Factor Correction	Universal	Universal

Environmental

- Temperature: 32 to 131 F (0 to 55 C) operating; –4 to 176 F (–40 to 70 C) nonoperating
- Humidity: 0 to 95 percent noncondensing

Regulatory Compliance

- CE Marking

Safety

- UL 1950, CSA

EMC

- FCC Part 15 (CFR 47) Class A, EN 55022 Class A, EN50082-1, AS/NZS 3548 Class A, VCCI Class A

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ANEXO 15 - A

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VPN 3000 Series Concentrator Getting Started

Release 4.0
April 2003

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Customer Order Number: DOC-7815413=
Text Part Number: 78-15413-01

Hardware Features

Current VPN Concentrator Models: 3005, 3015, 3030, 3060, and 3080.

Previous VPN Concentrator Models: C10, C20, and C50.

All systems feature:

- 10/100Base-T Ethernet interfaces (autosensing)
  - 3005: Two interfaces
  - 3015–3080: Three interfaces
- Motorola® PowerPC CPU
- SDRAM memory for normal operation
- Nonvolatile memory for critical system parameters
- Flash memory for file management

In addition, individual models have the following hardware features:

VPN Concentrator Model	Hardware Features
Model 3005	• Software-based encryption • Single power supply
Model 3015	• Software-based encryption • Single power supply • Expansion capabilities: – Up to four Cisco Scalable Encryption Processing modules for maximum system throughput and redundancy – Optional redundant power supply
Model 3030	• One Scalable Encryption Processing module for hardware-based encryption • Single power supply • Expansion capabilities: – One additional SEP module for maximum system throughput and redundancy – Optional redundant power supply
Models 3060 and 3080	• Two Scalable Encryption Processing modules for hardware-based encryption at maximum system throughput • Dual redundant power supplies • Expansion capabilities: – Up to two additional SEP modules for maximum system redundancy

ANEXO 15B

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Cisco Systems

Product Bulletin No. 1913

Cisco Secure **Access Control Server** 3.2 Adds Security Enhancements and the Availability of Cisco Secure ACS Solution Engine

Cisco Systems announces the availability of the Cisco Secure Access Control Server (ACS) version 3.2 for Windows and Cisco Secure ACS Solution Engine. Cisco Secure ACS, a key component of Cisco's Identity Based Networking Services (IBNS) architecture, extends access security by combining authentication, user/admin access and policy control from a centralized Identity Networking framework allowing for greater flexibility and mobility, increased security, and user productivity gains.

Cisco Secure ACS also provides identity networking support for Cisco Structured Wireless Aware Networks (SWAN), as an extension of the local authentication provided on Cisco Aironet Access Points.

Cisco Secure ACS greatly reduces the administrative and management burden involved in scaling user and network administrative access to your network. In addition, network managers can use the same Cisco Secure ACS solution to manage the administrative roles and groups and control how they change, access, and configure the network internally.

With ACS you can manage and administer user access for Cisco IOS® routers, virtual private networks (VPNs), firewalls, dial and broadband DSL, cable access solutions, storage, content, voice over IP (VoIP), Cisco wireless solutions, and Cisco Catalyst® switches via IEEE 802.1x access control.

Up to version 3.1, Cisco Secure ACS has been available as software for Windows installations. Version 3.2 introduces a new, secure, hardware-based offering for Cisco Secure ACS. The Cisco Secure ACS Solution Engine, a 1-rack-unit (1-RU) security-hardened solution engine with a preinstalled Cisco Secure ACS license, provides essentially the same features and functions as the Cisco Secure ACS for Windows, in a dedicated, application-specific solution engine package.

The Cisco Secure ACS Solution Engine provides a zero-touch installation and highly reliable AAA solution with increased total-cost-of-ownership protection through high availability and simplified day-to-day operation of the Cisco Secure ACS service. The Cisco Secure ACS Solution Engine also includes additional features specific to its operation and management. For more information, refer to the Cisco Secure ACS Solution Engine data sheet.

The following features are new in Cisco Secure Access Control Server 3.2:

- *Protected Extensible Authentication Protocol (PEAP) support for Microsoft® Windows and Cisco clients*—Provides support for Microsoft® PEAP on Windows 98, NT, 2000 and XP by supporting client

authentication with MS-CHAPv2, and support for Cisco PEAP with one-time token authentication and support of non-MSCHAP end-user databases such as LDAP, NDS, and ODBC.

- *EAP mixed configurations*—Allows flexible EAP settings to be set concurrently and processed per the 802.1X protocol presented by the end user. ACS supports PEAP-EAP-GTC (Cisco PEAP), PEAP-EAP-MSCHAPv2 (Microsoft® PEAP), EAP-TLS, EAP-MD5, and Cisco EAP Wireless (LEAP).
- *Accounting Support for Aironet*—Supports user-based accounting from the Aironet Wireless Access Points when they are configured as RADIUS (Cisco Aironet) AAA clients.
- *EAP-TLS enhancements*—Extends ACS PKI capabilities with the addition of EAP-TLS authentication against ODBC user databases, and EAP-TLS silent session resume support which prevents users from re-authenticating during a RADIUS session timeout.
- *Machine authentication support*—Supports machine authentication by maintaining communication to a back end Windows Active Directory during boot time. ACS supports machine authentication using PEAP with MSCHAPv2 or EAP-TLS 802.1X authentication types.
- *LDAP Multithreading*—Increases performance by processing multiple LDAP authentication requests in parallel rather than in sequential order.
- *Downloadable access control lists for Virtual Private Network (VPN) users*—Allows administrators to define access control lists of any length, per user or group of users. It extends per-user access control list support to Cisco VPN solutions and PIX Firewall solutions.

Availability

The Cisco Secure ACS 3.2 for Windows software and associated upgrade kit will begin shipping on June 17, 2003. The Cisco Secure ACS 3.2 Solution Engine and upgrade kit for existing Cisco Secure ACS for Windows customers, will begin shipping June 27, 2003. Customers interested in purchasing these products can place orders through their normal sales channels beginning June 10, 2003 for the Cisco Secure ACS 3.2 for Windows software and June 16, 2003 for the Cisco Secure ACS 3.2 Solution Engine.

Existing Cisco Secure Access Control Server 3.1 for Windows customers with current Software Application Support (SAS) contracts can request the ACS 3.2 for Windows update kit using their service contract number at http://www.cisco.com/upgrade beginning June 10, 2003.

Ordering Information

The following table contains part numbers commonly used to order Cisco Secure ACS Version 3.2 for Windows and Cisco Secure ACS Solution Engine. This product includes strong encryption technology, which is restricted for some types of U.S. export.

Table 1 Ordering Information for Cisco Secure ACS 3.2

Part Number	Description
CSACS-3.2-WIN-K9	Cisco Secure ACS 3.2 for Windows
CSACS-3.2-WINUP-K9	Upgrade to CSACS 3.2 for Windows from ACS versions 1.x, 2.x, 3.x and Cisco Secure ACS for Unix version 2.x

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Table 1 Ordering Information for Cisco Secure ACS 3.2

Part Number	Description
CON-SAS-CSACS-3.2	SAS service contract for ACS 3.2 for Windows; provides TAC support, CCO Software Center access, and minor updates
CSACSE-1111-K9	Cisco Secure ACS Solution Engine version 3.2; includes Cisco 1111 hardware platform and Cisco Secure Access Control Server software, version 3.2
CSACSE-1111-UP-K9	Upgrade for customers using Cisco Secure ACS 3.X for Windows or Cisco Secure ACS for Unix customers to the Cisco Secure ACS Solution Engine version 3.2; includes Cisco 1111 hardware platform and Cisco Secure Access Control Server software, version 3.2
CON-SAS-CSACE32	SAS service contract for the software component of the Cisco Secure ACS Solution Engine version 3.2; provides TAC support, Cisco.com Software Center Access, and minor updates[1]
CON-SNT-CSACS1111	8x5xNBD service contract for the hardware component of the Cisco Secure ACS Solution Engine version 3.2; provides TAC support, CCO Access and hardware parts replacements[2]

1. Customers must purchase separate SAS software and a hardware support contract for full service coverage of a solution engine
2. Additional hardware service programs are available. Please contact your Cisco Sales Representative for information

Existing Products Affected

With the availability of Cisco Secure Access Control Server version 3.2 for Windows, Cisco is announcing the End of Sales (EoS) for the following products. Older versions will continue to have extended support contracts offered for them as indicated below.

Table 2 Product End of Sales Dates

Part Number	Description	End-of-Sales	End-of-Support
CSACS-3.1-WIN-K9*	Access Control Server 3.1 for Windows	June 16, 2003	June 2006*
CSACS-3.1-WINUP-K9[1]	Upgrade to Cisco ACS 3.1 for Windows from ACS 1.x 2.x, 3.x and Cisco Secure ACS for Unix version 2.x	June 16, 2003	June 2006*

1. Support may require customers to move to a higher product version for resolution. Service programs associated with this part number are also affected by this end of sales date.

Product Information

For additional product information refer to:

http://www.cisco.com/go/acs/

Additional Information

For additional information or questions, send an e-mail to the product-marketing group at ciscoworks@cisco.com.

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Anexo 15C

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IP Routing

In a typical installation, the VPN Concentrator is connected to the public network through an external router, which routes data traffic between networks, and it might also be connected to the private network through a router.

The VPN Concentrator itself includes an IP routing subsystem with static routing, RIP (Routing Information Protocol), and OSPF (Open Shortest Path First) functions. RIP and OSPF are routing protocols that routers use for messages to other routers within an internal or private network, to determine network connectivity, status, and optimum paths for sending data traffic.

Once the IP routing subsystem establishes the data paths, the routing itself occurs at wire speed. The subsystem looks at the destination IP address in all packets coming through the VPN Concentrator, even tunneled ones, to determine where to send them. If the packets are encrypted, it sends them to the appropriate tunneling protocol subsystem (PPTP, L2TP, IPSec) for processing and subsequent routing. If the packets are not encrypted, it routes them in accordance with the configured IP routing parameters.

To route packets, the subsystem uses learned routes first (learned from RIP and OSPF), then static routes, then uses the default gateway. If you do not configure the default gateway, the subsystem drops packets that it cannot otherwise route. The VPN Concentrator also provides a tunnel default gateway, which is a separate default gateway for tunneled traffic only.

You configure static routes, the default gateways, and system-wide OSPF parameters in this section. This section also includes the system-wide DHCP (Dynamic Host Configuration Protocol) parameters. You configure RIP and interface-specific OSPF parameters on the network interfaces; see Configuration | Interfaces.

This section of the Manager also lets you configure VPN Concentrator redundancy using VRRP (Virtual Router Redundancy Protocol). This feature applies to installations of two or more VPN Concentrators in a parallel, redundant configuration. It provides automatic switchover to a backup system in case the primary system is out of service, thus ensuring user access to the VPN. This feature supports user access via IPSec LAN-to-LAN connections, IPSec client (single-user remote-access) connections, and PPTP client connections.

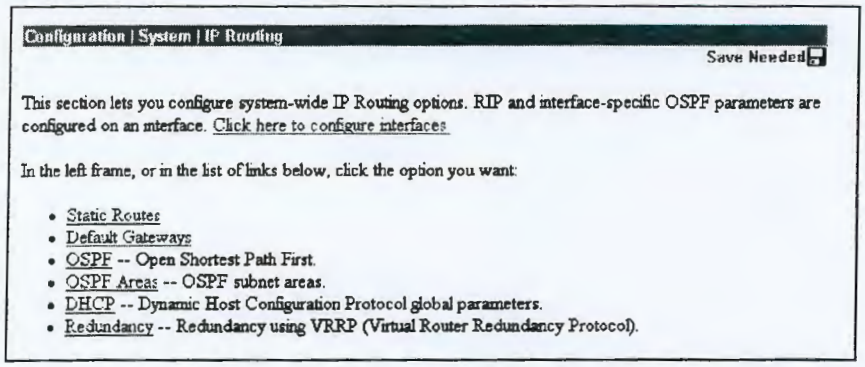
Configuration | System | IP Routing

This section of the Manager lets you configure system-wide IP routing parameters:

- Static Routes: Manually configured routing tables.
- Default Gateways: Routes for otherwise unrouted traffic.
- OSPF: Open Shortest Path First routing protocol.
- OSPF Areas: Subnet areas within the OSPF domain.
- DHCP: Dynamic Host Configuration Protocol global parameters.
- Redundancy: Virtual Router Redundancy Protocol parameters.

You configure RIP and interface-specific OSPF parameters on the network interfaces; click the highlighted link to go to the Configuration | Interfaces screen.

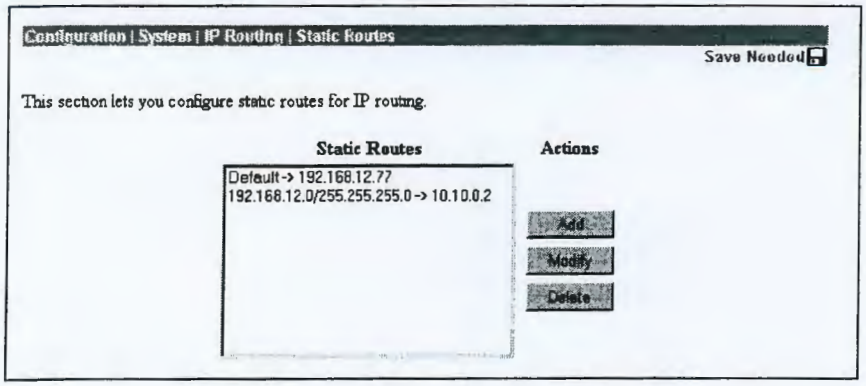
Figure 8-1 Configuration / System / IP Routing Screen



Configuration | System | IP Routing | Static Routes

This section of the Manager lets you configure static routes for IP routing. You usually configure static routes for private networks that cannot be learned via RIP or OSPF.

Figure 8-2 Configuration / System / IP Routing / Static Routes Screen



Static Routes

The Static Routes list shows manual IP routes that have been configured. The format is *[destination network address/subnet mask -> outbound destination]*, for example: 192.168.12.0/255.255.255.0 -> 10.10.0.2. If you have configured the default gateway, it appears first in the list as Default -> default router address. If no static routes have been configured, the list shows --Empty--.

Add / Modify / Delete

To configure and add a new static route, click **Add**. The Manager opens the Configuration | System | IP Routing | Static Routes | Add screen.

To modify a configured static route, select the route from the list and click **Modify**. The Manager opens the Configuration | System | IP Routing | Static Routes | Modify screen. If you select the default gateway, the Manager opens the Configuration | System | IP Routing | Default Gateways screen.

To delete a configured static route, select the route from the list and click **Delete**.

Note There is no confirmation and no undo.

The Manager refreshes the screen and shows the remaining static routes in the list. You cannot delete the default gateways here; to do so, see the Configuration | System | IP Routing | Default Gateways screen.

Reminder:

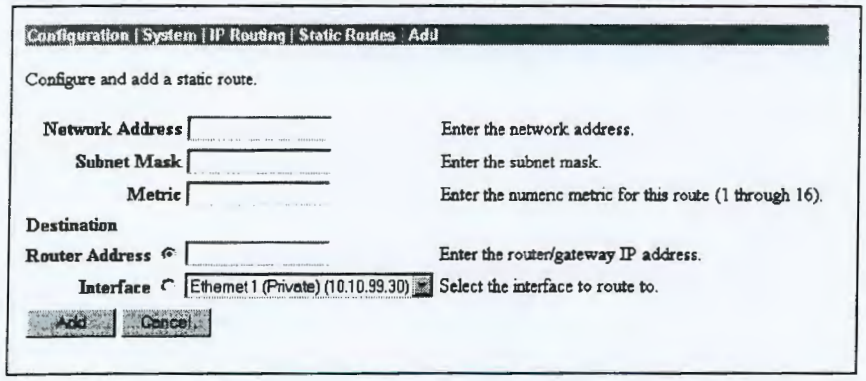
The Manager immediately includes your changes in the active configuration. To save the active configuration and make it the boot configuration, click the **Save Needed** icon at the top of the Manager window.

Configuration | System | IP Routing | Static Routes | Add or Modify

These Manager screens let you:

- Add: Configure and add a new static, or manual, route to the IP routing table.
- Modify: Modify the parameters for a configured static route.

Figure 8-3 Configuration / System / IP Routing / Static Routes / Add or Modify Screen



Network Address

Enter the destination network IP address to which this static route applies. Packets with this destination address will be sent to the destination you enter. Used dotted decimal notation, for example: 192.168.12.0.

Subnet Mask

Enter the subnet mask for the destination network IP address. Use dotted decimal notation, for example: 255.255.255.0. The subnet mask indicates which part of the IP address represents the network and which part represents hosts. The router subsystem looks at only the network part.

The Manager automatically supplies a standard subnet mask appropriate for the IP address you just entered. For example, the IP address 192.168.12.0 is a Class C address, and the standard subnet mask is 255.255.255.0. You can accept this entry or change it. Note that 0.0.0.0 is not allowed here, since that would resolve to the equivalent of a default gateway.

Metric

Enter the metric, or cost, for this route. Use a number from 1 to 16, where 1 is the lowest cost. The routing subsystem always tries to use the least costly route. For example, if a route uses a low-speed line, you might assign a high metric so the system will use it only if all high-speed routes are unavailable.

Destination

Click a radio button to choose the outbound destination for these packets. You can choose only one destination: either a specific router/gateway, or a VPN Concentrator interface.

Router Address

Enter the IP address of the specific router or gateway to which to route these packets; that is, the IP address of the next hop between the VPN Concentrator and the ultimate destination of the packet. Use dotted decimal notation, for example: 10.10.0.2.

Interface

Click the **Interface** drop-down menu button and choose a configured VPN Concentrator interface as the outbound destination. The menu lists all interfaces that have been configured.

For example, in a LAN-to-LAN configuration where remote-access clients are assigned IP addresses that are not on the private network, you could configure a static route with those addresses outbound to the Ethernet 1 (Private) interface. The clients could then access the peer VPN Concentrator and its networks.

Add or Apply / Cancel

To add a new static route to the list of configured routes, click **Add**. Or to apply your changes to a static route, click **Apply**. Both actions include your entries in the active configuration. The Manager returns to the Configuration | System | IP Routing | Static Routes screen. Any new route appears at the bottom of the Static Routes list.

Reminder:

To save the active configuration and make it the boot configuration, click the **Save Needed** icon at the top of the Manager window.

To discard your entries, click **Cancel**. The Manager returns to the Configuration | System | IP Routing | Static Routes screen, and the Static Routes list is unchanged.

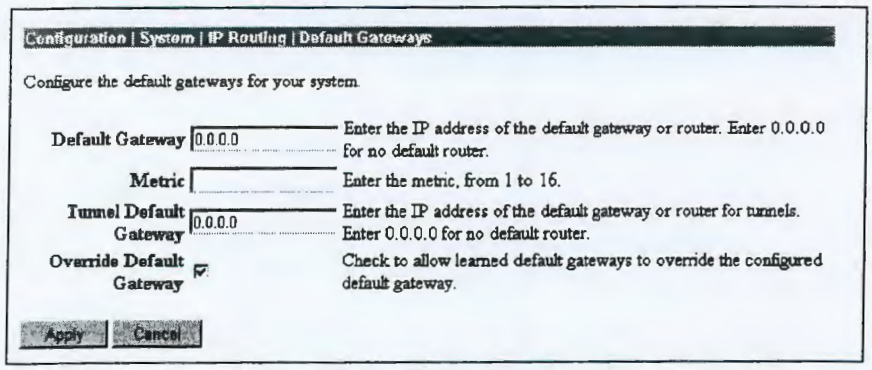
Configuration | System | IP Routing | Default Gateways

This screen lets you configure the default gateway for IP routing, and configure the tunnel default gateway for tunneled traffic. You use this same screen both to initially configure and to change default gateways. You can also configure the default gateway on the Configuration | Quick | System Info screen.

The IP routing subsystem routes data packets first using learned routes, then static routes, then the default gateway. If you do not specify a default gateway, the system drops packets it cannot otherwise route.

For tunneled data, if the system does not know a destination address, it tries to route the packet to the tunnel default gateway first. If that route is not configured, it uses the regular default gateway.

Figure 8-4 Configuration / System / IP Routing / Default Gateways Screen



Default Gateway

Enter the IP address of the default gateway or router. Use dotted decimal notation, for example: 192.168.12.77. This address must *not* be the same as the IP address configured on any VPN Concentrator interface. If you do not use a default gateway, enter 0.0.0.0 (the default entry).

To delete a configured default gateway, enter `0.0.0.0`.

The default gateway must be reachable from a VPN Concentrator interface, and it is usually on the public network. The Manager displays a warning screen if you enter an IP address that is not on one of its interface networks, and it displays a dialog box if you enter an IP address that is not on the public network.

Metric

Enter the metric, or cost, for the route to the default gateway. Use a number from 1 to 16, where 1 is the lowest cost. The routing subsystem always tries to use the least costly route. For example, if this route uses a low-speed line, you might assign a high metric so the system will use it only if all high-speed routes are unavailable.

Tunnel Default Gateway

Enter the IP address of the default gateway for tunneled data. Use dotted decimal notation, for example: 10.10.0.2. If you do not use a tunnel default gateway, enter `0.0.0.0` (the default entry).

To delete a configured tunnel default gateway, enter `0.0.0.0`.

This gateway is often a firewall in parallel with the VPN Concentrator and between the public and private networks. The tunnel default gateway applies to all tunneled traffic, including IPSec LAN-to-LAN traffic.

Note If you use an external device instead of the VPN Concentrator for NAT (Network Address Translation), you must configure the tunnel default gateway.

Override Default Gateway

To allow default gateways learned via RIP or OSPF to override the configured default gateway, check the **Override Default Gateway** check box (the default). To always use the configured default gateway, uncheck the box.

Apply / Cancel

To apply the settings for default gateways, and to include your settings in the active configuration, click **Apply**. The Manager returns to the Configuration | System | IP Routing screen. If you configure a Default Gateway, it also appears in the Static Routes list on the Configuration | System | IP Routing | Static Routes screen.

Reminder:

To save the active configuration and make it the boot configuration, click the **Save Needed** icon at the top of the Manager window.

To discard your entries, click **Cancel**. The Manager returns to the Configuration | System | IP Routing screen.

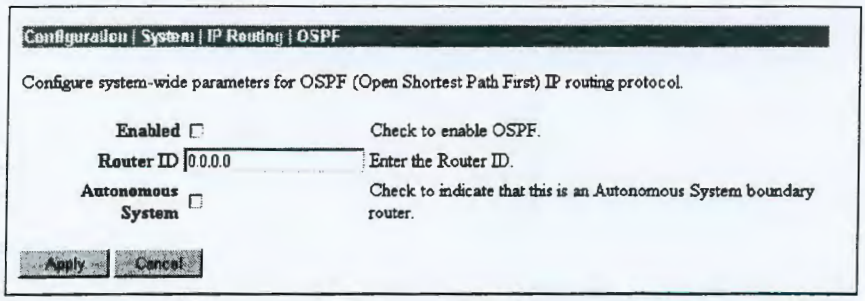
Configuration | System | IP Routing | OSPF

This screen lets you configure system-wide parameters for the OSPF (Open Shortest Path First) routing protocol. You must also configure interface-specific OSPF parameters on the Configuration | Interfaces screens.

OSPF is a protocol that the IP routing subsystem uses for messages to other OSPF routers within an internal or private network, to determine network connectivity, status, and optimum paths for sending data traffic. The VPN Concentrator supports OSPF version 2 (RFC 2328).

The complete private network is called an OSPF Autonomous System (AS), or domain. The subnets within the AS are called areas. You configure OSPF areas on the Configuration | System | IP Routing | OSPF Areas screens.

Figure 8-5 Configuration / System / IP Routing / OSPF Screen



Enabled

To enable the VPN Concentrator OSPF router, check the **Enabled** check box. (By default it is unchecked.) You must also enter a Router ID. You must check this box for OSPF to work on any interface that uses it.

To change a configured Router ID, you must disable OSPF here.

To enable OSPF routing on an interface, you must also configure and enable OSPF on the appropriate Configuration | Interfaces screen.

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Router ID

The router ID uniquely identifies the VPN Concentrator OSPF router to other OSPF routers in its domain. While the format is that of an IP address, it functions only as an identifier and not an address. By convention, however, this identifier is the same as the IP address of the interface that is connected to the OSPF router network.

Enter the router ID in the field. Use dotted decimal IP address format, for example: 10.10.4.6. The default entry is 0.0.0.0 (no router configured). If you enable the OSPF router, you must enter an ID.

Note Once you configure and apply a router ID, you must disable OSPF before you can change it. You cannot change the ID back to 0.0.0.0.

Autonomous System

An OSPF Autonomous System (AS), or domain, is a complete internal network. An AS boundary router exchanges routing information with routers belonging to other Autonomous Systems, and advertises external AS routing information throughout its AS.

Check the **Autonomous System** check box to indicate that the VPN Concentrator OSPF router is the boundary router for an Autonomous System. If you check this box, the VPN Concentrator also redistributes RIP and static routes into the OSPF areas. By default, the box is unchecked.

Apply / Cancel

To apply your OSPF settings, and to include your settings in the active configuration, click **Apply**. The Manager returns to the Configuration | System | IP Routing screen.

Reminder:

To save the active configuration and make it the boot configuration, click the **Save Needed** icon at the top of the Manager window.

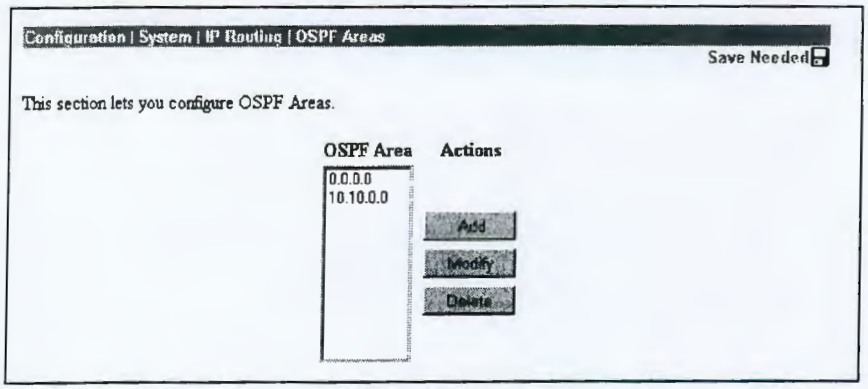
To discard your settings, click **Cancel**. The Manager returns to the Configuration | System | IP Routing screen.

Configuration | System | IP Routing | OSPF Areas

This section of the Manager lets you configure OSPF areas, which are the subnets within an OSPF Autonomous System or domain. You should configure entries for all areas connected to this VPN Concentrator OSPF router.

You can also identify an OSPF area on a VPN Concentrator network interface (see Configuration | Interfaces). Those area identifiers appear in the OSPF Area list on this screen.

Figure 8-6 Configuration / System / IP Routing / OSPF Areas Screen



OSPF Area

The OSPF Area list shows identifiers for all areas that are connected to this VPN Concentrator OSPF router. The format is the same as a dotted decimal IP address, for example: 10.10.0.0. The default entry is 0.0.0.0. This entry identifies a special area known as the backbone that contains all area border routers, which are the routers connected to multiple areas.

Add / Modify / Delete

To configure and add a new OSPF area, click **Add**. The Manager opens the Configuration | System | IP Routing | OSPF Areas | Add screen.

To modify a configured OSPF area, select the area from the list and click **Modify**. The Manager opens the Configuration | System | IP Routing | OSPF Areas | Modify screen.

To delete a configured OSPF area, select the area from the list and click **Delete**.

Note There is no confirmation or undo.

The Manager refreshes the screen and shows the remaining entries in the OSPF Area list.

Reminder:

The Manager immediately includes your changes in the active configuration. To save the active configuration and make it the boot configuration, click the **Save Needed** icon at the top of the Manager window.

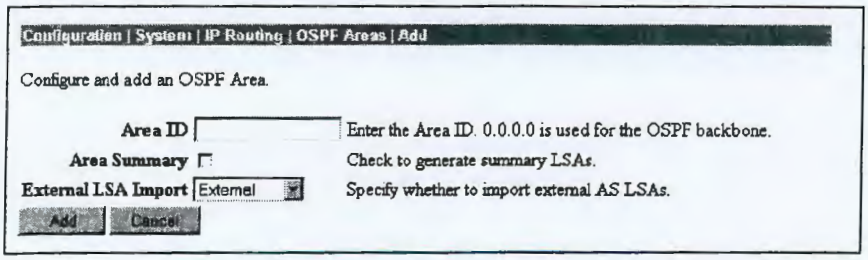
Configuration | System | IP Routing | OSPF Areas | Add or Modify

These Manager screens let you:

- Add: Configure and add an OSPF area.
- Modify: Modify parameters for a configured OSPF area.

Note Once you have configured an OSPF Area, you cannot modify its ID. To change an area ID, delete the existing area and add a new one.

Figure 8-7 Configuration / System / IP Routing / OSPF Areas / Add or Modify Screen



Area ID

- Add: Enter the area ID in the field. Use IP address dotted decimal notation, for example: 10.10.0.0. The default entry is 0.0.0.0, the backbone.
- Modify: Once you have configured an area ID, you cannot change it. See preceding note.

The Area ID identifies the subnet area within the OSPF Autonomous System or domain. While its format is the same as an IP address, it functions only as an identifier and not an address. The 0.0.0.0 area ID identifies a special area—the backbone—that contains all area border routers.

Area Summary

Check the **Area Summary** check box to have the OSPF router generate and propagate summary LSAs (Link-State Advertisements) into OSPF stub areas. LSAs describe the state of the router's interfaces and routing paths. Stub areas contain only final-destination hosts and do not pass traffic through to other areas. Sending LSAs to them is usually not necessary. By default this box is unchecked.

External LSA Import

Click the **External LSA Import** drop-down menu button and choose whether to bring in LSAs from neighboring Autonomous Systems. LSAs describe the state of the AS router's interfaces and routing paths. Importing those LSAs builds a more complete link-state database, but it requires more processing. The choices are:

- External = Yes, import LSAs from neighboring ASs (the default).
- No External = No, do not import external LSAs.

Add or Apply / Cancel

To add this OSPF area to the list of configured areas, click **Add**. Or to apply your changes to this OSPF area, click **Apply**. Both actions include your entry in the active configuration. The Manager returns to the Configuration | System | IP Routing | OSPF Areas screen. Any new entry appears at the bottom of the OSPF Area list.

Reminder:

To save the active configuration and make it the boot configuration, click the **Save Needed** icon at the top of the Manager window.

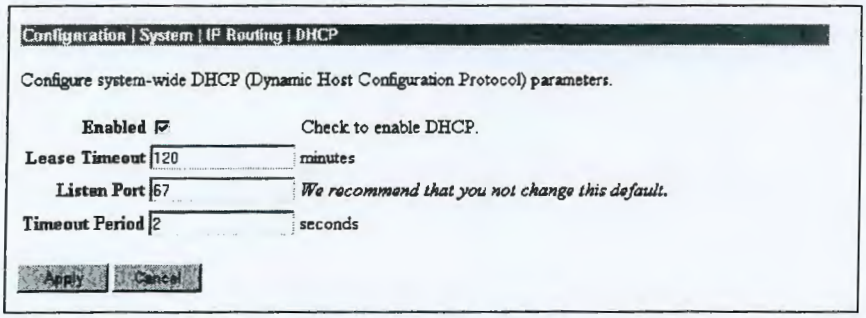
To discard your entries, click **Cancel**. The Manager returns to the Configuration | System | IP Routing | OSPF Areas screen, and the OSPF Area list is unchanged.

Configuration | System | IP Routing | DHCP

This screen lets you configure DHCP (Dynamic Host Configuration Protocol) parameters that apply to DHCP functions within the VPN Concentrator. You can use external DHCP servers to assign IP addresses to clients as a VPN tunnel is established.

If you check the Use DHCP check box on the Configuration | System | Address Management | Assignment screen, you must configure at least one DHCP server on the Configuration | System | Servers | DHCP screens. You configure global DHCP parameters here.

Figure 8-8 Configuration / System / IP Routing / DHCP Screen



Enabled

Check the **Enabled** check box to enable DHCP functions within the VPN Concentrator. The box is checked by default. To use DHCP address assignment, you must enable DHCP functions here.

Lease Timeout

Enter the timeout in minutes for addresses that are obtained from a DHCP server. The minimum timeout is 5 minutes. The default is 120 minutes. The maximum is 500000 minutes. DHCP servers "lease" IP addresses for this period of time. Before the lease expires, the VPN Concentrator asks to renew it on behalf of the client. If for some reason the lease is not renewed, the connection terminates when the lease expires. The DHCP server's lease period takes precedence over this setting.

Listen Port

Enter the UDP port number on which DHCP server response messages are accepted. The default is 67, which is the well-known port. *To ensure proper communication with DHCP servers, we strongly recommend that you not change this default.*

Timeout Period

Enter the initial time in seconds to wait for a response to a DHCP request before sending the request to the next configured DHCP server. The minimum time is 1 second. The default time is 2 seconds. The maximum time is 10 seconds. This time doubles with each cycle through the list of configured DHCP servers.

Apply / Cancel

To apply the settings for DHCP parameters, and to include your settings in the active configuration, click **Apply**. The Manager returns to the Configuration | System | IP Routing screen.

Reminder:

To save the active configuration and make it the boot configuration, click the **Save Needed** icon at the top of the Manager window.

To discard your entries, click **Cancel**. The Manager returns to the Configuration | System | IP Routing screen.

Configuration | System | IP Routing | Redundancy

This screen lets you configure parameters for Virtual Router Redundancy Protocol (VRRP), which manages automatic switchover from one VPN Concentrator to another in a redundant installation. Automatic switchover provides user access to the VPN even if one VPN Concentrator is out of service for some reason, for example a system crash, power failure, hardware failure, physical interface failure, system shutdown or reboot.

These functions apply only to installations where two or more VPN Concentrators are in parallel, with the Public interfaces of all systems on a common LAN and with the Private and/or External interfaces of all systems on different common LANs. One VPN Concentrator is the Master system, and the others are Backup systems. A Backup system acts as a virtual Master system when a switchover occurs.

VRRP works only on LAN (Ethernet) interfaces, not on WAN interfaces.

Note If VRRP is configured on a VPN Concentrator, you cannot also enable load balancing. In a VRRP configuration, the backup device remains idle unless the active VPN Concentrator fails. Load balancing does not permit idle devices.

This feature supports user access via IPSec LAN-to-LAN connections, IPSec client (single-user remote-access) connections, and PPTP client connections.

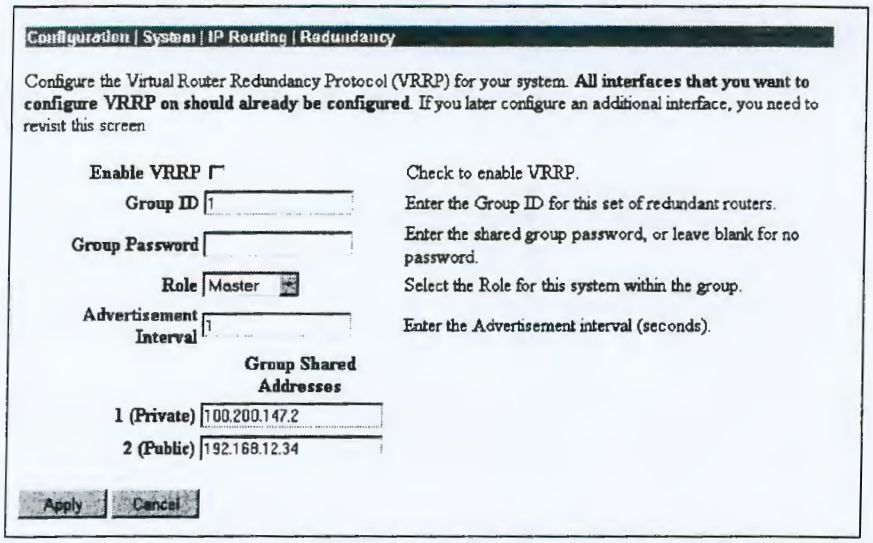
- For IPSec LAN-to-LAN connections, switchover is fully automatic. Users do not need to do anything.
- For single-user IPSec and PPTP connections, users are disconnected from the failing system but they can reconnect without changing any connection parameters.

Switchover typically occurs within 3 to 10 seconds.

Note Before configuring or enabling VRRP on this screen, you must configure all Ethernet interfaces that apply to your installation, on all redundant VPN Concentrators. See the Configuration | Interfaces screens.

Note You must also configure *identical* IPSec LAN-to-LAN parameters on the redundant VPN Concentrators. See the Configuration | System | Tunneling Protocols | IPSec LAN-to-LAN screens.

Figure 8-9 Configuration / System / IP Routing / Redundancy Screen



Enable VRRP

Check the **Enable VRRP** check box to enable VRRP functions. The box is unchecked by default.

Group ID

Enter a number that uniquely identifies this group of redundant VPN Concentrators. This number must be the same on all systems in this group. Use a number from 1 (default) to 255. Since there is rarely more than one virtual group on a LAN, we suggest you accept the default.

Group Password

Enter a password for additional security in identifying this group of redundant VPN Concentrators. The maximum password length is 8 characters. The Manager shows your entry in clear text, and VRRP advertisements contain this password in clear text. This password must be the same on all systems in this group. Leave this field blank to use no password.

Role

Click the **Role** drop-down menu button and choose the role of this VPN Concentrator in this redundant group.

- Master = This is the Master system in this group (the default choice). Be sure to configure only one Master system in a group with a given Group ID.
- Backup 1 through Backup 5 = This is a Backup system in this group.

Advertisement Interval

Enter the time interval in seconds between VRRP advertisements to other systems in this group. Only the Master system sends advertisements; this field is ignored on Backup systems while they remain Backup. The minimum interval is 1 second. The default interval is 1 second. The maximum is 255 seconds. Since a Backup system can become a Master system, we suggest you accept the default for all systems.

Group Shared Addresses

Enter the IP addresses that are treated as configured router addresses by all virtual routers in this group. The Manager displays fields only for the Ethernet interfaces that have been configured.

On the Master system, these entries are the IP addresses configured on its Ethernet interfaces, and the Manager supplies them by default.

On a Backup system, the fields are empty by default, and you must enter the same IP addresses as those on the *Master* system.

1 (Private)

The IP address for the Ethernet 1 (Private) interface shared by the virtual routers in this group.

2 (Public)

The IP address for the Ethernet 2 (Public) interface shared by the virtual routers in this group.

3 (External)

The IP address for the Ethernet 3 (External) interface shared by the virtual routers in this group.

Apply / Cancel

To apply the settings for VRRP, and to include your settings in the active configuration, click **Apply**. The Manager returns to the Configuration | System | IP Routing screen.

Reminder:

To save the active configuration and make it the boot configuration, click the **Save Needed** icon at the top of the Manager window.

To discard your entries, click **Cancel**. The Manager returns to the Configuration | System | IP Routing screen.

ANEXO 15D

19.532

Cisco – Using RADIUS Servers with VPN 3000 Products

Table of Contents

Using RADIUS Servers with VPN 3000 Products

Introduction

This document describes the following issues encountered when using various RADIUS servers with the VPN 3000 Concentrator and the VPN 3000 Client:

- Setting the authentication parameter on a Windows 2000 RADIUS server
- Using a RADIUS server that does not support MSCHAP
- Using encryption with PPTP

Some of these notes have appeared in product release notes.

Before You Begin

Conventions

For more information on document conventions, see the Cisco Technical Tips Conventions.

Prerequisites

There are no specific prerequisites for this document.

Components Used

The information in this document is based on the software and hardware versions below.

- Cisco VPN 3000 Concentrator
- Cisco VPN 3000 Client

The information presented in this document was created from devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If you are working in a live network, ensure that you understand the potential impact of any command before using it.

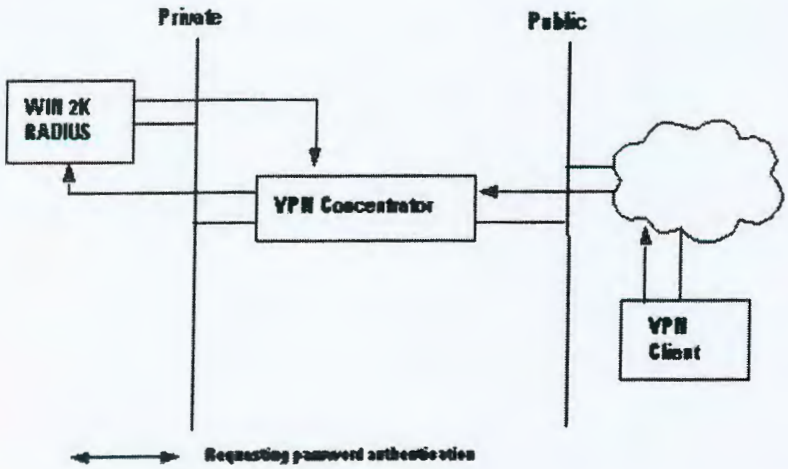
Setting Authentication Parameter on the Windows 2000 RADIUS Server

You can use a Windows 2000 RADIUS server to authenticate a VPN 3000 Client user. In the following

scenario (Client is requesting authentication), the VPN 3000 Concentrator receives a request from the VPN 3000 Client containing the Client user's username and password. Before sending the username/password to a Windows 2000 RADIUS server in the private network for verification, the VPN Concentrator hashes it, using the HMAC/MD5 algorithm.

The Windows 2000 RADIUS server requires PAP for authenticating a VPN 3000 Client session. To enable the RADIUS server to authenticate a VPN 3000 Client, set (check) the **Unencrypted Authentication (PAP, SPAP)** parameter on the **Edit Dial-in Profile** window (by default, this parameter is not checked). To set this parameter, select the **Remote Access Policy** you are using, select **Properties** and go to the **Authentication** tab.

Note that the word *Unencrypted* on this parameter's name is misleading. Using this parameter does *not* cause a breach of security, because when the VPN Concentrator sends the authentication packet to the RADIUS server, it does not send the password in the clear . The VPN Concentrator receives the username/password and encrypted packets from the VPN Client, and performs an HMAC/MD5 hash on the password before sending the authentication packet to the server.



Using a RADIUS Server that Does Not Support MSCHAP

Some RADIUS servers do not support MSCHAPv1 or MSCHAPv2 user authentication. If you are using a RADIUS server that does not support MSCHAP (v1 or v2), you must configure the Base Group's PPTP authentication protocol to use PAP and/or CHAP only. Examples of RADIUS servers that do not support MSCHAP are the Livingston v1.61 RADIUS server or any RADIUS server based on Livingston code.

Using Encryption with PPTP

To use encryption with PPTP, a RADIUS server must support MSCHAP authentication and the return attribute MSCHAP-MPPE-Keys. Examples of RADIUS servers that support this attribute are:

- Cisco Secure ACS for Windows – version 2.6 or later
- Funk Software Steel-Belted RADIUS
- Microsoft Internet Authentication Server on NT 4.0 Server Options Pack
- Microsoft Commercial Internet System (MCIS 2.0)
- Microsoft Windows 2000 Server — Internet Authentication Server

Related Information

- **RADIUS Support Page**
- **RADIUS in IOS Documentation**
- **Documentation for Cisco Secure ACS for Windows**
- **Cisco Secure ACS for Windows Support Page**
- **Cisco VPN 3000 Series Concentrator Support Page**
- **Cisco VPN 3000 Series Client Support Page**
- **IPSec Support Page**
- **PPTP Support Page**
- **RFC 2637: Point-to-Point Tunneling Protocol (PPTP)**
- **Requests for Comments (RFCs)**
- **Technical Support – Cisco Systems**

ANEXO 15E

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Supported and Interoperable Devices and Software Tables for Cisco Secure ACS Appliance version 3.2

Revised: July 8, 2003

Because the number of devices that Cisco Secure ACS Appliance version 3.2 interoperates with runs into the hundreds, this device list differs significantly from those of other Cisco products with which you may be familiar. This document lists supported devices and software, that is, those that we have tested against. However, this document also lists devices and software programs that are, to the best of our knowledge, interoperable. Of the hundreds of devices and software programs that Cisco Secure ACS Appliance version 3.2 interoperates with, Cisco officially supports only those that have been tested.

For details regarding other limitations and known problems see *Release Notes for CiscoSecure Access Control Server Appliance Version 3.2*. On Cisco.com, you can find the latest version all documentation by selecting **Products & Services > Security and VPN Software > Cisco Secure Access Control Server Appliance > Technical Documentation.**

CISCO SYSTEMS

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With regard to third-party RADIUS and TACACS+ clients, Cisco Secure ACS Appliance fully interoperates with devices that adhere to the governing protocols. Also, support for RADIUS and TACACS+ functions depends on device-specific implementation. On a given device, TACACS+ may not be available for user authentication and authorization. Likewise, RADIUS may not be available for administrative authentication and authorization.

For RADIUS these include the following RFCs:

- RFC 2138 - Remote Authentication Dial In User Service (RADIUS)
- RFC 2139 - RADIUS Accounting
- RFC 2865 - Remote Authentication Dial In User Service (RADIUS)
- RFC 2866 - RADIUS Accounting
- RFC 2867 - RADIUS Accounting for Tunnel Protocol Support
- RFC 2868 - RADIUS Attributes for Tunnel Protocol Support
- RFC 2869 - RADIUS Extensions

For details regarding the implementation of vendor-specific attributes (VSAs), see *User Guide for Cisco Secure ACS Appliance Version 3.2*.

Cisco Secure ACS Appliance conforms to the TACACS+ protocol as defined by Cisco Systems in draft 1.77.

The following tables show the devices and software that Cisco Secure ACS Appliance supports or with which it interoperates:

- Table 1, Web Browsers
- Table 2, Device Operating Systems
- Table 3, Routers
- Table 4, Access Devices/Universal Gateways
- Table 5, Cable Devices
- Table 6, Content Networking Devices
- Table 7, Security and VPN Devices
- Table 8, Storage Networking Devices
- Table 9, Switches
- Table 10, Cisco Aironet Software (Access Points for Wireless LAN)
- Table 11, CiscoWorks VMS

- Table 12, PKI/Certificate Servers
- Table 13, Token Servers
- Table 14, LDAP Servers
- Table 15, User Databases
- Table 16, Proxy Support

You can find information about new device support at Cisco.com, http://www.cisco.com.

To ensure full capabilities, the clients you deploy to interoperate with Cisco Secure ACS Appliance should use the most recent operating systems available. Nonetheless, Table 2 provides details on the minimum acceptable client operating system versions.

Table 1 Web Browsers[1]

Program	Versions	Notes
Microsoft Internet Explorer	5.5 for Microsoft Windows - English Language version	Tested
	6.0 for Microsoft Windows - English Language version	Tested
Netscape	7.0 for Microsoft Windows - English Language version	Tested
	7.0 on Solaris 2.7- English Language version	Tested

1. To use a web browser to access the Cisco Secure ACS HTML interface, you must enable both Java and JavaScript in the browser. Also, the web browser must not be configured to use a proxy server.

Table 2 Device Operating Systems

Operating System	Minimum Version	Notes
IOS	11.2	For full RADIUS support
CAT OS	7.2	Cisco products—and other third-party products that are RFC compliant—will work with Cisco Secure ACS even when running earlier versions of CAT OS. However, full functionality, including the 802.1x VLAN assignment, is supported only when the listed version is used.

Table 3 Routers

Series	Notes
Cisco 1400	End of life (EOL) status
Cisco 1600	RADIUS and TACACS+ interoperability
Cisco 1700	Tested with IOS 12.2(8) RADIUS and TACACS+ interoperability
Cisco 2500	EOL status
Cisco 2600	RADIUS and TACACS+ interoperability
Cisco 3600	RADIUS and TACACS+ interoperability
Cisco 3700	Tested with IOS 12.2 RADIUS and TACACS+ interoperability
Cisco 7100	RADIUS and TACACS+ interoperability
Cisco 7200	Tested with IOS 12.2 RADIUS and TACACS+ interoperability
Cisco 7300	RADIUS and TACACS+ interoperability
Cisco7400	RADIUS and TACACS+ interoperability
Cisco 7500	RADIUS and TACACS+ interoperability

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Table 3 Routers (continued)

Cisco 10000	RADIUS interoperability
Cisco 10720	RADIUS and TACACS+ interoperability

Table 4 Access Devices/Universal Gateways

Series	Notes
6400 Series	RADIUS and TACACS+ interoperability
AS5350 Series	RADIUS and TACACS+ interoperability
AS5400 Series	Tested with IOS12.2(7c) RADIUS and TACACS+ interoperability
AS5850 Series	RADIUS and TACACS+ interoperability
DSL Series / 6015, 6100, 6130, 6160, 6260	RADIUS and TACACS+ interoperability
MGX Series / 8220, 8250, 8800, 8950	TACACS+ interoperability

Table 5 Cable Devices

Devices	Notes
uBR7100	Tested with IOS 12.2BC RADIUS and TACACS+ interoperability
uBR7200	EOL status TACACS+ interoperability

Table 6 Content Networking Devices

Series / Devices	Notes
CE7300 / CE 7320	Tested with ACNS 4.2 RADIUS and TACACS+ interoperability

Table 6 Content Networking Devices (continued)

Series / Devices	Notes
CDM4600 / CDM4630, CDM4650	RADIUS and TACACS+ interoperability
4400 Content Routers/ CR4430	Tested with ACNS 4.2 RADIUS and TACACS+ interoperability

Table 7 Security and VPN Devices

Series / Devices	Notes
3000 Series Concentrator / 3005, 3015, 3030, 3060, 3080	Tested with 3015 RADIUS and TACACS+ interoperability
PIX 500 Series Firewall / 501, 506E, 515, 515E, 525, 535	Tested with 515 and PIX OS v6.3 RADIUS and TACACS+ interoperability
5000 Series Concentrator	EOL status

Table 8 Storage Networking Devices

Series	Devices Supported	Notes
MDS 9000	MDS 9216, MDS9509	RADIUS interoperability (TACACS+ support in future release)

Table 9 Switches

Series / Devices	Notes
Catalyst 2950/3550	Tested with 3550 and IOS 12.1(12)EA1 RADIUS and TACACS+ interoperability
Catalyst 4000/4500	Tested with Cat4503, CatOS 7.5, and IOS 12.1 RADIUS and TACACS+ interoperability

Table 9 Switches (continued)

Series / Devices	Notes
Catalyst 5000	EOL status
Catalyst 6500	Tested with CatOS 7.5, and IOS 12.1 RADIUS and TACACS+ interoperability

Table 10 Cisco Aironet Software (Access Points for Wireless LAN)

Series	Notes
350	RADIUS interoperability
AP1100	RADIUS interoperability
AP1200	Tested with Aironet 11.23 RADIUS interoperability

Table 11 CiscoWorks VMS

Series	Devices Supported	Notes
IOS/Router MC	Version 1.1	TACACS+ interoperability
PIX MC	Version 1.1	Tested with VMS2.1 TACACS+ interoperability
IDS MC	Version 1.1	TACACS+ interoperability
LMS	—	TACACS+ interoperability (future release)
HSE	Version 1.7	TACACS+ interoperability
WLSE	—	TACACS+ interoperability (future release)

Table 12 PKI/Certificate Servers

Platform	Versions	Notes
Microsoft CA Certificate Server	Windows 2000 Windows 2000 with SP3	Tested

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Table 12 PKI/Certificate Servers (continued)

Entrust PKI	Version 6.0	—
Verisign Onsite	Version 5.0	—

Table 13 Token Servers[1]

Platform	Versions	Client Requirement	Notes
ActivCard Server	Version 3.1	—	—
CRYPTOCard CRYPTOAdmin	Version 5.16	—	—
PassGo Defender	Version 4.1.3	—	—
RSA ACE/Server	Version 5.1	—	Tested
Safeword Premier Access	Version 31.	—	—
Vasco Vacman Server	Version 6.0.2	—	—

1. Cisco Secure ACS Appliance uses a RADIUS interface to support all token servers. For more information, see Changes to Token Server Support.

Table 14 LDAP Servers

Platform	Versions	Notes
SunONE Identity Server (Formerly iPlanet Directory)	Version 5.1	Tested with Windows 2000 Active Directory with Windows Service Pack 3
Novell NetWare Directory Services (NDS)	Version 6.0	Tested
Novell eDirectory	Version 8.6	Tested

Table 15 User Databases[1]

Platform	Version	Requirement
SAM on Windows 2000	—	Tested with Service Pack 3

Table 15 User Databases[1] (continued)

AD on Windows 2000	—	—
SAM on Windows NT 4.0	—	—
LDAP	Generic	—
Novell NetWare Directory Services (NDS)	Version 6.0	Tested with eDirectory v.8.6 and Novell Client 4.83 SP2 for Windows NT 4.0, Windows 2000, and Windows XP
LEAP Proxy RADIUS servers	—	—

1. See also Table 13.

Table 16 Proxy Support

Platform	Versions	Notes
Cisco Secure ACS	2.4 or later	—
Funk Steel Belted Radius	Enterprise Edition	—

CHAPTER 14

User Management

Groups and users are core concepts in managing the security of VPNs and in configuring the VPN Concentrator. Groups and users have attributes, configured via parameters, that determine their access to and use of the VPN. *Users* are members of *groups*, and groups are members of the *base group*. If you do not assign a user to a particular group, that user is by default a member of the base group. This section of the Manager lets you configure those parameters.

Groups simplify system management. To streamline the configuration task, the VPN Concentrator provides a base group that you configure first. The base-group parameters are those that are most likely to be common across all groups and users. As you configure a group, you can simply specify that it "inherit" parameters from the base group; and a user can also "inherit" parameters from a group. Thus you can quickly configure authentication for large numbers of users.

Of course, if you decide to grant identical rights to all VPN users, then you do not need to configure specific groups. But VPNs are seldom managed that way. For example, you might allow a Finance group to access one part of a private network, a Customer Support group to access another part, and an MIS group to access other parts. Further, you might allow specific users within MIS to access systems that other MIS users cannot access.

You can configure detailed parameters for groups and users on the VPN Concentrator internal authentication server. External RADIUS authentication servers also can return group and user parameters that match those on the VPN Concentrator; other authentication servers do not; they can, however, authenticate users.

The VPN 3000 software CD-ROM includes a link that customers with CCO logins can use to access an evaluation copy of the CiscoSecure ACS RADIUS authentication server. The VPN 3000 software CD-ROM also has current VPN 3000 VSA registry files that let customers load new supported attributes on their ACS server, and provides instructions for using them.

The VPN Concentrator internal authentication server is adequate for a small user base. The maximum number of groups and users (combined) that you can configure in the internal server depends on your VPN Concentrator model. (See Table 14-1.) For larger numbers of users, we recommend using the internal server to configure groups (and perhaps a few users) and using an external authentication server (RADIUS, NT Domain, SDI) to authenticate the users.

Table 14-1 Maximum Number of Groups and Users for the Internal Authentication Server

VPN Concentrator Model	Maximum Number of Groups and Users (Combined)
3005	100
3015	100
3030	500
3060	1000
3080	1000

The VPN Concentrator checks authentication parameters in this order:

- First: User parameters. If any parameters are missing, the system looks at:
- Second: Group parameters. If any parameters are missing, the system looks at:
- Third, for IPSec users only: IPSec tunnel-group parameters. These are the parameters of the IPSec group used to create the tunnel. The IPSec group is configured on the internal server or on an external RADIUS server. If any parameters are missing, the system looks at base group parameters. For VPN 3002 Hardware Client parameters, which enable or disable interactive hardware client authentication and individual user authentication, the IPSec tunnel group parameters take precedence over parameters set for users and groups.
- Last: Base-group parameters.

If you use a non-RADIUS server, only the IPSec tunnel-group or base-group parameters apply to users.

Some additional points to note:

- Base-group parameters are the default, or system-wide, parameters.
- A user can be a member of only one group.
- A user that is not a member of a group can nevertheless assume attributes from that group if you join the groupname to the username using a delimiter. See Configuration | System | General | Global Authentication Parameters for information on how to select and use a delimiter.
- Users who are not members of a specific group are, by default, members of the base group. Therefore, to ensure maximum security and control, you should assign all users to appropriate groups, and you should configure base-group parameters carefully.
- You can change group parameters, thereby changing parameters for all its members at the same time.
- You can delete a group, but when you do, all its members revert to the base group. Deleting a group, however, does not delete its members' user profiles.
- You can override the base-group parameters when you configure groups and users, and give groups and users more or fewer rights with this exception:

  For PPTP and L2TP authentication protocols, you can allow specific groups and users to use *fewer* protocols than the base group, but not more.

  For all other parameters, groups' and users' rights can be greater than the base group. For example, you can give a specific user 24-hour access to the VPN, but give the base group access during business hours only.

- You apply filters to groups and users, and thus govern *tunneled* data traffic through the VPN Concentrator. You also apply filters to network interfaces, and thus govern *all* data traffic through the VPN Concentrator. See the Configuration | Policy Management | Traffic Management screens.
- We can supply a "dictionary" of Cisco-specific user and group parameters for external RADIUS servers.

We recommend that you *define* groups when planning your VPN, and that you *configure* groups and users on the VPN Concentrator in this order:

1. Base-group parameters.
2. Group parameters.
3. User parameters.

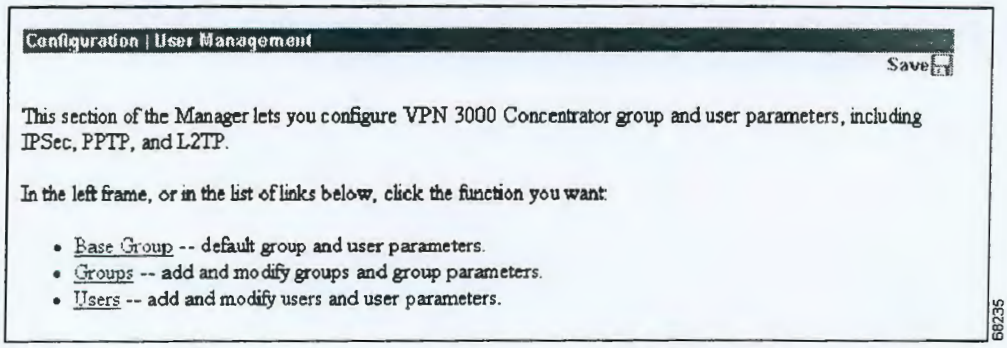
Before configuring groups and users, you should configure system policies, including network lists, access hours, filters, rules, and IPSec security associations (see Configuration | Policy Management).

In addition to configuring groups and users, you also need to configure authentication servers--specifically the internal authentication server (see Configuration | System | Servers). You can specify authentication servers globally or per group.

Configuration | User Management

This section of the Manager lets you configure base-group, group, and individual user parameters. These parameters determine access and use of the VPN Concentrator.

Figure 14-1 Configuration | User Management Screen



Configuration | User Management | Base Group

This Manager screen lets you configure the default, or base-group, parameters. Base-group parameters are those that are most likely to be common across all groups and users, and they streamline the configuration task. Groups can "inherit" parameters from this base group, and users can "inherit" parameters from their group or the base group. You can override these parameters as you configure groups and users. Users who are not members of a group are, by default, members of the base group.

On this screen, you configure the following kinds of parameters:

- General Parameters: Security, access, performance, and protocols.
- IPSec Parameters: IP Security tunneling protocol.
- Mode Config Parameters: Banner, password storage, split-tunneling policy, default domain name, IPSec over UDP, backup servers.
- Client FW Parameters: VPN Client personal firewall requirements.
- HW Client Parameters: Interactive hardware client and individual user authentication; network extension mode.
- PPTP/L2TP Parameters: PPTP and L2TP tunneling protocols.

Before configuring these parameters, you should configure:

- Access Hours (Configuration | Policy Management | Access Hours).
- Rules and filters (Configuration | Policy Management | Traffic Management | Rules and Filters).
- IPSec Security Associations (Configuration | Policy Management | Traffic Management | Security Associations).
- Network Lists for filtering and split tunneling (Configuration | Policy Management | Traffic Management | Network Lists).
- User Authentication servers, and specifically the internal authentication server (Configuration | System | Servers | Authentication).

Using the Tabs

This screen includes three tabbed sections. Click each tab to display its parameters. As you move from tab to tab, the Manager retains your settings. When you have finished setting parameters on all tabbed sections, click **Apply** or **Cancel**.

General Parameters Tab

This tab lets you configure general security, access, performance, and protocol parameters that apply to the base group.

Figure 14-2 Configuration / User Management / Base Group Screen, General Tab

Configuration | User Management | Base Group

General | IPSec | Client Config | Client FW | HW Client | PPTP/L2TP

General Parameters

Attribute	Value	Description
Access Hours	-No Restrictions-	Select the access hours for this group.
Simultaneous Logins	3	Enter the number of simultaneous logins for users in this group.
Minimum Password Length	8	Enter the minimum password length for users in this group.
Allow Alphabetic-Only Passwords	☑	Enter whether to allow users with alphabetic-only passwords to be added to this group.
Idle Timeout	30	(minutes) Enter the idle timeout for this group.
Maximum Connect time	0	(minutes) Enter the maximum connect time for this group.
Filter	-None-	Select the filter assigned to this group.
Primary DNS		Enter the IP address of the primary DNS server for this group.
Secondary DNS		Enter the IP address of the secondary DNS server.
Primary WINS		Enter the IP address of the primary WINS server for this group.
Secondary WINS		Enter the IP address of the secondary WINS server.
Tunneling Protocols	☑ PPTP ☑ L2TP ☑ IPSec ☐ L2TP over IPSec	Select the tunneling protocols this group can connect with.
Strip Realm	☐	Check to remove the realm qualifier of the user name during authentication.
DHCP Network Scope		Enter the IP sub-network to which users within this group will be assigned when using the concentrator as a DHCP Proxy.

Apply Cancel

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Access Hours

Click the **Access Hours** drop-down menu button and select the named hours when remote-access users can access the VPN Concentrator. Configure access hours on the Configuration | Policy Management | Access Hours screen. Default entries are:

- -No Restrictions- = No named access hours applied (the default), which means that there are no restrictions on access hours.
- Never = No access at any time.
- Business Hours = Access 9 a.m. to 5 p.m., Monday through Friday.

Additional named access hours that you have configured also appear on the list.

Simultaneous Logins

Enter the number of simultaneous logins permitted for a single internal user. The minimum is 0, which disables login and prevents user access; default is 3. While there is no maximum limit, allowing several could compromise security and affect performance.

ANEXO 16

19.512

Cisco Systems

Product Bulletin No. 1914

Announcing CiscoWorks **VPN/Security Management Solution**, Version 2.1

Cisco Systems announces the availability of the CiscoWorks VPN/Security Management Solution (VMS) 2.1. This suite combines general device management tools for configuring, monitoring, and troubleshooting enterprise networks with powerful security solution for managing virtual private networks (VPNs), firewalls, and network and host-based intrusion detection systems (IDS).

CiscoWorks VPN/Security Management Solution features the following:

- New CiscoWorks Management Centers for:
  - PIX Firewalls and Auto Update Server, version 1.0—Supports large deployments of Cisco PIX Firewalls. Features Smart Rules hierarchy and inheritance and user-defined device and customer groups including nesting.
  - IDS Sensors, version 1.0—Centrally configures multiple network and switch IDS sensors using group security profiles.
  - VPN Routers, version 1.0—Provides centralized multi-device administration for large-scale, site-to-site VPN connections in a hub-and-spoke topology. Allows the configuration and deployment of Internet Key Exchange (IKE) and IP Security (IPSec) tunnel policies.
- Monitoring Center for Security, version 1.0—Captures and stores centralized reports on events and identify attacks that may occur on Cisco Network IDS, Switch IDS, Host IDS, firewalls and routers.
- Cisco IDS Host Sensor and Console, version 2.5— Provides real-time analysis and intervention to network for server-based security intrusion attempts.
- Cisco Secure Policy Manager, version 3.1—Allows security policies to be centrally defined, distributed, and audited for Cisco firewalls and IPSec VPN routers.
- VPN Monitor, version 1.2 —Provides centralized administration of multiple IPSec VPN connections configured for remote-access or site-to-site VPN terminations.
- Resource Manager Essentials, version 3.4—Provides detailed inventory information, device configurations tools, change audit reports and Syslog analysis for notification of VPN and security operational problems.
- CiscoView, version 5.4—Provides browser access to real-time device status, and operational and configuration functions.

Availability

CiscoWorks VPN/Security Management Solution 2.1 and associated minor release update kits will start shipping September 26, 2002. Customers can order these new products through their normal sales channels beginning September 13, 2002.

Existing VPN/Security Management Solution 2.0 customers with current Software Application Support (SAS) contracts can request a VMS 2.1 minor update kit using their contract number at http://www.cisco.com/upgrade beginning September 30, 2002.

Ordering Information

The following table contains part numbers commonly used to order VMS, version 2.1. Some VMS 2.1 components include strong encryption technologies, which are restricted for some types of U.S. export.

Important Notice: Customers interested in deploying VMS 2.1's Management Center for Firewalls, Auto Update Server, or Management Center for IDS Signature files, should downlowd these modules from the following link: http://www.cisco.com/kobayashi/sw-center/cw2000/vms-planner.shtml. These tools were not included in all product shipments, but all VMS 2.1 customers are eligible to access and use them. Cisco's VMS product team is planning several future updates to the security elements in VMS 2.1, so customers are encouraged to check periodically for the latest downloadable updates. Also, some VMS 2.1 components contain strong encryption technology subject to export control by the U.S. Government. Prior to downloading VMS update software, customers are required to provide export related information. Once submitted, the authorizationi process typically takes 30 minutes or next business day approval for requests made outside normal Pacific Standard Time zone business hours.

Table 1 Ordering Information for CiscoWorks VMS 2.1

Part Number	Description
CWVMS-2.1-UR-K9	VMS 2.1 for Win/Sol; Unrestricted Device Usage; 1 server installation license; includes Management Centers for: PIX Firewalls* and Auto Update Server 1.0*, for IDS Sensors 1.0*; for VPN Routers 1.0*; Monitoring Center for Security 1.0*, Cisco IDS Host Sensor and Console 2.5*, CSPM 3.1*, VPN Monitor 1.2, RME 3.4, CiscoView 5.4 (*Indicates Windows-only support)
CWVMS-2.1-WINR-K9	VMS 2.1 for Windows; 20-device Restricted Usage; 1 server installation license; includes Management Centers: for PIX Firewalls and Auto Update Server 1.0: for IDS Sensors 1.0; for VPN Routers 1.0; Monitoring Center for Security 1.0, Cisco IDS Host Sensor and Console 2.5, CSPM 3.1, VPN Monitor 1.2, RME 3.4, CiscoView 5.4
CWVMS-2.1-UPGUR-K9	Upgrade from CSPM 2.x or VMS 1.x to VMS 2.1 for Windows and Solaris; Unrestricted Usage; 1 server installation license
CWVMS-2.1-WUPGR-K9	Upgrade from CSPM 2.x to VMS 2.1 for Windows; 20-device Restricted Usage; 1 server installation license
CWVMS-2.1-URC-K9	Conversion from VMS restricted-license to VMS 2.1 for Windows and Solaris—Unrestricted Device License (adds Solaris versions of CV, RME, VPN Monitor, and an unrestricted license to CSPM for Windows and management and monitoring centers)
CWVMS-2.1-UR-MR-K9	Minor update kit for existing VMS 2.0 Unrestricted Device Usage customers; Includes updates for Windows and Solaris to existing components and includes management and monitoring centers

Table 1 Ordering Information for CiscoWorks VMS 2.1

Part Number	Description
CWVMS-2.1-R-MR-K9	Minor update kit for existing VMS 2.0; 20-device Restricted Usage customers; Includes updates for Windows to existing components and includes management and monitoring centers
CON-SAS-CWVMS-URW	SAS Service for VMS 2.1 for WIN/SOL (Unrestricted Device License); provides TAC support, CCO Software Center access, and minor updates
CON-SAS-CWVMS-R2	SAS Service for VMS 2.1 for Windows (20-device Restricted License); provides TAC support, CCO Software Center access, and minor updates
CON-SAS-CWVMSURC2	SAS Service for VMS 2.1 for customers that convert from a restricted license to an un-restricted license; provides TAC support, CCO Software Center access, and minor updates

Table 2 VMS 2.0 to 2.1 Minor Update Options

Currently Own	Type of previous license	You want	Desired License	Update Kit to Order
VMS 2.0	Restricted	VMS 2.1	Restricted	CWVMS-2.1-R-MR-K9 or SAS customers can request update kits from Cisco's Product Upgrade Tool www.cisco.com/upgrade
VMS 2.0	Unrestricted	VMS 2.1	Unrestricted	CWVMS-2.1-UR-MR-K9 or SAS customers can request update kits from Cisco's Product Upgrade Tool www.cisco.com/upgrade

Table 3 VMS and CSPM Upgrade Options

Currently Own	Type of previous license	You want	Desired License	Upgrade to Order
VMS 1.0	Restricted	VMS 2.1	Restricted	CWVMS-2.1-WUPGR-K9
VMS 1.0	Unrestricted	VMS 2.1	Unrestricted	CWVMS-2.1-UPGUR-K9
CSPM 2.X	Restricted*	VMS 2.1	Restricted*	CWVMS-2.1-WUPGR-K9
CSPM 2.X	Unrestricted	VMS 2.1	Unrestricted	CWVMS-2.1-UPGUR-K9
VMS 2.X	Restricted	VMS 2.1	Unrestricted	CWVMS-2.1-URC-K9
VMS 1.0 or CSPM 2.X	Restricted	VMS 2.1	Unrestricted	CWVMS-2.1-WUPGR-K9 then add CWVMS-2.1-URC-K9

*Also covers upgrades from SEC-POL-MGR-2.3-R.

Existing Products Affected

With the availability of the CiscoWorks VMS, version 2.1, Cisco is announcing the End of Sales (EoS) for the following products. Older versions will continue to have extended support offered for them as indicated below.

Table 4 Product End of Sales Dates

Part Number	Description	End-of-Sales	End-of-Support
CWVMS-2.0-UR-K9	VPN/Security Management Solution 2.0 (Win) (Unrestricted License)	September 30, 2002	September 2005*
CWVMS-2.0-WINR-K9	VMS 2.0 (Win) (10-device Restricted License)	September 30, 2002	September 2005*
CWVMS-2.0-URC-K9	Conversion from VMS 2.0 (10-device Restricted) to Unrestricted	September 30, 2002	September 2005*
CWVMS-2.0-UPGUR-K9	Upgrade from CSPM 2.X (Unrestricted) moving to VMS 2.0 (Unrestricted)	September 30, 2002	September 2005*
CWVMS-2.0-WUPGR-K9	Upgrade from VMS 1.X or CSPM 2.x (Restricted) to VMS 2.0 (10 device)	September 30, 2002	September 2005*

* Note: Support may require customers to move to a higher product version for resolution.

http://www.cisco.com/go/vms/

Product Information

For additional product information refer to:

Additional Information

For additional information or questions, send an e-mail to the product-marketing group at ciscoworks@cisco.com.

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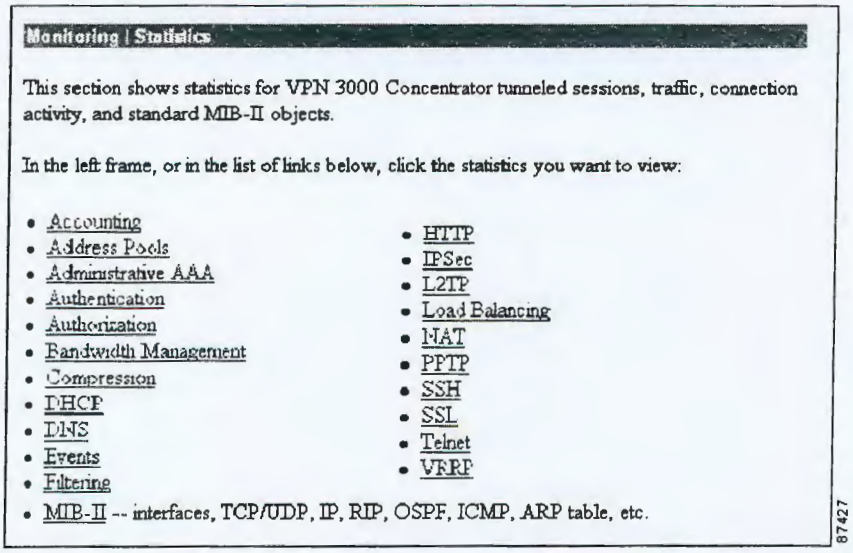
CHAPTER 17

Statistics

Monitoring | Statistics

This section of the Manager shows statistics for traffic and activity on the VPN Concentrator since it was last booted or reset, and for current tunneled sessions, plus statistics in standard MIB-II objects for interfaces, TCP/UDP, IP, ICMP, and the ARP table.

Figure 17-1 Monitoring / Statistics Screen



Statistics include:

- Accounting: total requests, responses, timeouts, etc.
- Address Pools: configured pools, allocated and available addresses.
- Administrative AAA: requests, accepts, rejects, challenges, timeouts, etc.
- Authentication: total requests, accepts, rejects, challenges, timeouts, etc.
- Authorization: total requests, accepts, rejects, challenges, timeouts, etc.
- Bandwidth Management: volume and rate of traffic managed by bandwidth policies.
- Compression: pre and post-compression byte totals for IPComp and MPPC.
- DHCP: leased addresses, duration, server addresses, etc.
- DNS: total requests, responses, timeouts, etc.
- Events: total events sorted by class, number, and count.
- Filtering: total inbound and outbound filtered traffic by interface.
- HTTP: total data traffic and connection statistics.
- IPSec: total Phase 1 and Phase 2 tunnels, received and transmitted packets, failures, drops, etc.
- L2TP: total tunnels, sessions, received and transmitted control and data packets; and detailed current session data.
- Load Balancing: device role; device load; and cluster peers' sessions, IP addresses, priority, etc.
- NAT: Network Address Translation session data.
- PPTP: total tunnels, sessions, received and transmitted control and data packets; and detailed current session data.
- SSH: total and active sessions, bytes and packets sent and received, etc.
- SSL: total sessions, encrypted vs. unencrypted traffic, etc.
- Telnet: total sessions, and current session inbound and outbound traffic.
- VRRP: total advertisements, Master router roles, errors, etc.
- MIB-II Stats: interfaces, TCP/UDP, IP, RIP, OSPF, ICMP, ARP table, Ethernet, and SNMP.

User Management

This chapter provides information about setting up and managing user accounts in Cisco Secure Access Control Server (Cisco Secure ACS) Appliance version 3.2.

Note Settings at the user level override settings configured at the group level.

Before you configure User Setup, you should understand how this section functions. Cisco Secure ACS dynamically builds the User Setup section interface depending on the configuration of your AAA client and the security protocols being used. That is, what you see under User Setup is affected by settings in both the Network Configuration and Interface Configuration sections.

This chapter contains the following sections:

- **User Setup Features and Functions, page 7-2**—An overview of the User Setup section functionality.
- **User Setup Features and Functions, page 7-2**—Information about user databases.
- **Basic User Setup Options, page 7-2**—Information and step-by-step procedures regarding the many basic settings and options that are available when configuring a user account in the Cisco Secure ACS.
- **Advanced User Authentication Settings, page 7-22**—Details on the steps necessary to configure a user account for authentication outside the system using the TACACS+ or RADIUS protocol options.
- **User Management, page 7-55**—Information about viewing, disabling, and resetting user accounts.

User Setup Features and Functions

The User Setup section of the Cisco Secure ACS HTML interface is the centralized location for all operations regarding user account configuration and administration.

From within the User Setup section, you can perform the following tasks:

- View a list of all users in the CiscoSecure user database.
- Find a user.
- Add a user.
- Assign the user to a group, including Voice-over-IP (VoIP) Groups.
- Edit user account information.
- Establish or change user authentication type.
- Configure callback information for the user.
- Set network access restrictions (NARs) for the user.
- Configure Advanced Settings.
- Set the maximum number of concurrent sessions (Max Sessions) for the user.
- Disable or re-enable the user account.
- Delete the user.

Basic User Setup Options

This section presents the basic activities you perform when configuring a new user. At its most basic level, configuring a new user requires only three steps, as follows:

- Specify a name.
- Specify either a method for remote password authentication or, for authentication via the CiscoSecure user database, a password.
- Submit the information.

For detailed procedural information, see Adding a Basic User Account, page 7-4.

What other procedures you perform when setting up new user accounts is a function both of the complexity of your network and of the granularity of control you desire. The other basic procedures detailed in this section include the following:

- Setting Supplementary User Information, page 7-5
- Setting a Separate CHAP/MS-CHAP/ARAP Password, page 7-6
- Assigning a User to a Group, page 7-7
- Setting User Callback Option, page 7-8
- Assigning a User to a Client IP Address, page 7-10
- Setting Network Access Restrictions for a User, page 7-11
- Setting Max Sessions Options for a User, page 7-16
- Setting User Usage Quotas Options, page 7-18
- Setting Options for User Account Disablement, page 7-20
- Assigning a Downloadable IP ACL to a User, page 7-21

Beyond these basic user setup options, there are also procedures for configuring a user account for authentication via TACACS+ and RADIUS; these procedures are located in Advanced User Authentication Settings, page 7-22.

Note The steps for editing user account settings are essentially identical to those used when adding a user account but, to edit, you navigate directly to the field or fields to be changed. You cannot edit the name associated with a user account; to change a username you must delete the user account and establish another.

Bear in mind two things when setting up new user accounts:

- You must have configured a AAA client or external database to assign a user to.
- You must enable most options from within the Interface Configuration section so they appear in User Setup.

CHAPTER 16

Sessions

Monitoring | Sessions

The following screen shows comprehensive data for all active user and administrator sessions on the VPN Concentrator.

Figure 16-1 Monitoring | Sessions Screen

Monitoring | Sessions — Friday, 24 May 2002 16:48:41

Reset | Refresh

This screen shows statistics for sessions. To refresh the statistics, click **Refresh**. Select a **Group** to filter the sessions. For more information on a session, click on that session's name.

Group: -All-

Session Summary

Active LAN-to-LAN Sessions	Active Remote Access Sessions	Active Management Sessions	Total Active Sessions	Peak Concurrent Sessions	Concurrent Sessions Limit	Total Cumulative Sessions
0	0	1	1	1	100	19

LAN-to-LAN Sessions [Remote Access Sessions | Management Sessions]

Connection Name	IP Address	Protocol	Encryption	Login Time	Duration	Bytes Tx	Bytes Rx
No LAN-to-LAN Sessions							

Remote Access Sessions [LAN-to-LAN Sessions | Management Sessions]

Username	Assigned IP Address / Public IP Address	Group	Protocol / Encryption	Login Time / Duration	Client Type / Version	Bytes Tx / Bytes Rx
No Remote Access Sessions						

Management Sessions [LAN-to-LAN Sessions | Remote Access Sessions]

Administrator	IP Address	Protocol	Encryption	Login Time	Duration
admin	10.10.98.11	HTTP	None	May 24 16:48:32	0:00:08

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Reset

To reset, or start anew, the screen contents, click **Reset**. The system temporarily resets a counter for the chosen statistics without affecting the operation of the device. You can then view statistical information without affecting the actual current values of the counters or other management sessions. The function is like that of a vehicle's trip odometer, versus the regular odometer.

Restore

To restore the screen contents to their actual statistical values, click **Restore**. This icon displays only if you previously clicked the Reset icon.

Refresh

To update the screen and its data, click **Refresh**. The date and time indicate when the screen was last updated.

Group

Choose a group from the menu to monitor sessions for that group only. The default value is --All--, which displays sessions for all groups.

Session Summary Table

This table shows summary totals for LAN-to-LAN, remote access, and management sessions.

A session is a VPN tunnel established with a specific peer. In most cases, one user connection = one tunnel = one session. However, one IPSec LAN-to-LAN tunnel counts as one session, but it allows many host-to-host connections through the tunnel.

Active LAN-to-LAN Sessions

The number of IPSec LAN-to-LAN sessions that are currently active.

Active Remote Access Sessions

The number of PPTP, L2TP, IPSec remote-access user, L2TP over IPSec, and IPSec through NAT sessions that are currently active.

Active Management Sessions

The number of administrator management sessions that are currently active.

Total Active Sessions

The total number of sessions of all types that are currently active.

Peak Concurrent Sessions

The highest number of sessions of all types that were concurrently active since the VPN Concentrator was last booted or reset.

Concurrent Sessions Limit

The maximum number of concurrently active sessions permitted on this VPN Concentrator. This number is model-dependent, for example, model 3060 = 5000 sessions.

Total Cumulative Sessions

The total cumulative number of sessions of all types since the VPN Concentrator was last booted or reset.

LAN-to-LAN Sessions Table

This table shows parameters and statistics for all active IPSec LAN-to-LAN sessions, initially sorted alphanumerically by connection name. Each session here identifies only the outer LAN-to-LAN connection or tunnel, not individual host-to-host sessions within the tunnel.

[Remote Access Sessions | Management Sessions]

Click these active links to go to the other session tables on this Manager screen.

Connection Name

The name of the IPSec LAN-to-LAN connection.

To display detailed parameters and statistics for this connection, click this name. See the Monitoring | Sessions | Detail screen.

IP Address

The IP address of the remote peer VPN Concentrator or other secure gateway that initiated this LAN-to-LAN connection.

Protocol, Encryption, Login Time, Duration, Bytes Tx, Bytes Rx

See Table 16-1 for definitions of these parameters.

Remote Access Sessions Table

This table shows parameters and statistics for all active remote-access sessions. Each session is a single-user connection from a remote client to the VPN Concentrator. Remote-access sessions include PPTP, L2TP, IPSec remote-access user, L2TP over IPSec, and IPSec through NAT sessions.

Click a column header in this table to sort the table entries in ascending alphanumeric order, using that column as the sort key field.

[LAN-to-LAN Sessions | Management Sessions]

Click these active links to go to the other session tables on this Manager screen.

Username

The username or login name for the session. The field shows `Authenticating...` if the remote-access client is still negotiating authentication. If the client is using a digital certificate for authentication, the field shows the Subject CN or Subject OU from the certificate.

To display detailed parameters and statistics for this session, click this name. See the Monitoring | Sessions | Detail screen.

Public IP Address

The public IP address of the client for this remote-access session. This is also known as the "outer" IP address. It is typically assigned to the client by the ISP, and it lets the client function as a host on the public network.

Assigned IP Address

The private IP address assigned to the remote client for this session. This is also known as the "inner" or "virtual" IP address, and it lets the client appear to be a host on the private network.

Group

The group name of the client for this remote-access session. Clicking the column head for Group sorts the table entries in ascending alphanumeric order and also sorts the usernames within each group in ascending alphanumeric order.

Client Type and Operating System

The client type of connected clients, and, when available, the associated operating system, sorted by username. For example:

Client Type	Operating System
VPN 3000 Hardware Client	VPN3002
Windows NT client	Windows NT 4.0, Windows 2000, and Windows XP
Windows 98 client	Windows 98
Windows 95client	Windows 95

Version

The software version number (for example, rel. 3.6,_int 50) for connected clients, sorted by username.

Protocol, Encryption, Login Time, Duration, Bytes Tx, Bytes Rx

See Table 16-1 for definitions of these parameters.

Management Sessions Table

This table shows parameters and statistics for all active administrator management sessions on the VPN Concentrator.

[LAN-to-LAN Sessions | Remote Access Sessions]

Click these active links to go to the other session tables on this Manager screen.

Administrator

The administrator username or login name for the session.

Address

The IP address of the manager workstation that is accessing the system. Local indicates a direct connection through the Console port on the system.

Protocol, Encryption, Login Time, Duration, Bytes Tx, Bytes Rx

See Table 16-1 for definitions of these parameters.

Table 16-1 Parameter definitions for Monitoring | Sessions Screen

Parameter	Definition
Protocol	The protocol this session is using. `Console` indicates a direct connection through the Console port on the system. See Monitoring | Sessions | Protocols for a graphical representation of sessions by protocol.
Encryption	The data encryption algorithm this session is using, if any. See Monitoring | Sessions | Encryption for a graphical representation of sessions by encryption algorithm used.
Login Time	The date and time (`MMM DD HH:MM:SS`) that the session logged in. Time is displayed in 24-hour notation.
Duration	The elapsed time (`HH:MM:SS`) between the session login time and the last screen refresh.
Bytes Tx	The total number of bytes transmitted to the remote peer or client by the VPN Concentrator.
Bytes Rx	The total number of bytes received from the remote peer or client by the VPN Concentrator.

Monitoring | Sessions | Detail

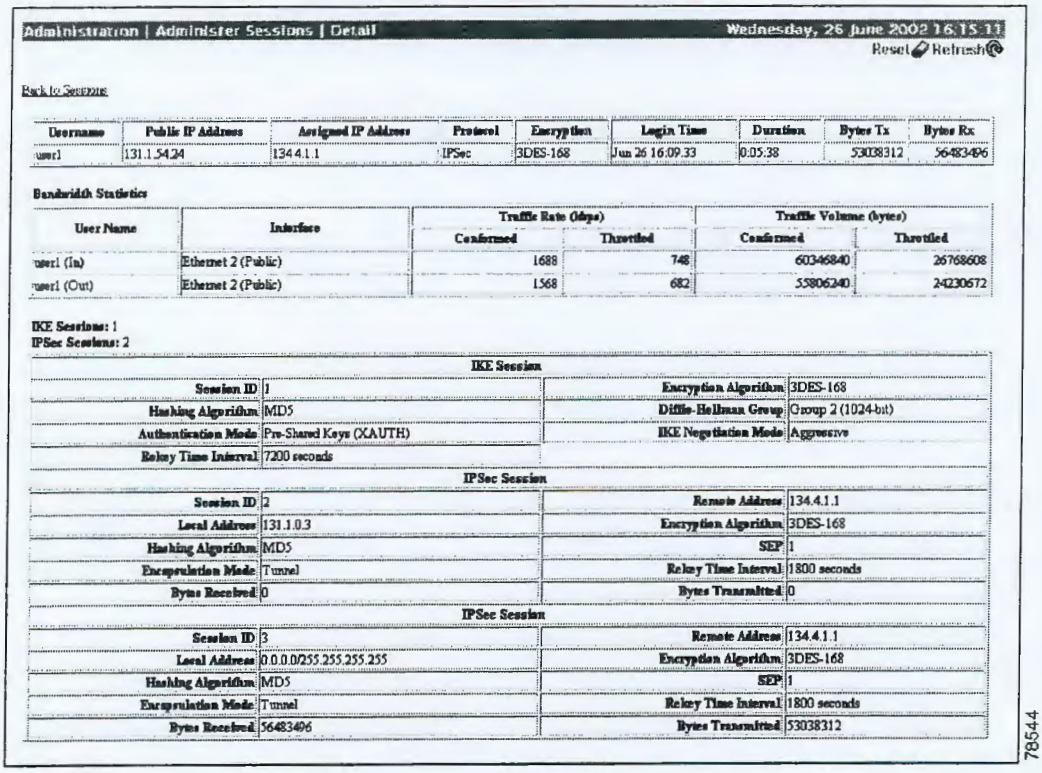
These Manager screens show detailed parameters and statistics for a specific remote-access or LAN-to-LAN session. The parameters and statistics differ depending on the session protocol. There are unique screens for:

- IPSec LAN-to-LAN (IPSec/LAN-to-LAN)
- IPSec remote access (IPSec User)
- IPSec through UDP (IPSec/UDP)
- IPSec through TCP (IPSec/TCP)
- L2TP
- L2TP over IPSec (L2TP/IPSec)
- PPTP

The Manager displays the appropriate screen when you click a highlighted connection name or username on the Monitoring | Sessions screen. Figure Figure 16-2 shows an example of one kind of detail screen. Depending on the type of connection you select, your detail screen might look somewhat different from the example shown. But, each session detail screen shows three tables: summary data, bandwidth management information, and detail data. The summary data echoes the session data from the Monitoring | Sessions screen. The Bandwidth Statistics table shows information about the effect of policing on that session. The session detail table shows all the relevant parameters for each session and subsession.

See Table 16-2 for definitions of the possible session detail parameters, in alphabetical order.

Figure 16-2 Example of a Monitoring | Sessions | Detail Screen



Administration | Administer Sessions | Detail — Wednesday, 26 June 2002 16:15:11

Reset Refresh

Back to Sessions

Username	Public IP Address	Assigned IP Address	Protocol	Encryption	Login Time	Duration	Bytes Tx	Bytes Rx
user1	131.1.54.24	134.4.1.1	IPSec	3DES-168	Jun 26 16:09:33	0:05:38	53038312	56483496

Bandwidth Statistics

User Name	Interface	Traffic Rate (bps)		Traffic Volume (bytes)	
		Conformed	Throttled	Conformed	Throttled
user1 (In)	Ethernet 2 (Public)	1688	748	60346840	26768608
user1 (Out)	Ethernet 2 (Public)	1568	682	55806240	24230672

IKE Sessions: 1
IPSec Sessions: 2

IKE Session			
Session ID	1	Encryption Algorithm	3DES-168
Hashing Algorithm	MD5	Diffie-Hellman Group	Group 2 (1024-bit)
Authentication Mode	Pre-Shared Keys (XAUTH)	IKE Negotiation Mode	Aggressive
Rekey Time Interval	7200 seconds		

IPSec Session			
Session ID	2	Remote Address	134.4.1.1
Local Address	131.1.0.3	Encryption Algorithm	3DES-168
Hashing Algorithm	MD5	SEP	1
Encapsulation Mode	Tunnel	Rekey Time Interval	1800 seconds
Bytes Received	0	Bytes Transmitted	0

IPSec Session			
Session ID	3	Remote Address	134.4.1.1
Local Address	0.0.0.0/255.255.255.255	Encryption Algorithm	3DES-168
Hashing Algorithm	MD5	SEP	1
Encapsulation Mode	Tunnel	Rekey Time Interval	1800 seconds
Bytes Received	56483496	Bytes Transmitted	53038312

78544

Refresh

To update the screen and its data, click **Refresh**. The date and time indicate when the screen was last updated.

ıck to Sessions

To return to the Monitoring | Sessions screen, click **Back to Sessions**.

Monitoring | Sessions | Detail Parameters

Table 16-2 Parameter Definitions for Monitoring / Sessions / Detail Screens

Parameter	Definition
Assigned IP Address	The private IP address assigned to the remote client for this session. This is also known as the "inner" or "virtual" IP address, and it lets the client appear to be a host on the private network.
Authentication Mode	The protocol or mode used to authenticate this session.
Bytes Rx Bytes Received	The total number of bytes received from the remote peer or client by the VPN Concentrator.
Bytes Tx Bytes Transmitted	The total number of bytes transmitted to the remote peer or client by the VPN Concentrator.
Compression	The data compression algorithm this session is using. LZS is the data compression algorithm used by IPComp. MPPC uses LZ.
Connection Name	The name of the IPSec LAN-to-LAN connection.
Diffie-Hellman Group	The algorithm and key size used to generate IPSec SA encryption keys.
Duration	The elapsed time (HH:MM:SS) between the session login time and the last screen refresh.
Dynamic Filter	RADIUS user filter applied to this session.
Dynamic Rules	The rules that make up the dynamic filter. For the syntax of these rules, see Dynamic Filters, page 13-3.
Encapsulation Mode	The mode for applying IPSec ESP (Encapsulation Security Payload protocol) encryption and authentication, in other words, what part of the original IP packet has ESP applied.
Encryption Encryption Algorithm	The data encryption algorithm this session is using, if any.
Hashing Algorithm	The algorithm used to create a hash of the packet, which is used for IPSec data authentication.
Idle Time	The elapsed time (HH:MM:SS) between the last communication activity on this session and the last screen refresh.
IKE Negotiation Mode	The IKE (IPSec Phase 1) mode for exchanging key information and setting up SAs: Aggressive or Main.
IKE Sessions	The total number of IKE (IPSec Phase 1) sessions; usually 1. These sessions establish the tunnel for IPSec traffic.
IP Address	The IP address of the remote peer VPN Concentrator or other secure gateway that initiated the IPSec LAN-to-LAN connection.
IPSec Sessions	The total number of IPSec (Phase 2) sessions, which are data traffic sessions through the tunnel. Each IPSec remote-access session may have two IPSec sessions: one showing the tunnel endpoints, and one showing the private networks reachable through the tunnel.
L2TP Sessions	The total number of user sessions through this L2TP or L2TP / IPSec tunnel; usually 1.

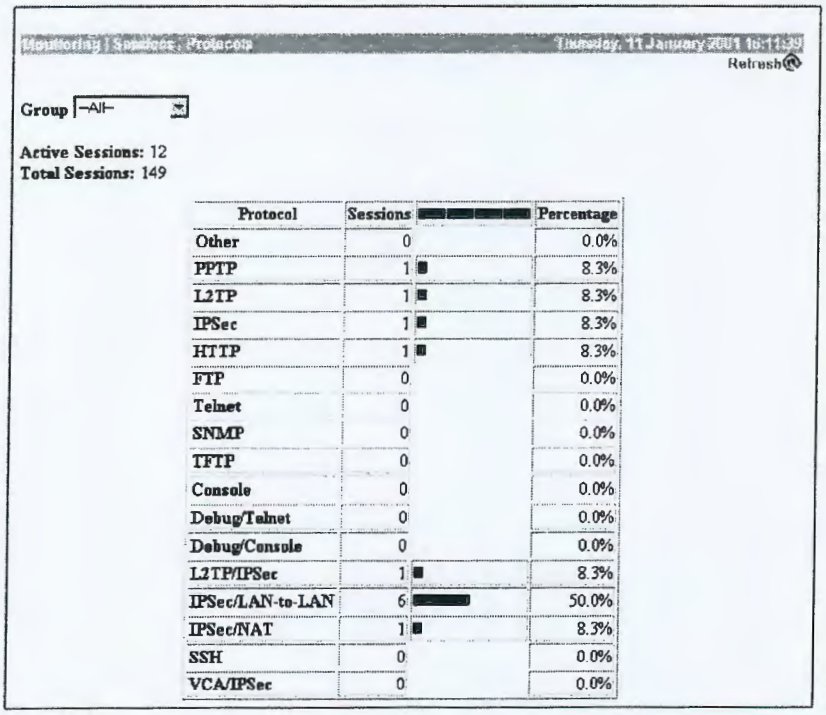
Table 16-2 Parameter Definitions for Monitoring / Sessions / Detail Screens (continued)

Parameter	Definition
Local Address	The IP address (and wildcard mask) of the destination host (or network) for this session.
Login Time	The date and time (MMM DD HH:MM:SS) that the session logged in. Time is displayed in 24-hour notation.
Perfect Forward Secrecy Group	The Diffie-Hellman algorithm and key size used to generate IPSec SA encryption keys using Perfect Forward Secrecy.
PFS Group	The Perfect Forward Secrecy group: 1, 2, 3, 4, or 7.
PPTP Sessions:	The total number of user sessions through this PPTP tunnel; usually 1.
Protocol	The tunneling protocol that this session is using.
Public IP Address	The public IP address of the client for this remote-access session. This is also known as the "outer" IP address. It is typically assigned to the client by the ISP, and it lets the client function as a host on the public network.
Rekey Data Interval	The lifetime in kilobytes of the IPSec (IKE) SA encryption keys.
Rekey Time Interval	The lifetime in seconds of the IPSec (IKE) SA encryption keys.
Remote Address	The IP address (and wildcard mask) of the remote peer (or network) that initiated this session.
SEP	The Scalable Encryption Module that is handling cryptographic processing for this session.
Session ID	An identifier for session components (subsessions) on this screen. With IPSec, there is one identifier for each SA.
UDP Port	The UDP port number used in an IPSec through NAT connection.
Username	The username or login name for the session. If the client is using a digital certificate for authentication, the field shows the Subject CN or Subject OU from the certificate.

Monitoring | Sessions | Protocols

This screen graphically displays the protocols used by currently active user and administrator sessions on the VPN Concentrator.

Figure 16-3 Monitoring | Sessions | Protocols Screen



Refresh

To update the screen and its data, click **Refresh**. The date and time indicate when the screen was last updated.

Group

Choose a group from the menu to show protocols used by currently active users in that group only. The default value is --All--, which displays protocols for users in all groups.

Active Sessions

The number of currently active sessions.

Total Sessions

The total number of sessions since the VPN Concentrator was last booted or reset.

Protocol

The protocol that the session is using:

- Other = Protocol other than those listed here.
- PPTP = Point-to-Point Tunneling Protocol.
- L2TP = Layer 2 Tunneling Protocol.
- IPSec = Internet Protocol Security tunneling protocol (remote-access users).
- HTTP = Hypertext Transfer Protocol (web browser).
- FTP = File Transfer Protocol.
- Telnet = Terminal emulation protocol.
- SNMP = Simple Network Management Protocol.
- TFTP = Trivial File Transfer Protocol.
- Console = Directly connected console; no protocol.
- Debug/Telnet = Debugging via Telnet (for Cisco use only).
- Debug/Console = Debugging via console (for Cisco use only).
- L2TP/IPSec = L2TP over IPSec.
- IPSec/LAN-to-LAN = IPSec LAN-to-LAN connection.
- IPSec/UDP = IPSec through NAT (Network Address Translation) via UDP.
- SSH = Secure SHell protocol.
- VCA/IPSec = Virtual Cluster Agent via IPSec. (For Cisco use only.)
- IPSec/TCP = IPSec through NAT (Network Address Translation) via TCP.
- IPSec/NAT-T = IPSec over NAT Traversal.
- IPSec/LAN-to-LAN/NAT-T = IPSec LAN-to-LAN connection over NAT Traversal.
- L2TP/IPSec/NAT-T = L2TP/IPSec connection over NAT Traversal.

Sessions

The number of active sessions using this protocol. The sum of this column equals the total number of Active Sessions shown above.

Bar Graph

The percentage of sessions using this protocol relative to the total active sessions, as a horizontal bar graph. Each segment of the bar in the column heading represents 25 percent.

Percentage

The percentage of sessions using this protocol relative to the total active sessions, as a number. The sum of this column equals 100 percent (rounded).

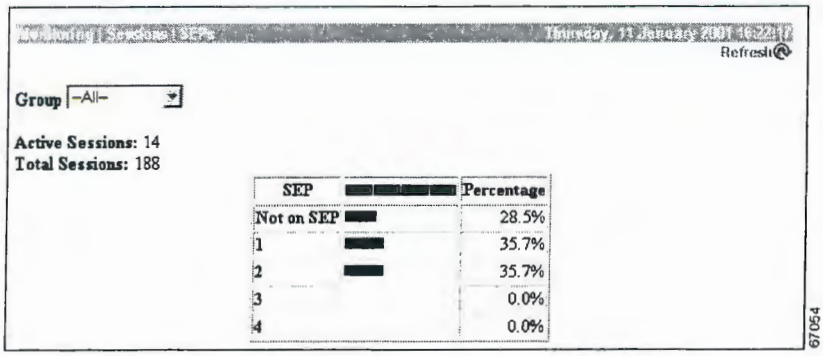
Gr

Monitoring | Sessions | SEPs

Note This screen appears on models 3015–3080 only.

This screen graphically displays the SEP (Scalable Encryption Processing) or SEP-E (Enhanced SEP) modules used by currently active user and administrator sessions on the VPN Concentrator. SEP modules perform data encryption functions in hardware.

Figure 16-4 Monitoring / Sessions / SEPs Screen



Refresh

To update the screen and its data, click **Refresh**. The date and time indicate when the screen was last updated.

Group

Choose a group from the menu to display SEP modules for that group only. The default value is --All--, which displays SEP modules for all groups.

Active Sessions

The number of currently active sessions.

Total Sessions

The total number of sessions since the VPN Concentrator was last booted or reset.

SEP

The SEP module that the sessions are using.

- Not on SEP = using software encryption, or not using encryption.
- 1, 2, 3, 4 = SEP module 1, 2, 3, and 4, respectively.

Sessions

The number of active sessions using this SEP module. The sum of this column equals the total number of Active Sessions shown above.

Bar Graph

The percentage of sessions using this SEP module relative to the total active sessions, as a horizontal bar graph. Each segment of the bar in the column heading represents 25 percent.

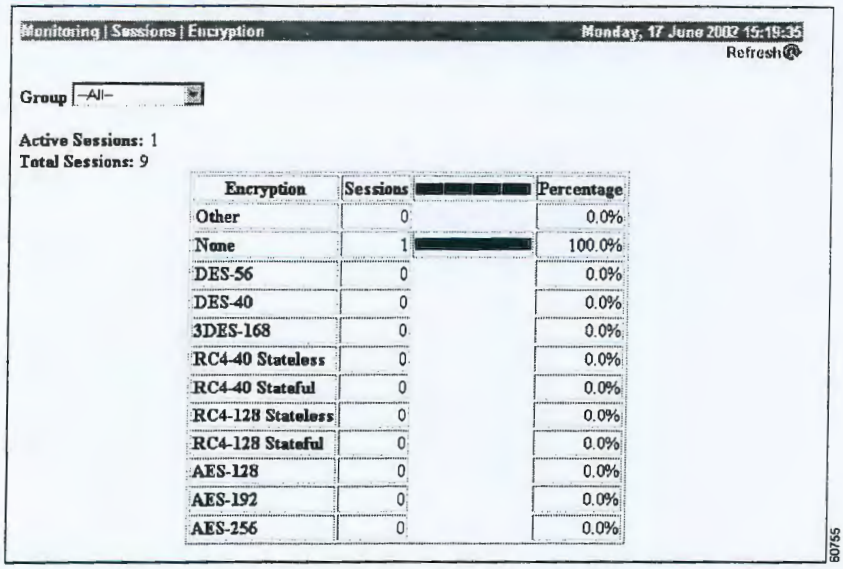
Percentage

The percentage of sessions using this SEP module relative to the total active sessions, as a number. The sum of this column equals 100 percent (rounded).

Monitoring | Sessions | Encryption

This screen graphically displays the data encryption algorithms used by currently active user and administrator sessions on the VPN Concentrator.

Figure 16-5 Monitoring | Sessions | Encryption Screen



Refresh

To update the screen and its data, click **Refresh**. The date and time indicate when the screen was last updated.

Group

Choose a group from the menu to monitor data encryption algorithms used by currently active users in that group only. The default value is --All--, which displays data encryption algorithms for all groups.

Active Sessions

The number of currently active sessions.

Total Sessions

The total number of sessions since the VPN Concentrator was last booted or reset.

Encryption

The data encryption algorithm that the sessions are using:

- Other = other than listed below.
- None = no data encryption.
- DES-56 = Data Encryption Standard algorithm with a 56-bit key.
- DES-40 = DES encryption with a 56-bit key, 40 bits of which are private.
- 3DES-168 = Triple-DES encryption with a 168-bit key.
- RC4-40 Stateless = RSA RC4 encryption with a 40-bit key, and with keys changed on every packet.
- RC4-40 Stateful = RSA RC4 encryption with a 40-bit key, and with keys changed after some number of packets or whenever a packet is lost.
- RC4-128 Stateless = RSA RC4 encryption with a 128-bit key, and with keys changed on every packet.
- RC4-128 Stateful = RSA RC4 encryption with a 128-bit key, and with keys changed after some number of packets or whenever a packet is lost.
- AES-128 = Advanced Encryption Standard (AES) encryption with a 128-bit key.
- AES-192 = AES encryption with a 192-bit key.
- AES-256 = AES encryption with a 256-bit key.

Sessions

The number of active sessions using this encryption algorithm. The sum of this column equals the total number of Active Sessions shown above.

Bar Graph

The percentage of sessions using this encryption algorithm relative to the total active sessions, as a horizontal bar graph. Each segment of the bar in the column heading represents 25 percent.

Percentage

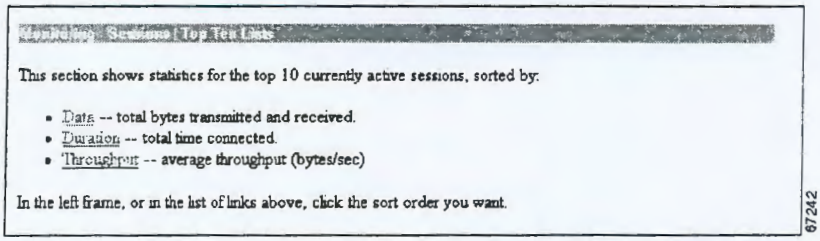
The percentage of sessions using this encryption algorithm relative to the total active sessions, as a number. The sum of this column equals 100 percent (rounded).

Monitoring | Sessions | Top Ten Lists

This section of the Manager shows statistics for the top 10 currently active VPN Concentrator sessions, sorted by:

- Data: total bytes transmitted and received.
- Duration: total time connected.
- Throughput: average throughput (bytes/sec).

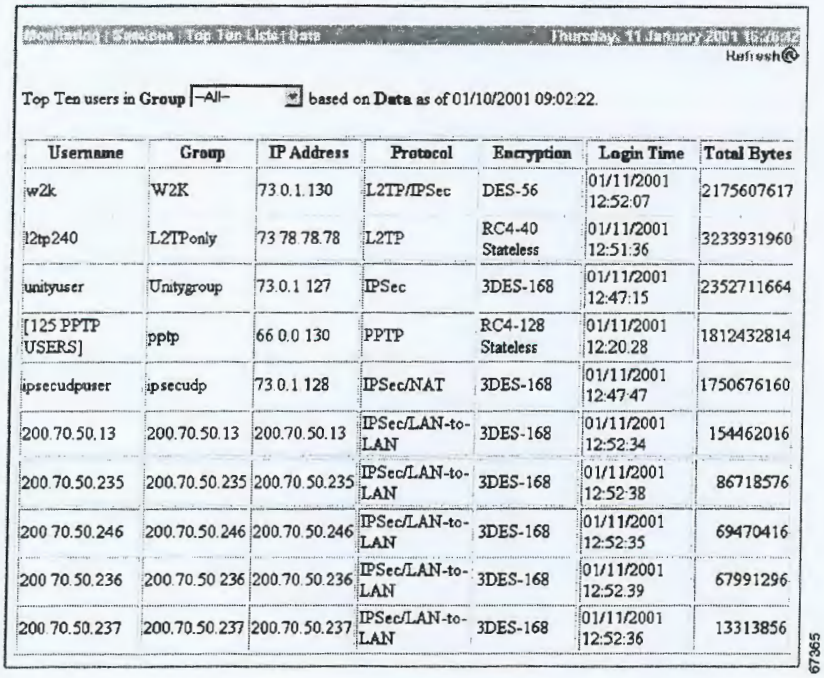
Figure 16-6 Monitoring / Sessions / Top Ten Lists Screen



Monitoring | Sessions | Top Ten Lists | Data

This screen shows statistics for the top 10 currently active VPN Concentrator sessions, sorted by data, total bytes transmitted and received.

Figure 16-7 Monitoring | Sessions | Top Ten Lists | Data Screen



Username	Group	IP Address	Protocol	Encryption	Login Time	Total Bytes
w2k	W2K	73.0.1.130	L2TP/IPSec	DES-56	01/11/2001 12:52:07	2175607617
l2tp240	L2TPonly	73.78.78.78	L2TP	RC4-40 Stateless	01/11/2001 12:51:36	3233931960
unityuser	Unitygroup	73.0.1.127	IPSec	3DES-168	01/11/2001 12:47:15	2352711664
[125 PPTP USERS]	pptp	66.0.0.130	PPTP	RC4-128 Stateless	01/11/2001 12:20.28	1812432814
ipsecudpuser	ipsecudp	73.0.1.128	IPSec/NAT	3DES-168	01/11/2001 12:47:47	1750676160
200.70.50.13	200.70.50.13	200.70.50.13	IPSec/LAN-to-LAN	3DES-168	01/11/2001 12:52:34	154462016
200.70.50.235	200.70.50.235	200.70.50.235	IPSec/LAN-to-LAN	3DES-168	01/11/2001 12:52:38	86718576
200.70.50.246	200.70.50.246	200.70.50.246	IPSec/LAN-to-LAN	3DES-168	01/11/2001 12:52:35	69470416
200.70.50.236	200.70.50.236	200.70.50.236	IPSec/LAN-to-LAN	3DES-168	01/11/2001 12:52.39	67991296
200.70.50.237	200.70.50.237	200.70.50.237	IPSec/LAN-to-LAN	3DES-168	01/11/2001 12:52:36	13313856

Refresh

To update the screen and its data, click **Refresh**. The date and time indicate when the screen was last updated.

Group

Choose a group from the menu to show session statistics for that group only. The default value is --All--, which displays session statistics for all groups.

Username

The login username for the session.

Group

The user's group.

IP Address

The IP address of the session user. This is the address assigned to or supplied by a remote user, or the host address of a networked user. Local identifies the console directly connected to the VPN Concentrator.

Protocol

The protocol that the session is using:

- Console = Directly connected console; no protocol.
- Debug/Console = Debugging via console (for Cisco use only).
- Debug/Telnet = Debugging via Telnet (for Cisco use only).
- FTP = File Transfer Protocol.
- HTTP = Hypertext Transfer Protocol (web browser).
- IPSec = Internet Protocol Security tunneling protocol (remote-access user).
- IPSec/LAN-to-LAN = IPSec LAN-to-LAN connection.
- IPSec/NAT = IPSec through NAT (Network Address Translation).
- L2TP = Layer 2 Tunneling Protocol.
- L2TP/IPSec = L2TP over IPSec.
- Other = Protocol other than those listed here.
- PPTP = Point-to-Point Tunneling Protocol.
- SNMP = Simple Network Management Protocol.
- Telnet = Terminal emulation protocol.
- TFTP = Trivial File Transfer Protocol.

Encryption

The data encryption algorithm that the session is using:

- None = No data encryption.
- DES-40 = Data Encryption Standard algorithm with a 56-bit key, 40 bits of which are private.
- DES-56 = DES encryption with a 56-bit key.
- 3DES-168 = Triple-DES encryption with a 168-bit key.
- RC4-40 Stateless = RSA RC4 encryption with a 40-bit key, and with keys changed on every packet.
- RC4-40 Stateful = RSA RC4 encryption with a 40-bit key, and with keys changed after some number of packets or whenever a packet is lost.
- RC4-128 Stateless = RSA RC4 encryption with a 128-bit key, and with keys changed on every packet.
- RC4-128 Stateful = RSA RC4 encryption with a 128-bit key, and with keys changed after some number of packets or whenever a packet is lost.
- AES-128 = Advanced Encryption Standard (AES) encryption with a 128-bit key.
- AES-192 = AES encryption with a 192-bit key.
- AES-256 = AES encryption with a 256-bit key.

Login Time

The date and time that this session logged in: MM/DD/YYYY HH:MM:SS. Time is in 24-hour notation.

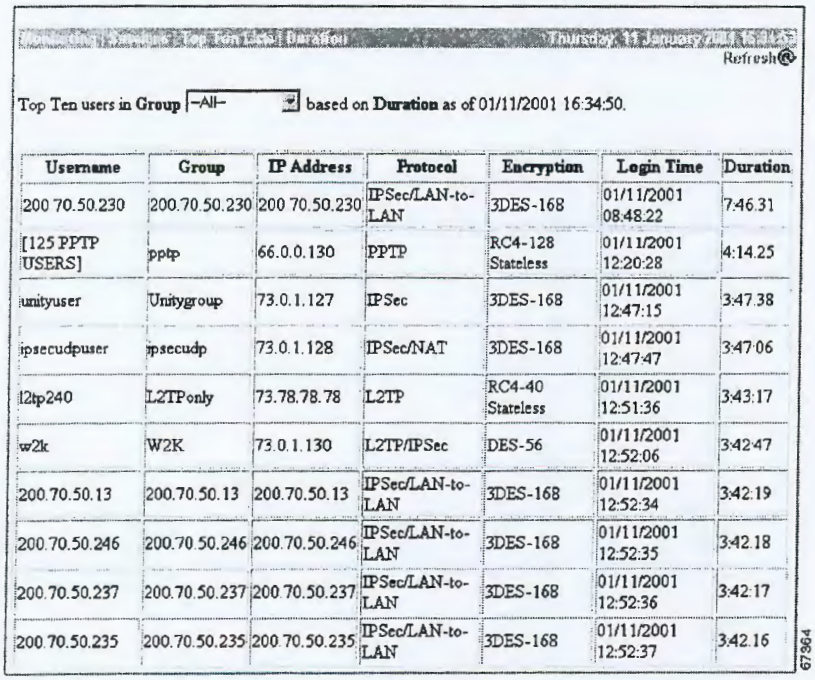
Total Bytes

The total number of bytes transmitted and received by this session. N/A = the session is not passing data, in other words, it is an administrator session.

Monitoring | Sessions | Top Ten Lists | Duration

This screen shows statistics for the top 10 currently active VPN Concentrator sessions, sorted by duration: total time connected.

Figure 16-8 Monitoring / Sessions / Top Ten Lists / Duration Screen



Username	Group	IP Address	Protocol	Encryption	Login Time	Duration
200.70.50.230	200.70.50.230	200.70.50.230	IPSec/LAN-to-LAN	3DES-168	01/11/2001 08:48:22	7:46.31
[125 PPTP USERS]	pptp	66.0.0.130	PPTP	RC4-128 Stateless	01/11/2001 12:20:28	4:14.25
unityuser	Unitygroup	73.0.1.127	IPSec	3DES-168	01/11/2001 12:47:15	3:47.38
ipsecudpuser	ipsecudp	73.0.1.128	IPSec/NAT	3DES-168	01/11/2001 12:47:47	3:47.06
l2tp240	L2TPonly	73.78.78.78	L2TP	RC4-40 Stateless	01/11/2001 12:51:36	3:43.17
w2k	W2K	73.0.1.130	L2TP/IPSec	DES-56	01/11/2001 12:52:06	3:42.47
200.70.50.13	200.70.50.13	200.70.50.13	IPSec/LAN-to-LAN	3DES-168	01/11/2001 12:52:34	3:42.19
200.70.50.246	200.70.50.246	200.70.50.246	IPSec/LAN-to-LAN	3DES-168	01/11/2001 12:52:35	3:42.18
200.70.50.237	200.70.50.237	200.70.50.237	IPSec/LAN-to-LAN	3DES-168	01/11/2001 12:52:36	3:42.17
200.70.50.235	200.70.50.235	200.70.50.235	IPSec/LAN-to-LAN	3DES-168	01/11/2001 12:52:37	3:42.16

Refresh

To update the screen and its data, click **Refresh**. The date and time indicate when the screen was last updated.

Group

Choose a group from the menu to show session statistics for that group only. The default value is --All--, which displays session statistics for all groups.

Username

The login username for the session.

Group

The user's group.

IP Address

The IP address of the session user. This is the address assigned to or supplied by a remote user, or the host address of a networked user. Local identifies the console directly connected to the VPN Concentrator.

Protocol

The protocol that the session is using:

- Console = Directly connected console; no protocol.
- Debug/Console = Debugging via console (for Cisco use only).
- Debug/Telnet = Debugging via Telnet (for Cisco use only).
- FTP = File Transfer Protocol.
- HTTP = Hypertext Transfer Protocol (web browser).
- IPSec = Internet Protocol Security tunneling protocol (remote-access user).
- IPSec/LAN-to-LAN = IPSec LAN-to-LAN connection.
- IPSec/NAT = IPSec through NAT (Network Address Translation).
- L2TP = Layer 2 Tunneling Protocol.
- L2TP/IPSec = L2TP over IPSec.
- Other = Protocol other than those listed here.
- PPTP = Point-to-Point Tunneling Protocol.
- SNMP = Simple Network Management Protocol.
- Telnet = Terminal emulation protocol.
- TFTP = Trivial File Transfer Protocol.

Encryption

The data encryption algorithm that the session is using.

- None = no data encryption.
- DES-40 = Data Encryption Standard algorithm with a 56-bit key, 40 bits of which are private.
- DES-56 = DES encryption with a 56-bit key.
- 3DES-168 = Triple-DES encryption with a 168-bit key.
- RC4-40 Stateless = RSA RC4 encryption with a 40-bit key, and with keys changed on every packet.
- RC4-40 Stateful = RSA RC4 encryption with a 40-bit key, and with keys changed after some number of packets or whenever a packet is lost.
- RC4-128 Stateless = RSA RC4 encryption with a 128-bit key, and with keys changed on every packet.
- RC4-128 Stateful = RSA RC4 encryption with a 128-bit key, and with keys changed after some number of packets or whenever a packet is lost.
- AES-128 = Advanced Encryption Standard (AES) encryption with a 128-bit key.
- AES-192 = AES encryption with a 192-bit key.
- AES-256 = AES encryption with a 256-bit key.

Login Time

The date and time that this session logged in: MM/DD/YYYY HH:MM:SS. Time is in 24-hour notation.

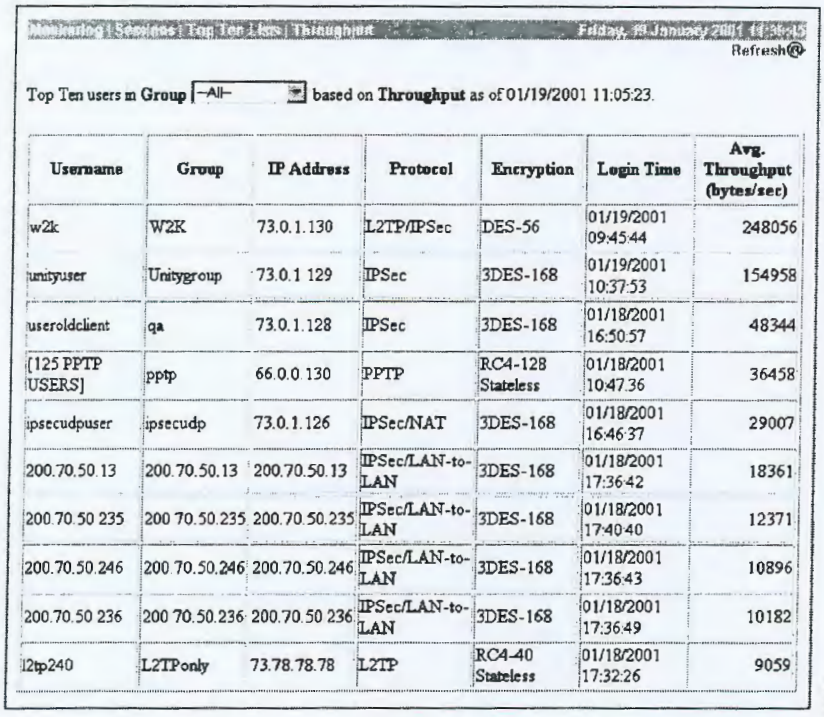
Duration

The total amount of time that this session has been connected: HH:MM:SS.

Monitoring | Sessions | Top Ten Lists | Throughput

This screen shows statistics for the top 10 currently active VPN Concentrator sessions, sorted by average throughput (bytes/sec).

Figure 16-9 Monitoring / Sessions / Top Ten Lists / Throughput Screen



Username	Group	IP Address	Protocol	Encryption	Login Time	Avg. Throughput (bytes/sec)
w2k	W2K	73.0.1.130	L2TP/IPSec	DES-56	01/19/2001 09:45:44	248056
unityuser	Unitygroup	73.0.1.129	IPSec	3DES-168	01/19/2001 10:37:53	154958
useroldclient	qa	73.0.1.128	IPSec	3DES-168	01/18/2001 16:50:57	48344
[125 PPTP USERS]	pptp	66.0.0.130	PPTP	RC4-128 Stateless	01/18/2001 10:47:36	36458
ipsecudpuser	ipsecudp	73.0.1.126	IPSec/NAT	3DES-168	01/18/2001 16:46:37	29007
200.70.50.13	200.70.50.13	200.70.50.13	IPSec/LAN-to-LAN	3DES-168	01/18/2001 17:36:42	18361
200.70.50.235	200.70.50.235	200.70.50.235	IPSec/LAN-to-LAN	3DES-168	01/18/2001 17:40:40	12371
200.70.50.246	200.70.50.246	200.70.50.246	IPSec/LAN-to-LAN	3DES-168	01/18/2001 17:36:43	10896
200.70.50.236	200.70.50.236	200.70.50.236	IPSec/LAN-to-LAN	3DES-168	01/18/2001 17:36:49	10182
l2tp240	L2TPonly	73.78.78.78	L2TP	RC4-40 Stateless	01/18/2001 17:32:26	9059

Refresh

To update the screen and its data, click **Refresh**. The date and time indicate when the screen was last updated.

Group

Choose a group from the menu to show session statistics for that group only. The default value is --All--, which displays session statistics for all groups.

Username

The login username for the session.

Group

The user's group.

IP Address

The IP address of the session user. This is the address assigned to or supplied by a remote user, or the host address of a networked user. Local identifies the console directly connected to the VPN Concentrator.

Protocol

The protocol that the session is using:

- Console = Directly connected console; no protocol.
- Debug/Console = Debugging via console (for Cisco use only).
- Debug/Telnet = Debugging via Telnet (for Cisco use only).
- FTP = File Transfer Protocol.
- HTTP = Hypertext Transfer Protocol (web browser).
- IPSec = Internet Protocol Security tunneling protocol (remote-access user).
- IPSec/LAN-to-LAN = IPSec LAN-to-LAN connection.
- IPSec/NAT = IPSec through NAT (Network Address Translation).
- L2TP = Layer 2 Tunneling Protocol.
- L2TP/IPSec = L2TP over IPSec.
- Other = Protocol other than those listed here.
- PPTP = Point-to-Point Tunneling Protocol.
- SNMP = Simple Network Management Protocol.
- Telnet = Terminal emulation protocol.
- TFTP = Trivial File Transfer Protocol.

Encryption

The data encryption algorithm that the session is using.

- None = No data encryption.
- DES-40 = Data Encryption Standard algorithm with a 56-bit key, 40 bits of which are private.
- DES-56 = DES encryption with a 56-bit key.
- 3DES-168 = Triple-DES encryption with a 168-bit key.
- RC4-40 Stateless = RSA RC4 encryption with a 40-bit key, and with keys changed on every packet.
- RC4-40 Stateful = RSA RC4 encryption with a 40-bit key, and with keys changed after some number of packets or whenever a packet is lost.
- RC4-128 Stateless = RSA RC4 encryption with a 128-bit key, and with keys changed on every packet.
- RC4-128 Stateful = RSA RC4 encryption with a 128-bit key, and with keys changed after some number of packets or whenever a packet is lost.
- AES-128 = Advanced Encryption Standard (AES) encryption with a 128-bit key.
- AES-192 = AES encryption with a 192-bit key.
- AES-256 = AES encryption with a 256-bit key.

Login Time

The date and time that this session logged in: MM/DD/YYYY HH:MM:SS. Time is in 24-hour notation.

Avg. Throughput (bytes/sec)

The average throughput of the session, which is [total bytes transmitted and received] divided by total connect time. N/A = the session is not passing data, in other words, it is an administrator session.

Product Overview

VPN Monitor provides a web-based interface for monitoring and troubleshooting enterprise Virtual Private Networks (VPNs).

This chapter contains:

- System Requirements
- Supported Devices

System Requirements

This section contains:

- Server Requirements
  - Windows
  - Solaris
- Client Requirements

Server Requirements

VPN Monitor is a component of the VPN/Security Management Solution (VMS) bundle. The VMS bundle is the integration of CiscoWorks2000 CD One, CD Two, VPN Monitor, and other individual products. For information about all of the products in the VMS bundle, see *CiscoWorks2000 VPN/Security Management Solution Quick Start Guide*. The server requirements are based on the entire VMS bundle.

The VMS bundle products can be installed on:

- Windows
- Solaris

Windows

Table 1-1 shows server requirements for Windows 2000 and Windows NT systems. The server requirements are based on the entire VMS bundle.

Table 1-1 Server Requirements for Windows 2000 and Windows NT

Hardware	• IBM PC-compatible computer with 550 MHz or faster Pentium processor • Color monitor with video card capable of 256 colors or more • CD-ROM drive • 10BaseT or faster (10 Mbps or faster network connection)
Memory (RAM)	• 1 GB minimum
Available disk drive space	• 9 GB minimum • 2 GB virtual memory • NTFS file system recommended

Table 1-1 Server Requirements for Windows 2000 and Windows NT (cont'd)

Software for Windows 2000	• ODBC Driver Manager 3.510 or later • One of the following: – Windows 2000 Professional – Windows 2000 Server – Windows 2000 Advanced Server • Service Pack 2
Software for Windows NT	• One of the following: – Windows NT Workstation 4.0 – Windows NT Server 4.0 • Service Pack 6a

Note The download and installation programs for these required Windows software packages are sensitive to your system configuration and are subject to change by Microsoft at any time. Therefore, it is not possible to provide step-by-step procedures. Installation information is provided in the Windows installation documentation for the prerequisite products.

Solaris

Table 1-2 shows server requirements for Solaris systems. Server requirements are based on the entire VMS bundle.

Table 1-2 Server Requirements for Solaris

Hardware	• Sun Ultra 60 or later with 440 MHz or faster processor (dual processor required for hosting multiple management solutions) • Color monitor with video card capable of 256 colors or more • CD-ROM drive • 10BaseT or faster (10 Mbps or faster network connection)
Memory	• 1 GB minimum
Available disk drive space	• 9 GB on the partition on which you install the CDs (the default is /opt) • 2 GB swap space
Software	• Solaris 2.6 • Solaris 2.7 See Table 1-3 for a list of required and recommended Solaris patches.

Solaris Patches

Table 1-3 lists the required and recommended patches for Solaris 2.6 and 2.7.

Table 1-3 Solaris Patches

Operating System	Required	Recommended
Solaris 2.6	• 105181-19 Kernel Update Patch • 105210-27 Libaio, Libc, and Watchmalloc Patch • 105490-07 (or 107733-01) Linker Patch • 105568-16 /usr/lib/libthread.so.1.Patch • 105591-06 Shared Library Patch for C++ • 105633-36 Xsun Patch (Asian only) • 106040-13 X Input and Output Method Patch (Japanese only) • 106409-01 Traditional Chinese True Type Fonts Patch • 108091-03 ISO8859-01 Locales Patch	• 105284-31 Runtime Library Patch • 105669-10 LibdtSvc Patch
Solaris 2.7	• 106327-05 Shared Library Patch for C++ • 106980-10 Libthread Patch • 107636-03 X Input and Output Method Patch • 107081-11 Motif 1.2.7 and 2.1.1: Runtime Library Patch • 108376-03 (1) Open Windows 3.6.1 Xsun Patch	

Client Requirements

All product features can be accessed from a client according to the hardware and software requirements in Table 1-4 by using the web browsers noted in Table 1-5.

Table 1-4 Hardware and Software Requirements

Hardware/software	One of the following: • IBM PC-compatible computer with 300 MHz or faster Pentium processor running one of the following: – Windows 98 – Windows NT 4.0 Workstation or Server with Service Pack 6a – Windows 2000 Server or Professional edition with Service Pack 2 • Solaris SPARCstation or Sun Ultra 10 with 333 MHz processor running Solaris 2.6 or Solaris 2.7
Available disk drive space	One of the following: • 400 MB virtual memory (for Windows) • 512 MB swap space (for Solaris)
Available memory	256 MB minimum

Table 1-5 Browser Requirements

Browser	JVM[1]	Version	Platform
Internet Explorer (recommended)	5.0.3186 or later	5.5 with Service Pack 2	Windows 2000, Windows NT 4.0, Windows 98, Solaris 2.6, and Solaris 2.7
Navigator	—	4.75 or later	Windows 2000, Windows NT 4.0, Windows 98, Solaris 2.6, and Solaris 2.7

1. JVM=Java Virtual Machine

Supported Devices

VPN Monitor supports the following devices:

- Cisco VPN 3000 Concentrators running the 2.5.2f image or later
- Cisco 7100 and 7200 series routers running Cisco IOS release 12.1(5a)E or later
- Cisco 1700, 2600, and 3600 series routers running Cisco IOS release 12.2(4)T or later

Customizing the VPN Client Software

This chapter explains how to replace the Cisco Systems brand with your own organization's brand. When you install and launch the VPN Client software, you see your own organization name, program name, and application names on menus, windows, dialogs, and icons.

For the Windows platform, it also explains how to set up the software so that your users can install it automatically without being prompted. This feature is called *silent install*.

To customize the VPN Client software, you create your own distribution image combining the following elements, which this chapter describes.

For all platforms, you can customize the following:

- Cisco Systems image that you receive on the Cisco Systems software distribution CD.
- Your own portable network graphics (PNG) (Table 5-2) and icon files to replace the Cisco Systems brand.
- A vpnclient.ini file for configuring the VPN Client software globally (see Chapter 2, "Preconfiguring the VPN Client for Remote Users").
- Individual profile (.pcf) files for each connection entry (see Chapter 2, "Preconfiguring the VPN Client for Remote Users").

For the Windows platform, you can also customize the following:

- An oem.ini file that you create. Cisco supplies a sample oem.ini file that you can use as a template and customize.
- setup.bmp—a bitmap file that displays on the first InstallShield® window when you install the VPN Client. (InstallShield only)

These elements should all be in the same directory and folder. Because some of the files may be too large to distribute the oem software on diskettes, we recommend that you make a CD ROM distribution image.

Customizing the VPN Client GUI for Windows

This section describes how to customize the VPN Client GUI for the Windows platform. To customize the GUI for the Mac OS X platform, see Customizing the VPN Client GUI for Mac OS X, page 5-18.

Customizing the VPN Client occurs when the VPN Client and installation program see a text file called oem.ini on your distribution image. The oem.ini file is patterned after Microsoft standard initialization files. You create the oem.ini file and supply your own text, PNG files, and icon files. When present, the oem.ini, PNG, and icon files are read when you first start the VPN Client. Since the VPN Client software reads these files when it first starts, the changes to them take effect only *after* you restart the VPN Client application.

This chapter contains the following sections:

- Areas Affected by Customizing the VPN Client
- Creating the oem.ini File
- Installing the VPN Client Without User Interaction
- Customizing the VPN Client Using an MSI Transform

Areas Affected by Customizing the VPN Client

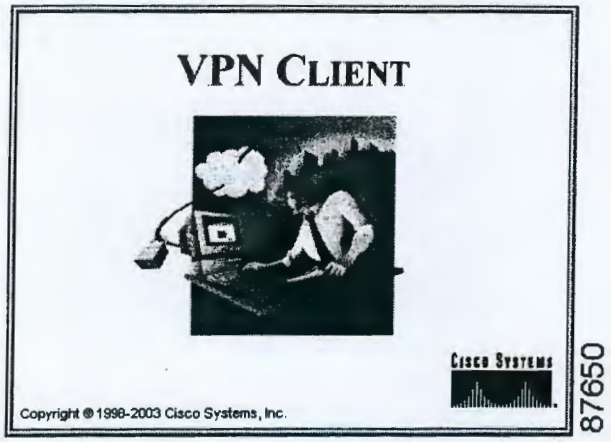
Customizing replaces the following screen text, bitmaps, and icons.

- Brand names on dialog boxes
- Product names on dialog boxes
- Organization logo on all dialog boxes
- Graphic at the left end of the title bar
- Icons on the system tray (at the bottom right of the screen) and the desktop (shortcut)

Installation Bitmap

The InstallShield uses a bitmap when installing the VPN Client software: the setup bitmap (setup.bmp). Figure 5-1 shows the setup bitmap that displays as the first screen during installation via InstallShield.

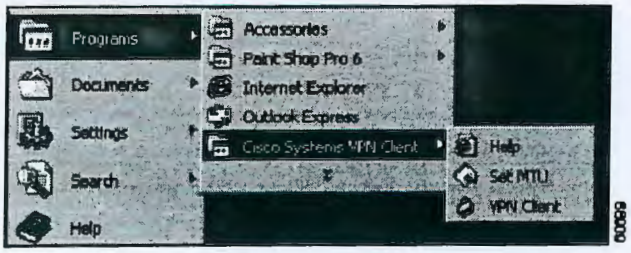
Figure 5-1 Setup Bitmap



Program Menu Titles and Text

After installation, your organization or company, product, and application names appear in the Cisco Systems VPN Client applications menu. (See Figure 5-2.)

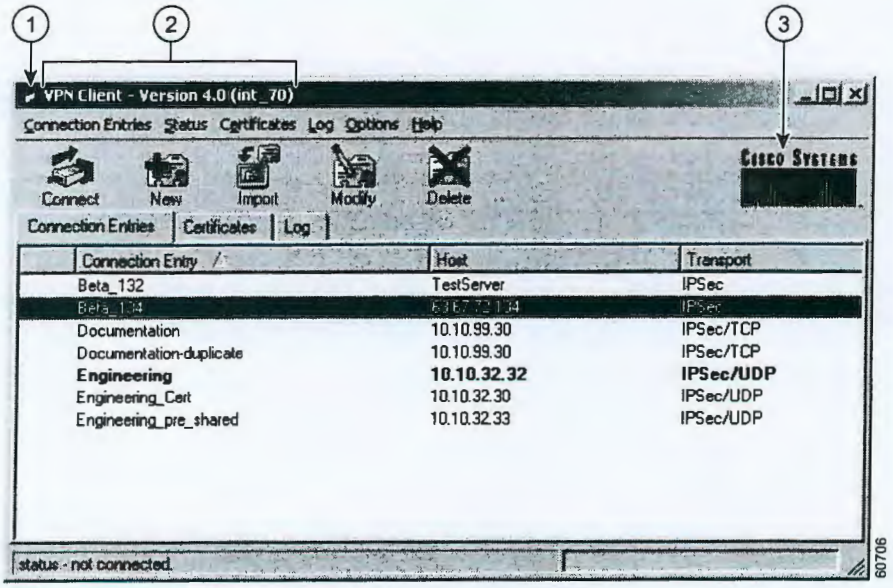
Figure 5-2 Applications menu



VPN Client

Figure 5-3 shows a lock image (title_bar.png), window title (AppNameText in the oem.ini file), and organization logo (logo.png file). The oem.ini file can replace the window title, the image at the left end of the title bar, and the organization or company logo in the VPN Client software. It can replace the open lock and closed lock icons in the system tray (see Figure 5-4 and Figure 5-5).

Figure 5-3 Three Types of Branding Changes



1	Title bar lock image (title_bar.png)	3	Organization logo (logo.png)
2	Window title (oem.ini file)		

Figure 5-4 Closed Lock Icon on System Tray (connected.ico)

Figure 5-5 Open Lock Icon on the System Tray (unconnected.ico)

Setup Bitmap—setup.bmp

The InstallShield version of VPN Client includes a bitmap on the distribution CD that is not in the oem.ini file: `setup.bmp`. You can substitute your own image for this .bmp file, as long as you keep the current filename (setup.bmp) and make sure that the file is in the same directory and folder as the oem.ini file. This file displays a logo on the window when you start the InstallShield installation program. The size of the Cisco Systems setup bitmap is 330x330 pixels and it uses 256 colors.

Creating the oem.ini File

Your distribution CD must contain the oem.ini file for customizing. The oem.ini file contains the locations and names of bitmaps, icons, window titles, and screen text needed for customizing, all of which need to be in the same directory. When you install or start the VPN Client, the software checks to see if there is an oem.ini file. If so, the software scans it for bitmaps, icons, and text. If the oem.ini file lacks an element (for example, text for the product name), then the software uses whatever you have specified in the default section of the file. If no oem.ini file exists, the software defaults to Cisco Systems bitmaps, icons, and text.

Use Notepad or another ASCII text editor to create the oem.ini file and enter brand text and the names of your bitmap and icon files. See Table 5-1.

Note You can edit the oem.ini file that Cisco Systems supplies.

The format of the oem.ini file is the same as a standard Windows `ini` file:

- Use a semicolon (;) to begin a comment.
- Set values by entering `keyword=value`.
- If you don't specify a value for a keyword, the application uses the default.
- Keywords are not case-sensitive, but using upper and lowercase makes them more readable.

Sample oem.ini File

```
; This is a sample oem.ini file that you can use to overwrite Cisco Systems
; brand name on windows, bitmaps, and icons with your organization's brand
; name.
;
; This file has five sections: [Main],[Brand], [Default], [Dialer], and [SetMTU]
; Each section has keywords designating parts of the interface that the file replaces.
;
; The [Main] section determines whether kerberos uses TCP or UDP (the default).

[Main]
DisableKerberosOverTCP = 1

; The [Brand] section controls window titles during installation and in the
; destination folder for the product and applications.
;
[Brand]
CompanyText = Wonderland University
ProductText = Wonderland Client

;
; The [Default] section establishes the default bitmap and icon to use if
```

```
; assignments are left blank. This section also sets up silent installation.
; Silent mode installation proceeds without user intervention.
;
[Default]
SilentMode = 1
InstallPath = C:\Program Files\Wonderland University\Wonderland Client
DefGroup = Wonderland Client
Reboot = 1
;
; The [Dialer] section controls the text and icons for the dialer software.
; AppNameText appears on the application selection menu. DialerBitMap
; appears on connection windows. AllowSBLLaunches controls whether a remote user can
; launch an application before connecting and logging on to a Windows NT platform.
;
[Dialer]
MainIcon=is_install.ico
AppNameText = Wonderland Dialer
AllowSBLLaunches = 0
;
; The [Set MTU] section controls the text and icon for the
; Set MTU applications. AppNameText appears on the application
; selection menu and the title screen. MainIcon appears on the window title.
; bar.
;
[Set MTU]
AppNameText = MTU Setter Application
MainIcon = MtuIcon.ico
AutoSetMtu = 1
SetMtuValue = 1300
MTUAdjustmentOverride = 144
```

oem.ini File Keywords and Values

Table 5-1 describes each part of the oem.ini file.

Table 5-1 oem.ini File Parameters

Keyword	Description	Value
[Main]	Optional field that identifies a section of the OEM.ini file to address special circumstances.	Keep exactly as shown.
DisableKerberosOverTCP=	InstallShield only When installing the VPN Client on Windows, the installation program sets a registry value that forces windows to use Kerberos over TCP instead of UDP, the default. Some NAT devices, such as Linksys, do not support out-of-order IP fragments, which breaks Kerberos. With TCP, fragmentation is not required.	After the keyword and equal sign, enter either 1 or 0. 0 = keep the default, which is to force Kerberos to use TCP. 1 = prevent Kerberos from using TCP.
[Brand]	Required field that identifies the branding text that appears on window titles and descriptions throughout the client application.	Keep exactly as shown, as the branding section of the file.
CompanyText=	Identifies the name of your organization. If not present, the default is "Cisco Systems."	After the keyword and equal sign, enter the organization's name. The name can contain spaces and is not case sensitive.

Table 5-1 oem.ini File Parameters (continued)

Keyword	Description	Value
`ProductText=`	Identifies the name of the application. If not present, the default is "VPN Client."	After the keyword and equal sign, enter the product name. The name can contain spaces and is not case sensitive.
`[Default]`	Required field that identifies the section that contains names of default bitmap and icon to use if values are blank.	Enter exactly as shown, as the default section of the file.
`SilentMode=`	InstallShield only Specifies whether to activate silent installation.	After the keyword and equal sign, enter either 0 or 1. 1 activates silent installation: 0 = prompt the user during installation. 1= do not prompt the user during installation.
`InstallPath=`	InstallShield only Identifies the directory into which to install the client software.	After the keyword and equal sign, enter the name of the directory in the suggested format: *`root:\programs\company\product`*
`DefGroup=`	InstallShield only Identifies the name of the folder to contain the client software.	After the keyword and equal sign, enter the name of the destination folder in the suggested format: *`foldername`*
`Reboot=`	InstallShield only Specifies whether to restart the system after the silent installation. If SilentMode is on (1) and Reboot is 1, the system automatically reboots after installation finishes.	After the keyword and equal sign, enter 0, 1, or 2: 0 = display the reboot dialog. 1 (and SilentMode = 1) = automatically reboot the system when installation finishes. 2 (and SilentMode = 1) = do not reboot after installation finishes.
`[Dialer]`	Required field that identifies the section that contains the name of the Dialer application, the bitmap to use on the connections window, and the connection icons.	Enter exactly as shown, as the Dialer section of the file.
`AppNameText=`	Identifies the name of the dialer application.	After the keyword and equal sign, enter the name of the dialer application. The name can contain spaces and is not case sensitive.
`MainIcon=`	This is used only by InstallShield for shortcuts to the vpngui.exe.	After the keyword and equal sign, enter the name of the icon file.
`AllowSBLLaunches`	InstallShield only Specifies whether a VPN Client user is allowed to launch a third party application before logging on to a Windows NT platform.	After the keyword and equal sign, enter 1 to enable or 0 to disable this feature. The default is 0 (to disable). (See Note after table.)
`[Set Mtu]`	Required field that identifies the section that contains the name of the Set MTU application, the name of the Set MTU icon, and other settings.	Enter exactly as shown; identifies the Set MTU section of the file.

Table 5-1 oem.ini File Parameters (continued)

Keyword	Description	Value
`AppNameText=`	Identifies the name of the Set MTU application.	After the keyword and equal sign, enter the name you want to give to this application. The name can contain spaces and is not case sensitive.
`MainIcon=`	Identifies the icon for the Set MTU title bar, About window, and applications menu. There are two sizes used: dimensions are 32x32 and 16x16 pixels; 256 colors.	After the keyword and equal sign, enter the name of the icon (.ico) file for this icon.
`AutoSetMtu=`	InstallShield only Identifies whether to automatically set the MTU for all adaptors during installation using SetMTUValue.	After the keyword and equal sign, enter a value 0 or 1: 0 = do not set MTU; do not launch. 1 = set MTU and silently launch during installation. This is the default
`SetMTUValue=`	InstallShield only Identifies the value to be used for all adapters bound to TCP/IP	After the keyword and equal sign, enter a value between 64 and 1500, inclusive. The default = 1300.
`MTUAdjustOverride=`	InstallShield only; Windows NT-based only. Identifies the DNE MtuAdjustment parameter. This value identifies the amount the NIC's MTU is reduced.	After the keyword and equal sign, set to a value between 0 and 1300, inclusive. To use the SetMTU application to set the MTU for the TCP/IP protocol, set this parameter to 0.

Note When AllowSBLLaunches is 0, "Allow launching of third party applications before logon" under Windows Logon Properties is unavailable. There might be cases when you need to launch an application before starting your connection, for example, to authenticate your access credentials. In this case you can use the following procedure:
In the VPN Dialer program, choose **Options > Windows Logon Properties**.
Uncheck **Disconnect VPN connection when logging off**.
Log out.
Log in with cached credentials.
Make your VPN Dialer connection.
Log out.
Log in again while already connected.

Table 5-2 lists the GUI image (portable network graphic) files that the VPN Client uses. If you want to replace any of them with your own image files, you must name your image files exactly as shown in the list; otherwise, the VPN Client GUI does not recognize them.

Table 5-2 Portable Network Graphic Files

PNG File	Description
splash_screen.png	Splash screen that appears for 2 to 5 seconds when the GUI starts. This screen contains a logo, product name and version, and copyright information.
title_bar.png	Image at the left end of the title bar
connected.png	Image next to connection entry when connection is active
logo.png	Organization logo for simple and advanced mode main dialogs
password_logo.png	Organization logo for password dialog (XAuth), group name and password)
profile_logo.png	Organization logo for new/modify profile dialog
status_down_arrow.png	Down arrow on the status bar of advanced mode, used to change the status bar display
cancel.png	Cancel button on advanced mode connection entries toolbar
connect_pressed.png	Connect button pressed on advanced mode connection entries toolbar
disconnect.png	Disconnect button on advanced mode connection entries toolbar
disconnect_pressed.png	Disconnect button pressed on advanced mode connection entries toolbar
new_profile.png	New button on advanced mode connection entries toolbar
new_profile_pressed.png	New button pressed on advanced mode connection entries toolbar
import_profile.png	Import button on advanced mode connection entries toolbar
import_profile_pressed.png	Import button pressed on advanced mode connection entries toolbar
modify_profile.png	Modify button on advanced mode connection entries toolbar
modify_profile_pressed.png	Modify button pressed on advanced mode connection entries toolbar
delete_profile.png	Delete button on advanced mode connection entries toolbar
delete_profile_pressed.png	Delete button pressed on advanced mode view certificates toolbar
import_certificate.png	Import button on advanced mode view certificates toolbar
import_certificate_pressed.png	Import button pressed on advanced mode view certificates toolbar
export_certificate.png	Export button on advanced mode view certificates toolbar
export_certificate_pressed.png	Export button pressed on advanced mode view certificates toolbar
delete_certificate.png	Delete button on advanced mode view certificates toolbar
delete_certificate_pressed.png	Delete button pressed on advanced mode view certificates toolbar
enroll_certificate.png	Enroll button on advanced mode view certificates toolbar
enroll_certificate_pressed.png	Enroll button pressed on advanced mode view certificates toolbar
verify_certificate.png	Verify button on advanced mode view certificates toolbar
verify_certificate_pressed.png	Verify button pressed on advanced mode view certificates toolbar
show_certificate.png	Show button on advanced mode view certificates toolbar

Table 5-2 Portable Network Graphic Files (continued)

PNG File	Description
show_certificate_pressed.png	Show button pressed on advanced mode view certificates toolbar
enable_log.png	Enable button on advanced mode connection entries toolbar
enable_log_pressed.png	Enable button pressed on advanced mode view log toolbar
disable_log.png	Disable button on advanced mode view log toolbar
disable_log_pressed.png	Disable button pressed on advanced mode view log toolbar
clear_log.png	Clear button on advanced mode view log toolbar
clear_log_pressed.png	Clear button pressed on advanced mode view log toolbar
options_log.png	Options button on advanced mode view log toolbar
options_log_pressed.png	Options button pressed on advanced mode view log toolbar
show_log.png	Show button on advanced mode view log toolbar
show_log_pressed.png	Show button pressed on advanced mode view log toolbar
arrow_up.png	Up Arrow button in Backup Servers tab of the new/modify profile dialog
arrow_down.png	Down Arrow button in Backup Servers tab of the new/modify profile dialog

You can also replace the following icon files (as long as your icon files have these same names):

- connected.ico—the tray icon when connected (also in resource file for vpngui.exe icon)
- unconnected.ico—the tray icon when not connected
- disconnecting.ico—the tray icon when disconnecting

Customizing the VPN Client Using an MSI Transform

This section describes how to customize VPN Client installation using a transform for the MSI. To customize the applications, you need *both* a transform and an oem.ini file.

Caution Do not modify the MSI file. To customize MSI, use a transform. Failure to follow recommended procedure will limit the level of support you can expect from Cisco.

Creating the Transform

To create the transform, you edit the vpnclient_en.msi file. You can create the transform with any commercially available MSI installation package, such as Wise or InstallShield. The procedure in this section uses the Microsoft ORCA editor available from the Microsoft Windows Installer SDK. The version used here is from Microsoft Platform SDK November 2001. So before you begin, make sure that ORCA is installed on your system. If you need information on transforms and ORCA, refer to the ORCA documentation.

Here is the procedure:

Step 1 Start ORCA.

Step 2 Select **File > Open** and enter **vpnclient_en.msi**.

Step 3 Select **Transform > Apply Transform** and select **oem.mst**, the transform template.

To customize oem.mst, you modify some of the information you see in the tables. The parts to modify have green change bars on the left side of the row. Figure 5-6 shows a partial oem.mst file.

Figure 5-6 Editing the Tables in a Transform File

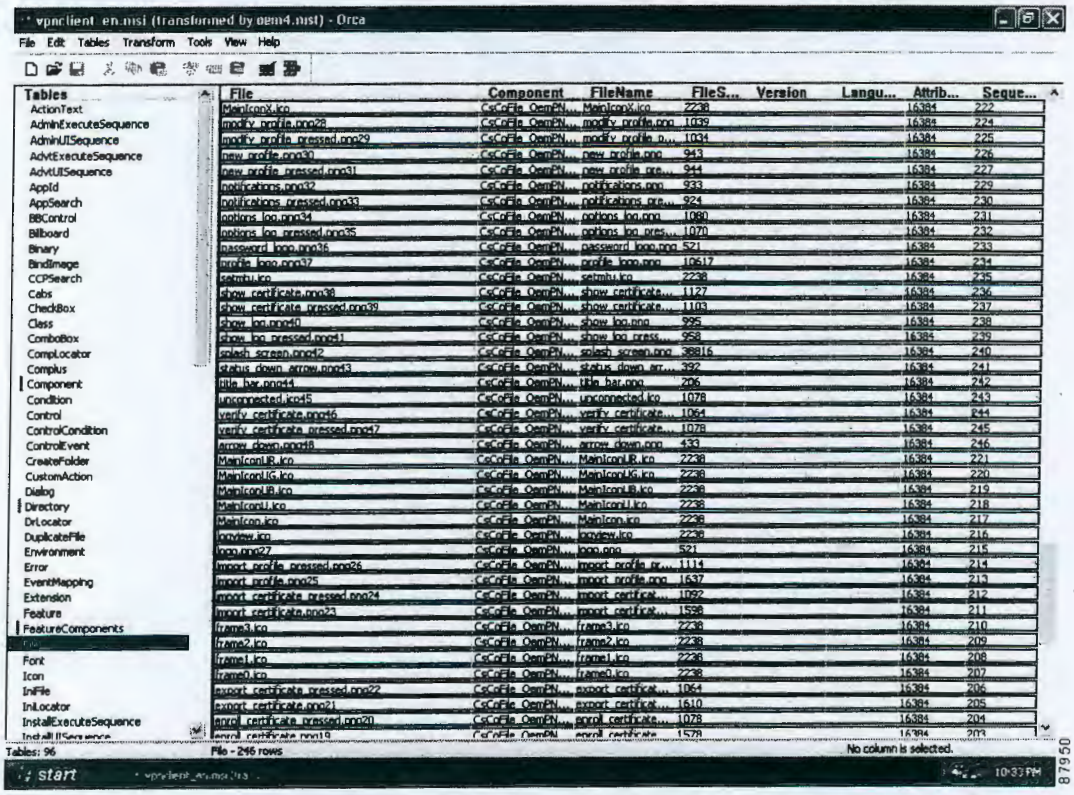


Table 5-3 outlines the changes to make in the tables in the oem.mst file. The columns in the table are defined as follows:

- Table Name—the name of the table to edit
- Changes Needed—a list of the changes to make to the table
- Install Requirement—the entries that modify the installation software
- Client Requirement—the entries that modify the way the VPN Client operates at runtime

Table 5-3 Oem.mst Tables

Table Name	Changes Needed		Modifies Install Parameters	Modifies VPN Client Runtime Parameters
Binary	top16—Add your own 500x63 bitmap for the MSI Install side16—Add you own 501x314 bitmap for the MSI Install		Yes for both	No for both
Component	CsCoFile_OemFiles—needed to install oem.ini file for custom VPN Clients CsCoFile_oempngFiles—needed to install icons, bitmaps, and png files		No	Yes
Directory	INSTALLDIR—Change to your own directory INSTALLDIR2—Change to your own directory Cisco_Systems_VPN_Client—Change to your own folder name		Yes for all	No for all
Feature Components	Complete | CsCoFile_OemFiles—needed to install oem.ini file for custom VPN Clients CsCoFile_oempngFiles—needed to install icons, bitmaps, and png files		No	Yes

Table 5-3 Oem.mst Tables (continued)

Table Name	Changes Needed		Modifies Install Parameters	Modifies VPN Client Runtime Parameters
File	Add the following files for customizing the VPN Client. For examples, see the oem.mst transform and the oem.ini files. arrow_down.png arrow_up.png cancel.png cancel_pressed.png clear_log.png clear_log_pressed.png connect.png connected.ico connected.png connect_pressed.png delete_certificate.png delete_certificate_pressed.png delete_profile.png delete_profile_pressed.png disable_log.png disable_log_pressed.png disconnect.png disconnecting.ico disconnect_pressed.png enable_log.png enable_log_pressed.png enroll_certificate.png enroll_certificate_pressed.png	export_certificate.png export_certificate_pressed.png import_certificate.png import_certificate_pressed.png import_profile.png import_profile_pressed.png logo.png modify_profile.png modify_profile_pressed.png new_profile.png new_profile_pressed.png notifications.png notifications_pressed.png options_log.png options_log_pressed.png password_logo.png profile_logo.png show_certificate.png show_certificate_pressed.png show_log.png show_log_pressed.png splash_screen.png status_down_arrow.png title_bar.png unconnected.ico verify_certificate.png verify_certificate_pressed.png vpn_panel.png	No	Yes
Icon	Add the following icon files for customizing the VPN Client. These icons are for shortcuts on the Program Group. For examples, see the oem.mst transform and the oem.ini files. MainIcon.ico setmtu.ico		No	Yes

Table 5-3 Oem.mst Tables (continued)

Table Name	Changes Needed		Modifies Install Parameters	Modifies VPN Client Runtime Parameters
Media	Add the following files for customizing the VPN Client. For examples, see the oem.mst transform and the oem.ini files. arrow_down.png arrow_up.png cancel.png cancel_pressed.png clear_log.png clear_log_pressed.png connect.png connected.ico connected.png connect_pressed.png delete_certificate.png delete_certificate_pressed.png delete_profile.png delete_profile_pressed.png disable_log.png disable_log_pressed.png disconnect.png disconnecting.ico disconnect_pressed.png enable_log.png enable_log_pressed.png enroll_certificate.png enroll_certificate_pressed.png	export_certificate.png export_certificate_pressed.png import_certificate.png import_certificate_pressed.png import_profile.png import_profile_pressed.png logo.png modify_profile.png modify_profile_pressed.png new_profile.png new_profile_pressed.png notifications.png notifications_pressed.png options_log.png options_log_pressed.png password_logo.png profile_logo.png show_certificate.png show_certificate_pressed.png show_log.png show_log_pressed.png splash_screen.png status_down_arrow.png title_bar.png unconnected.ico verify_certificate.png verify_certificate_pressed.png vpn_panel.png	No	Yes
Property	ProductName—Supply company and product names for installation. Manufacturer—Change *publisher* in the support information screen under Control Panel > Add/Remove Programs. ARPURLINFOABOUT—Change the web page in the support information screen under Control Panel > Add/Remove Programs.		Yes No No	No Yes Yes
Shortcut	Dialer—Change the name and the icon for the VPN Dialer application. SET_MTU—Change the name and the icon for the Set MTU application.		No for all	Yes for all

OEM.INI File and MSI

At run-time, you need an oem.ini file to tell the VPN Client to use OEM company and application names.

Copy your oem.ini file, the custom PNG files, and the custom icons to your distribution media, for example a CD, placing them in the same directory as the vpnclient_en.msi file. Use a transform to install the VPN Client, the oem.ini file, PNG files (Table 5-2), and icons, along with the VPN Client files during installation. For a sample oem.ini file, see "Sample oem.ini File." For more information on the oem.ini file, see Table 5-1.

Table 5-4 lists InstallShield-specific control parameters and how to achieve similar results in MSI. The oem.ini file modifies both InstallShield installation parameters and VPN Client runtime parameters. For MSI all oem.ini parameters are required except the installation-time parameters.

Table 5-4 Oem.ini File Keywords and MSI Equivalents

Keyword	MSI Equivalent
`DisableKerberosOverTCP=`	Transform Table: Property DISABLEKERBEROSOVERTCP
`SilentMode=`	Executing MSI installation using the /q switch For example: **msiexec /I vpnclient_en.msi /q**
`InstallPath=`	Transform Table: Directory INSTALLDIR INSTALLDIR2
`DefGroup=`	Transform Table: Directory Cisco_Systems_VPN_Client
`AllowSBLLaunches`	Transform Table: Registry registry18 Software\Cisco Systems\VPN Client\Secure | AllowsSBLLaunches
`AutoSetMtu=`	Transform Table: Property LAUNCHSETMTU
`SetMTUValue=`	Transform Table: Property SETMTUVALUE
`MTUAdjustOverride=`	Transform Table: Property DNEMTUADJUSTMENT Windows NT-based only.

Installing the VPN Client using the Transform

To install the VPN Client with the transform oem.mst that you have prepared, execute the following command at the command-line prompt.

msiexec /i vpnclient_en_msi TRANSFORMS=oem.mst

If you want to record errors that might occur during the installation, you can create a log file as follows:

msiexec /i vpnclient_en_msi /l*v! c:oeminstall.log TRANSFORMS=oem.mst

Installing the VPN Client Without User Interaction

This section describes how to produce installation without user interaction for both InstallShield installations and MSI installations. Installing the VPN Client without user interaction is called *silent mode*. In silent mode, no messages or prompts appear on the screen.

Note You can launch silent installation from the command line by using the **-sd** parameter with the vpnclient.exe command. For example, **vpnclient -sd toVPN**. For information on the vpnclient command, refer to "Using the VPN Client Command-Line Interface".

Silent Installation Using InstallShield

To implement silent mode with or without customizing the VPN Client applications, you can create an oem.ini file containing only the part that configures silent mode. In this file, you turn silent mode on, identify the pathname and folder to contain the VPN Client software, and reboot the system, all without user interaction.

During silent mode installation, the installation program does not display error messages. The program stores error messages in a log file named VPNLog.txt located in the windows system directory (WINSYSDIR).

Note If the installation program detects a 2.x version of the VPN Client, the program still prompts the user for input when converting the connection entry profiles.

A sample oem.ini file for implementing silent mode follows:

```
[Default]
SilentMode = 1
InstallPath = C:\Program Files\Engineering\IPSec Connections
DefGroup = IPSec remote users
Reboot = 1
```

Table 5-5 oem.ini File Silent Mode Parameters

.ini parameter (keyword)	Parameter Description	Values
`SilentMode=`	Identifies whether to activate noninteractive installation.	After the keyword and equal sign, enter either 0 or 1. 1 activates silent installation: 0 = prompt the user during installation. 1= do not prompt the user during installation.
`InstallPath=`	Identifies the directory for the client software installation.	After the keyword and equal sign, enter the name of the directory in the suggested format: *root:\programs\organization\product*

Table 5-5 oem.ini File Silent Mode Parameters (continued)

.ini parameter (keyword)	Parameter Description	Values
DefGroup=	Identifies the name of the folder to contain the client software.	After the keyword and equal sign, enter the name of the destination folder in the suggested format: *foldername*
Reboot=	Identifies whether to restart the system after the silent installation. If SilentMode is on (1) and Reboot is 1, the system automatically reboots after installation finishes.	After the keyword and equal sign, enter 0, 1, or 2: 0 = display the reboot dialog. 1 (and SilentMode = 1) = automatically reboot the system when installation finishes. 2 (and SilentMode = 1) = do not reboot after installation finishes.

Silent Installation Using MSI

To install the VPN Client without dialogs and messages (user interface) displaying on the screen, you can use either of the two following commands on the command line.

msiexec.exe /q [n|b|r|f] /i vpnclient_en.msi

or

vpnclient_en.exe /q [n|b|r|f]

Option	What it Displays
q or **qn**	No user interface. It is advisable to enable logging to determine whether the installation succeeded, since this option eliminates all information including fatal error messages.
qb	The basic user interface, which is a limited progress dialog that Windows Installer generates. It is advisable to enable logging with this option as well.
qr	Reduced user interface, similar to the full user interface option, but includes only a subset of all dialogs. For example, this option displays the welcome, license agreement, destination folder, and start dialogs, but does not let the user change the destination folder.
qf	Full or complete user interface including all dialogs. This is the default setting.

Launching SetMTU with Silent Installation

The SetMTU utility is automatically launched in silent mode with the value of 1300 for all installed adapters. To disable the SetMTU utility during installation, set the LAUNCHSETMTU property on the command-line to 0. To modify the MTU value, set SETMTUVALUE to *value*. To override the DNE MtuAdjuistment parameter, which is set to 0, set DNEMTUADJUSTMENT to *value*.

For example, to disable SetMTU and set the DNE Mtuadjustment to 144, execute the following command:

vpnclient_en.msi LAUNCHSETMTU=0 DNEMTUADJUSTMENT=144

For information on the SetMTU utility, see "Changing the MTU Size."

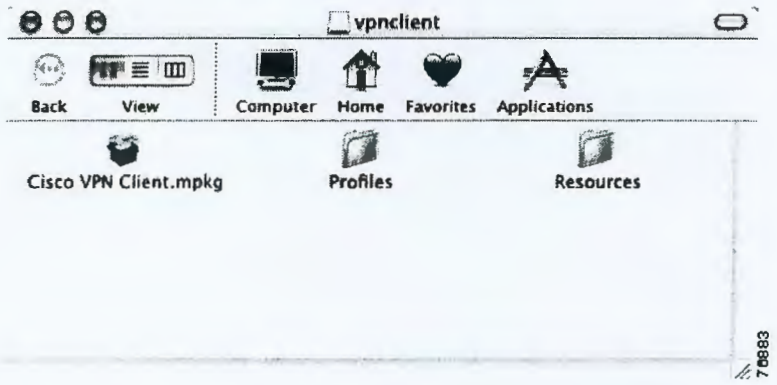
Customizing the VPN Client GUI for Mac OS X

To customize the VPN Client GUI for the Mac OS X platform, place the custom images in the Resources folder of the installer directory.

Figure 5-7 shows the vpnclient installer directory. This directory contains the installer package and any preconfigured files in the Profiles and Resources folders.

The Resources folder contains all images for the VPN Client.

Figure 5-7 VPN Client Installer Directory



To distribute custom images, replace the image files in the Resources folder with your own custom images. For example:

- To customize the logo, replace the file /etc/CiscoSystems/Resources/logo.png with your own custom logo.
- To customize the splash screen, replace the file /etc/CiscoSystems/Resources/splash_screen.png with your own custom splash screen.

When the VPN Client is installed, the images in the Resources file are used for the client GUI.

Client Update

Updating VPN Client software in an environment with a large number of devices in different locations can be a formidable task. For this reason, the VPN 3000 Concentrator includes a client update feature that simplifies the software update process. This feature works differently for VPN software clients and VPN 3002 Hardware Clients.

VPN Software Clients

The client update feature lets administrators at a central location automatically notify VPN Client users when it is time to update the VPN Client software.

When you enable client update, upon connection the central-site VPN Concentrator sends an IKE packet that contains an encrypted message that notifies VPN Client users about acceptable versions of executable system software. The message includes a location that contains the new version of software for the VPN Client to download. The administrator for that VPN Client can then retrieve the new software version, and update the VPN Client software.

You configure parameters that specify the acceptable versions of software and their locations. Updates are supported per group. This means that all members of a group can obtain the same updates from the same server at approximately the same time.

VPN 3002 Hardware Clients

The client update feature lets administrators at a central location automatically update software/firmware for VPN 3002 Hardware Clients deployed in diverse locations.

When you enable client update, upon connection the central-site VPN Concentrator sends an IKE packet that contains an encrypted message that notifies VPN 3002 hardware clients about acceptable versions of executable system software and their locations. If the VPN 3002 is not running an acceptable version, its software is automatically updated via TFTP.

To use client update, you need to have a TFTP server that can handle the volume and frequency of updates that your network requires. We recommend that you locate this server inside your network. The client update facility sends notify messages to VPN 3002s in batches of 10 at 5-minutes intervals.

You configure parameters that specify the acceptable versions of software and their locations. Updates are supported per group. This means that all members of a group can obtain the same updates from the same server at approximately the same time.

The VPN 3002 logs event messages at the start of the update. When the update completes, the Hardware Client reboots automatically.

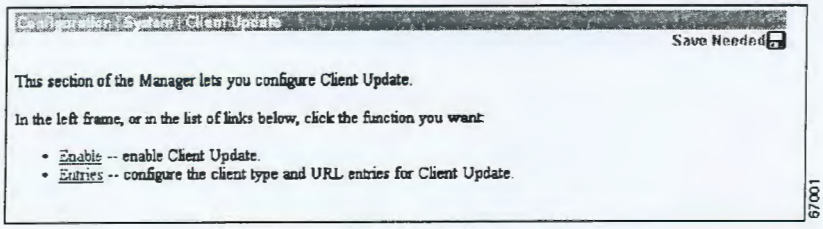
Note The VPN 3002 stores image files in two locations: the active location, which stores the image currently running on the system; and the backup location. Updating the image overwrites the stored image file in the backup location and makes it the active location for the next reboot. The client update process includes a test to validate the updated image. In the unlikely event that a client update is unsuccessful, the client does not reboot, and the invalid image does not become active. The update facility retries up to twenty times at 3-minute intervals. If an update is unsuccessful, the log files contain information indicating TFTP failures.

Configuration | System | Client Update

This section of the VPN 3000 Concentrator Manager lets you configure the client update feature.

- Enable: Enables or disables client update.
- Entries: Configures updates by client type, acceptable firmware and software versions, and their locations.

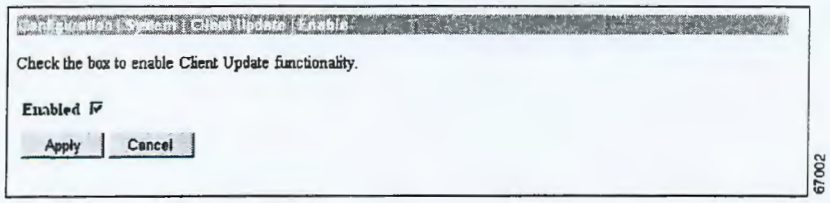
Figure 12-1 Configuration / System / Client Update Screen



Configuration | System | Client Update | Enable

This screen lets you disable or enable client update.

Figure 12-2 Configuration | System | Client Update | Enable Screen



Enable

Uncheck or check the **Enable** check box to disable or enable client update (by default, client update is enabled).

Apply or Cancel

To apply your change to client update, click **Apply**. This action includes your entry in the active configuration. The Manager returns to the Configuration | System | Client Update screen.

Reminder:

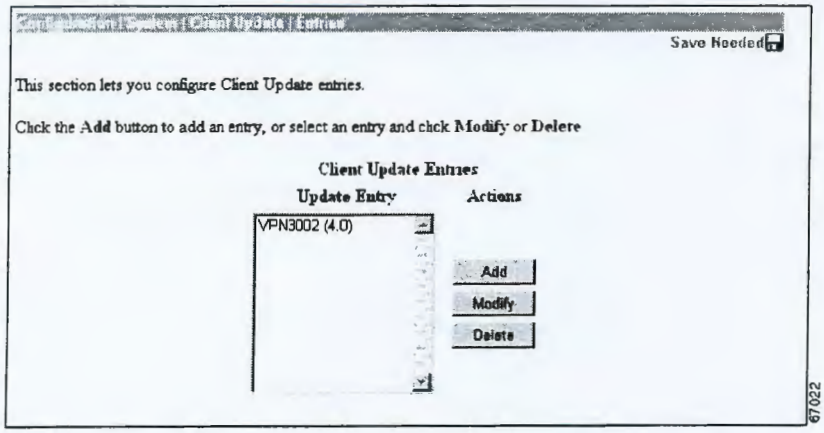
To save the active configuration and make it the boot configuration, click the **Save Needed** icon at the top of the Manager window.

To discard your entries, click **Cancel**. The Manager returns to the Configuration | System |Client Update screen, and the settings are unchanged.

Configuration | System | Client Update | Entries

This screen lets you add, modify, or delete client update entries.

Figure 12-3 Configuration / System / Client Update / Entries Screen



Update Entry

The update entry list shows the configured client update entries. Each entry shows the platform and acceptable software/firmware versions. If no updates have been configured, the list shows --Empty--.

Actions

To configure and add a new client update entry, click **Add**. The Manager opens the Configuration | System | Client Update | Entries | Add screen.

To modify parameters for a client update entry that has been configured, select the entry from the list and click **Modify**. The Manager opens the Configuration | System | Client Update | Modify screen.

To remove a client update entry that has been configured, select the entry from the list and click **Delete**.

Note There is no confirmation or undo.

The Manager refreshes the screen and shows the remaining entries in the list.

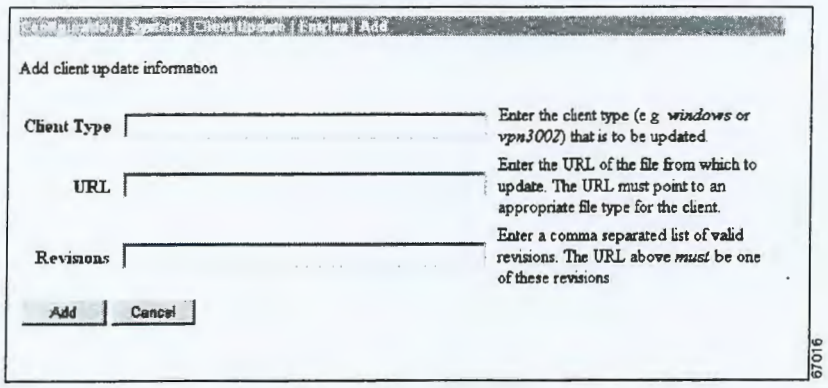
Reminder:

To save the active configuration and make it the boot configuration, click the **Save Needed** icon at the top of the Manager window.

Configuration | System | Client Update | Entries | Add or Modify

These screens let you configure and change client update parameters.

Figure 12-4 Configuration / System / Client Update / Entries / Add or Modify Screens



Client Type

Enter the client type you want to update.

- For the VPN Client: Enter the windows operating systems to notify. The entry must be exact, including case and spacing:
  - **Windows** includes *all* Windows-based platforms.
  - **Win9X** includes Windows 95, Windows 98, and Windows ME platforms.
  - **WinNT** includes Windows NT 4.0, Windows 2000, and Windows XP platforms.

Note The VPN Concentrator sends a separate notification message for each entry in a Client Update list. Therefore your client update entries must not overlap. For example, the value Windows includes all Windows platforms, and the value WinNT includes Windows NT 4.0, Windows 2000 and Windows XP platforms. So you would not include both the values Windows and WinNT.

- For the VPN 3002 Hardware Client: Your entry must be **vpn3002**, including case and spacing.

URL

Enter the URL for the software/firmware image. This URL must point to a file appropriate for this client.

- For the VPN Client: To activate the Launch button on the VPN Client Notification, the URL must include the protocol HTTP or HTTPS and the server address of the site that contains the update. The format of the URL is: http(s)://*server_address:port/directory/filename*. The server address can be either an IP address or a hostname if you have configured a DNS server. For example:

  http://10.10.99.70/vpnclient-win-3.5.Rel-k9.exe

  The directory is optional. You need the port number only if you use ports other than 80 for http or 443 for https.

- For the VPN 3002 Hardware Client: The format of the URL is tftp://*server_address/directory/filename*. The server address can be either an IP address or a hostname if you have configured a DNS server. For example:

  tftp://10.10.99.70/vpn3002-3.5.Rel-k9.bin

  The directory is optional.

Revisions

Enter a comma-separated list of software or firmware images appropriate for this client. The following caveats apply:

- The revision list must include the software version for this update.
- Your entries must match exactly those on the URL for the VPN Client, or the TFTP server for the VPN 3002.
- The URL above must point to one of the images you enter.

If the client is already running a software version on the list, it does not need a software update. If the client is not running a software version on the list, an update is in order.

- A VPN Client user must download an appropriate software version from the listed URL.
- The VPN 3002 Hardware Client software is automatically updated via TFTP.

Add or Apply / Cancel

To add this client update entry to the list of configured update entries, click **Add**. Or, to apply your changes, click **Apply**. Both actions include your entry in the active configuration. The Manager returns to the Configuration | System | Client Update screen. Any new entry appears at the bottom of the Update Entries list.

Reminder:

To save the active configuration and make it the boot configuration, click the **Save Needed** icon at the top of the Manager window.

To discard your entries, click **Cancel**. The Manager returns to the Configuration | System | Client Update screen, and the Update Entries list is unchanged.

Tip For more information about VPN Client updates, specifically the VPN Client Launch button, refer to the *VPN Client Administrator Guide*.

CHAPTER 2

Preconfiguring the VPN Client for Remote Users

This chapter explains how to prepare configurations for remote users and how to distribute them. This chapter includes the following sections:

- Profiles
- Creating a Global Profile
- Creating Connection Profiles

Profiles

Groups of configuration parameters define the connection entries that remote users use to connect to a VPN device. Together these parameters form files called profiles. There are two profiles: a global profile and an individual profile.

- A global profile sets rules for all remote users; it contains parameters for the VPN Client as a whole. The name of the global profile file is vpnclient.ini.
- Individual profiles contain the parameter settings for each connection entry and are unique to that connection entry. Individual profiles have a .pcf extension.

Profiles get created in two ways:

1. When an administrator or a remote user creates connection entries using the VPN Client graphical user interface (Windows and Macintosh only)
2. When you create profiles using a text editor

   In the first case, the remote user is also creating a file that can be edited through a text editor. You can start with a profile file generated through the GUI and edit it. This approach lets you control some parameters that are not available in the VPN Client GUI application. For example, auto-initiation or dial-up wait for third-party dialers.

The default location for individual profiles is:

- For Windows platforms—C:\Program Files\Cisco Systems\VPN Client\Profiles.
- For the Linux, Solaris, and Mac OS X platforms— /etc/CiscoSystemsVPNClient/Profiles/

This chapter explains how to create and edit the vpnclient.ini and individual profiles. Both files use the same conventions.

Note The easiest way to create a profile for the Windows platforms is to run the VPN Client and use the VPN Client GUI to configure the parameters. When you have created a profile in this way, you can copy the .pcf file to a distribution disk for your remote users. This approach eliminates errors you might introduce by typing the parameters and the group password gets automatically converted to an encrypted format.

File Format for All Profile Files

The vpnclient.ini and .pcf files follow normal Windows.ini file format:

- Use a semicolon (;) to begin a comment.
- Place section names within brackets [section name]; they are not case sensitive.
- Use key names to set values for parameters; *keyword = value*. Keywords without values, or unspecified keywords, use VPN Client defaults. Keywords can be in any order and are not case sensitive, although using lower and uppercase makes them more readable.

Making a Parameter Read Only

To make a parameter read-only so that the client user cannot change it within the VPN Client applications, precede the parameter name with an exclamation mark (!). This controls what the user can do within the VPN Client applications only. You cannot prevent someone from editing the global or .pcf file and removing the read-only designator.

Creating a Global Profile

The name of the global profile is vpnclient.ini. This file is located in the following directories:

- For Windows platforms—C:\Program Files\Cisco Systems\VPN Client directory
- For the Linux, Solaris, and Mac OS X platforms— /etc/CiscoSystemsVPNClient/vpnclient.ini

These are the default locations created during installation.

Features Controlled by Global Profile

The vpnclient.ini file controls the following features on all VPN Client platforms:

- Start before logon
- Automatic disconnect upon log off
- Control of logging services by class
- Certificate enrollment
- Identity of a proxy server for routing HTTP traffic
- Identity of an application to launch upon connect
- Missing group warning message
- Logging levels for log classes
- RADIUS SDI extended authentication behavior

- GUI parameters—appearance and behavior of GUI applications

The vpnclient.ini file controls the following additional features in the Windows platform:

- Location of the Entrust.ini file
- List of GINAs that are not compatible with the VPN Client
- Auto initiation
- Setting of the Stateful Firewall option
- The method to use in adding suffixes to domain names on Windows 2000 and Windows XP platforms
- When working with a third-party dialer, time to wait after receiving an IP address before initiating an IKE tunnel
- Network proxy server for routing HTTP traffic
- Application launching
- DNS suffixes
- Force Network Login, which forces a user on Windows NT, Windows 2000, or Windows XP to log out and log back in to the network without using cached credentials

Sample vpnclient.ini file

Note Profiles for the VPN Client are interchangeable between platforms. Keywords that are specific to the Windows platform are ignored by other platforms.

This sample file shows what you might see if you open it with a text editor

```
[main]
IncompatibleGinas=PALGina.dll,theirgina.dll
RunAtLogon=0
EnableLog=1
DialerDisconnect=1
AutoInitiationEnable=1
AutoInitiationRetryInterval=1
AutoInitiationList=techsupport,admin
[techsupport]
Network=175.55.0.0
Mask=255.255.0.0
ConnectionEntry=ITsupport
[admin]
Network=176.55.0.0
Mask=255.255.0.0
ConnectionEntry=Administration
[LOG.IKE]
LogLevel=1
[LOG.CM]
LogLevel=1
[LOG.PPP]
LogLevel=2
[LOG.DIALER]
LogLevel=2
[LOG.CVPND]
LogLevel=1
[LOG.CERT]
LogLevel=0
[LOG.IPSEC]
```

```
LogLevel=3
[LOG.FIREWALL]
LogLevel=1
[LOG.CLI]
LogLevel=1
[CertEnrollment]
SubjectName=Alice Wonderland
Company=University of OZ
Department=International Relations
State=Massachusetts
Country=US
Email=AliceW@UOZ.com
CADomainName=CertsAreUs
CAHostAddress=10.10.10.10
CACertificate=CAU
[Application Launcher]
Enable=1
Command=c:\apps\apname.exe
[ForceNetLogin]
Force=1
Wait=10
DefaultMsg=You will be logged off in 10 seconds
Separator=**************************************
[GUI]
WindowWidth=578
WindowHeight=367
WindowX=324
WindowY=112
VisibleTab=0
ConnectionAttribute=0
AdvancedView=1
DefaultConnectionEntry=ACME
MinimizeOnConnect=1
UseWindowSettings=1
ShowToolTips=1
ShowConnectHistory=1
```

The rest of this section explains the parameters that can appear in the vpnclient.ini file, what they mean, and how to use them.

Global Profile Configuration Parameters

Table 2-1 lists all parameters, keywords, and values. It also includes the parameter name as used in the VPN Client GUI application if it exists, and where to configure it in the application.

Each parameter can be configured on all VPN Client platforms unless specified.

Table 2-1 vpnclient.ini file parameters

.ini Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client GUI Configuration Location(s)
[main]	Required keyword to identify main section.	[main] Enter exactly as shown, as first entry in the file.	Does not appear in GUI
DialupWait	Specifies the number of seconds to wait between receiving an IP address from a third-party dialer such as General Packet Radio Services (GPRS) before initiating an IKE tunnel. This grants enough time for the connection to go through on the first attempt.	After the keyword and equal sign, enter the number of seconds to wait. For example: DialupWait=1 Default number = 0.	Does not appear in GUI
IncompatibleGinas (Windows-only)	Lists Graphical Identification and Authentication dynamic link libraries (GINA.DLLs) that are not compatible with Cisco's GINA. Adding a GINA to the list causes the VPN Client to leave the GINA alone during installation and use fallback mode. The VPN Client goes into fallback mode only if RunAtLogon = 1. Otherwise, the Client GINA is never installed. (See "Installing the VPN Client Without User Interaction".	After the keyword and equal sign, enter the name(s) of the GINAs, separated by commas. For example: IncompatibleGinas= PALgina.dll, Yourgina.dll, Theirgina.dll Do not enclose the name in quotes.	Does not appear in GUI
MissingGroupDialog	Controls the pop up window warning that occurs when a user tries to connect without setting the group name in a preshared connection.	0= (default) Do not show the warning message. 1=Show the warning message.	Does not appear in GUI
RunAtLogon (Windows-only)	Specifies whether to start the VPN Client connection before users log on to their Microsoft network. Available only for the Windows NT platform (Windows NT 4.0, Windows 2000 and Windows XP). This feature is sometimes known as the NT Logon feature.	0 = Disable (default) 1 = Enable	Options > Windows Logon Properties > Enable start before logon
EntrustIni= (Windows-only)	Locates the entrust.ini file if it is in a location that is different from the default.ini file. The default location is the base Windows system directory.	Complete pathname of location	Does not appear in GUI

Table 2-1 vpnclient.ini file parameters (continued)

.ini Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client GUI Configuration Location(s)
DialerDisconnect= (Windows-only)	Determines whether to automatically disconnect upon logging off a Windows NT platform (Windows NT 4.0, Windows 2000 and Windows XP). Disabling this parameter lets the VPN connection remain when the user logs off, allowing that user to log back in without having to establish another connection.	0 = Disable 1 = Enable (default disconnect on logoff)	Options > Windows Logon Properties > Disconnect VPN connection when logging off
There are limitations to DialerDisconnect. For example, in the case of MS DUN, the RAS (PPP) connection might go down when the user logs off. For more information about this specific case, see the following URL: http://support.microsoft.com/support/kb/articles/Q158/9/09.asp?LN=EN-US&SD=gn&FR=0&qry=RAS%20AND%20LOGOFF&rnk=2&src=DHCS_MSPSS_gn_SRCH&SPR=NTW40			
EnableLog=	Determines whether to override log settings for the classes that use the logging services. By default, logging is turned on. This parameter lets a user disable logging without having to set the log levels to zero for each of the classes. By disabling logging you can improve the performance of the client system.	0 = Disable 1 = Enable (default)	Log > Enable/Disable
StatefulFirewall= (Windows-only)	Determines whether the stateful firewall is always on. When enabled, the stateful firewall always on feature allows no inbound sessions from all networks, whether a VPN connection is in effect or not. Also, the firewall is active for both tunneled and nontunneled traffic.	0 = Disable (default) 1 = Enable	Options > Stateful Firewall (Always On)
StatefulFirewallAllowICMP (Windows only)	Controls whether StatefulFirewall (Always On) allows ICMP traffic. Some DHCP Servers use ICMP pings to detect if the DHCP client PCs are up so that the lease can be revoked or retained.	0 = Disable (default) 1 = Enable	Does not appear in the GUI.
AutoInitiationEnable (Windows-only)	Enables auto initiation, which is an automated method for establishing a wireless VPN connection in a LAN environment. For information on this feature see Configuring Automatic VPN Initiation—Windows Only	0 = Disable (default) 1 = Enable	Options > Automatic VPN Initiation
AutoInitiationRetry-Interval (Windows-only)	Specifies the time to wait, in minutes, before retrying auto initiation after a connection attempt failure.	1 to 10 minutes Default = 1 minute	Options > Automatic VPN Initiation

Table 2-1 vpnclient.ini file parameters (continued)

.ini Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client GUI Configuration Location(s)
AutoInitiationRetry-IntervalType (Windows-only)	Changes the retry interval from minutes (the default) to seconds. The range in seconds is 5-600.	0 = minutes (default) 1 = seconds	Options > Automatic VPN Initiation
AutoInitiationList (Windows-only)	Identifies auto initiation-related section names within the vpnclient.ini file. The vpnclient.ini file can contain a maximum of 64 auto initiation list entries.	A list of section names separated by commas; for example: SJWLAN, RTPWLAN, CHWLAN	Does not appear in GUI
[*section name*] (of an item in the AutoInitiationList) (Windows-only)	Each section contains a network address, network mask, connection entry name, and a connect flag. The network and mask values identify a subnet. The connection entry identifies a connection profile (.pcf file). The connect flag specifies whether to auto initiate the connection.	*Section name in brackets* Network = *IP address* Mask = *Subnet mask* ConnectionEntry = *name of a connection entry (profile)* Connect = 1 or 0 0 = Do not auto initiate the connection 1 = Auto initiate the connection (the default) Example: [SJWLAN] Network=110.110.110.0 Mask=255.255.0.0 ConnectionEntry=SantaJuan WirelessLAN	Does not appear in GUI
For each class that follows, use the LogLevel= parameter to set the logging level			
[LOG.IKE]	Identifies the Internet Key Exchange class for setting the logging level.	[LOG.IKE] Enter exactly as shown.	Log > Settings
[LOG.CM]	Identifies the Connection Manager class for setting the logging level.	[LOG.CM] Enter exactly as shown.	Log > Settings
[LOG.XAUTH]	Identifies the Extend authorization class for setting the logging level.	[LOG.XAUTH] Enter exactly as shown.	Log > Settings
[LOG.PPP] (Windows-only)	Identifies the PPP class for setting the logging level.	[LOG.PPP] Enter exactly as shown.	Log > Settings
[LOG.CVPND]	Identifies the Cisco VPN Daemon class for setting the logging level.	[LOG.CVPND] Enter exactly as shown.	Log > Settings
[LOG.CERT]	Identifies the Certificate Management class for setting the logging level.	[LOG.CERT] Enter exactly as shown.	Log > Settings
[LOG.IPSEC]	Identifies the IPSec module class for setting the logging level.	[LOG.IPSEC] Enter exactly as shown.	Log > Settings
[LOG.FIREWALL] (Windows-only)	Identifies the FWAPI class for setting the logging level.	[LOG.FIREWALL] Enter exactly as shown	Log > Settings

Table 2-1 vpnclient.ini file parameters (continued)

.ini Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client GUI Configuration Location(s)
[LOG.CLI]	Identifies the Command-Line Interface class for setting the logging level.	[LOG.CLI] Enter exactly as shown	Log > Settings
[LOG.GUI]	Identifies the Graphical User Interface class for setting the logging level.	[LOG.GUI] Enter exactly as shown	Log > Settings
LogLevel=	Determines the log level for individual classes that use logging services. By default, the log level for all classes is Low. You can use this parameter to override the default setting for the preceding [LOG] parameters.	The VPN Client supports log levels from 1 (lowest) to 15 (highest). Default = 1 To set logging levels, you must first enable logging: **EnableLog=1**.	Log > Settings
[CertEnrollment]	Required keyword to identify the Certificate Enrollment section.	[CertEnrollment] Enter exactly as shown.	Does not appear in GUI
SubjectName=	Identifies the username associated with this certificate.	Maximum of 519 alphanumeric characters.	Certificates > Enroll Certificate Enrollment form
Company=	Identifies the company or organization of the certificate owner.	Maximum of 129 alphanumeric characters.	Certificates > Enroll Certificate Enrollment form
Department=	Identifies the department or organizational unit of the certificate owner. If matching by IPSec group in a VPN 3000 Concentrator, must match the group name in the configuration.	Maximum of 129 alphanumeric characters.	Certificates > Enroll Certificate Enrollment form
ıte=	Identifies the state or province of the certificate owner.	Maximum of 129 alphanumeric characters.	Certificates > Enroll Certificate Enrollment form
Country=	Identifies the two-letter code identifying the country of this certificate owner.	Maximum of 2 alphanumeric characters.	Certificates > Enroll Certificate Enrollment form
Email=	Identifies the certificate owner's email address.	Maximum of 129 alphanumeric characters.	Certificates > Enroll Certificate Enrollment form
IPAddress	Identifies the IP address of the system of the certificate owner.	Internet address in dotted decimal notation.	Certificates > Enroll Certificate Enrollment form
Domain	Identifies the fully qualified domain name of the host that is serving the certificate owner.	Maximum of 129 alphanumeric characters.	Certificates > Enroll Certificate Enrollment form

Table 2-1 vpnclient.ini file parameters (continued)

.ini Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client GUI Configuration Location(s)
CADomainName=	Identifies the domain name that the certificate authority belongs to; for network enrollment.	Maximum of 129 alphanumeric characters.	Certificates > Enroll Certificate Enrollment form
CAHostAddress=	Identifies the IP address or hostname of the certificate authority.	Internet hostname or IP address in dotted decimal notation. Maximum of 129 alphanumeric characters.	Certificates > Enroll Certificate Enrollment form
CACertificate=	Identifies the name of the self-signed certificate issued by the certificate authority.	Maximum of 519 alphanumeric characters. Note: The VPNClient GUI ignores a read-only setting on this parameter.	Certificates > Enroll Certificate Enrollment form
NetworkProxy= (Windows-only)	Identifies a proxy server you can use to route HTTP traffic. Using a network proxy can help prevent intrusions into your private network.	IP address in dotted decimal notation or domain name. Maximum of 519 alphanumeric characters. The proxy setting sometimes has a port associated with it. Example:10.10.10.10:8080	Does not appear in GUI
[ApplicationLauncher] (Windows-only)	(No VPN Client field) Required keyword to identify Application Launcher section.	[ApplicationLauncher] Enter exactly as shown, as first entry in the section.	Does not appear in GUI
Enable= (Windows-only)	Use this parameter to allow VPN Client users to launch an application when connecting to the private network.	0 = Disabled (default) 1 = Enabled Disabled means no launching.	Options> Application Launcher
Command= (Windows-only)	The name of the application to be launched. This variable includes the pathname to the command, and the name of the command complete with arguments.	*command string* Maximum 512 alphanumeric characters. Example: c:\auth\swtoken.exe.	Options> Application Launcher> Application
[DNS] (Windows-only)	(No VPN Client field) Required keyword to identify DNS section.	[DNS] Enter exactly as shown, as first entry in the section.	Does not appear in GUI
AppendOriginalSuffix= (Windows-only)	Determines the way the VPN Client treats suffixes to domain names. See "DNS Suffixes and the VPN Client—Windows 2000 and Windows XP Only", following this table.	0 = do nothing 1= append the primary DNS suffix to the suffix that the VPN Concentrator supplies. 2= append the primary and connection-specific DNS suffixes to the suffix that the VPN Concentrator supplies.	Does not appear in GUI

Table 2-1 vpnclient.ini file parameters (continued)

.ini Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client GUI Configuration Location(s)
[RadiusSDI]	Required keyword to identify the RADIUS SDI extended authentication (XAuth) section. Configure this section to enable a VPN Client to handle Radius SDI authentication the same as native SDI authentication, which makes authentication easier for VPN Client users to authenticate using SDI.	Enter exactly as shown.	Does not appear in GUI.
estionSubStr	Uniquely identifies question-type RADIUS SDI Xauth prompts.	Enter text up to 32 bytes in length. The default text is a question mark. Example: "Are you prepared to have the system generate your PIN? (y/n):" Response: _____	The question appears in the GUI during extended authentication. It is followed by a Response field.
NewPinSubStr	Uniquely identifies new PIN RADIUS SDI Xauth prompts.	Enter text up to 32 bytes in length. Default text is "new PIN." Example: "Enter a new PIN of 4 to 8 digits."	Appears in the GUI during extended authentication.
NewPasscodeSubStr	Uniquely identifies new passcode RADIUS Xauth prompts.	Enter text up to 32 bytes in length. Default text is "new passcode." Example: "PIN accepted. Wait for the token code to change, then enter the new passcode"	Appears in the GUI during extended authentication.
[Netlogin] (windows-only	Identifies the Force Network Login section of the vpnclient.ini file. This feature forces a user on Windows NT, Windows 2000, and Windows XP to log out and log back in to the network without using cached credentials.	Enter exactly as shown; this is required as part of the feature.	Does not appear in the GUI.

Note You cannot use this feature with Start Before Logon. If users are connecting via dialup (RAS), you should add the registry key described in the Microsoft article: http://support.microsoft.com/default.aspx?scid=kb;en-us;Q158909. Adding the registry key assures that the RAS connection does not drop when the user gets logged off.

Table 2-1 vpnclient.ini file parameters (continued)

.ini Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client GUI Configuration Location(s)
`Force (windows-only)`	Specifies what action to take for the Force Network Login feature. This parameter is required for this feature.	0 = (default) Do not force the user to log out and log in. 1 = Force user to log out when the Wait time is reached unless an option is selected. 2 = Disconnect VPN session upon reaching the Wait time unless an option is selected. 3 = Wait for the user to select Connect or Disconnect.	Does not appear in the GUI.
`Wait (windows-only)`	Determines the number of seconds to wait before performing an action specified by the Force parameter. This parameter is optional.	x number of seconds. The default is 5 seconds.	Does not appear in the GUI.
`DefaultMsg (windows-only)`	Specifies a message to display before performing the action specified by the Force parameter. Message can vary according to setting of Force. This parameter is optional.	Ascii text up to 1023 bytes. Default message = You will soon be disconnected.	Does not appear in the GUI.
`Separator (windows-only)`	Specifies the separator text that separates banner text from the message. If no banner exists, the separator is not displayed. This parameter is optional.	Ascii text up to 511 bytes. Default separator = ----------	Does not appear in the GUI.
`[GUI]`	Required keyword to identify the section of the file that lets you control features of the Graphical User Interface application.	`[GUI]` Enter exactly as shown, as first entry in the section.	Does not appear in the GUI.
`DefaultConnectionEntry`	Specifies the name of the connection entry for the VPN Client to use to initiate a connection, unless otherwise indicated.	*`ConnectionEntryName`*	Connection Entries > Add/Modify > Set as default entry.
`WindowWidth`	Controls the width of the window.	Default = 578 pixels	Manual control
`WindowHeight`	Controls the height of the window.	Default = 367 pixels	Manual control
`WindowX`	Controls the X coordinate of the window.	0 to 1024 pixels Default = 324	Where the window appears horizontally relative to your monitor's screen
`WindowY`	Controls the Y coordinate of the window.	0 to 768 pixels Default = 112	Where the window appears vertically relative to your monitor's screen

Table 2-1 vpnclient.ini file parameters (continued)

.ini Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client GUI Configuration Location(s)
VisibleTab	Tracks which tab is currently visible in the advanced mode main dialog; an index.	Connection Entries Certificates Log	VPN Client main dialog
ConnectionAttibute	Indicates the current setting for the status bar display. The status bar is the line area at the bottom of the dialog that shows the state of the connection (connect/not connected), if connected, the name of the connection entry on the left and what the status is on the right.	If you click on the arrow on the right end of the status bar, the right part of the status bar changes. This value records the current display selection.	VPN Client main dialog > status bar
AdvancedView	Toggles between Advanced and Simple modes of operation.	Simple Mode = 0 Advanced Mode = 1 (default)	Main menu > Options menu > Advanced/ Simple Mode
MinimizeOnConnect	Controls whether to minimize to a system tray icon upon connection to a VPN device.	0 = Do not minimize 1 = Do minimize (default)	Main menu > Options > Preferences > Hide upon connect
UseWindowSettings	Controls whether to save windows settings.	0 = No 1 = Yes (default)	Main menu > Options > Preferences > Save window settings
ShowTooltips	Controls whether to display the tool tips.	0 = No 1 = Yes (default)	Main menu > Options > Preferences > Enable tooltips
ShowConnectHistory	Controls whether to display the connection history dialog during connection negotiation.	0 = No (default) 1 = Yes	Main menu > Options > Preferences > Enable Connection History Display

DNS Suffixes and the VPN Client—Windows 2000 and Windows XP Only

When a command or program such as **ping server123** passes a hostname without a suffix to a Windows 2000 or Windows XP platform, Windows 2000/XP has to convert the name into a fully-qualified domain name (FQDN). The Windows operating system has two methods for adding suffixes to domain names: Method 1 and Method 2. This section describes these two methods.

Method 1—Primary and Connection-Specific DNS Suffixes

A primary DNS suffix is global across all adapters. A connection-specific DNS suffix is only for a specific connection (adapter), so that each connection can have a different DNS suffix.

Identifying a Primary DNS Suffix

A primary suffix comes from the computer name. To find or assign a primary DNS suffix, use the following procedure according to your operating system:

On Windows 2000

Step 1 On a Windows 2000 desktop, right click the **My Computer** icon, and select **Properties** from the menu.

The System Properties dialog displays.

Step 2 Open the **Network Identification** tab.

The entry next to *Full Computer Name* identifies the computer's name and DNS suffix on this screen, for example, `SILVER-W2KP.tango.dance.com`. The part after the first dot is the primary DNS suffix, in this example: `tango.dance.com`.

Step 3 To change the primary DNS suffix, click **Properties** on the Network Identification tab.

The Identification Changes dialog displays.

Step 4 Click **More...**.

This action displays the DNS Suffix and Net BIOS Computer Name dialog. The *Primary DNS suffix of this computer* entry identifies the primary suffix. You can edit this entry.

On Windows XP

Step 1 Right click **My Computer**, and select **Properties** from the menu.

The System Properties dialog displays.

Step 2 Open the **Computer Name** tab.

The entry next to *Full Computer Name* identifies the computer's name and DNS suffix on this screen (for example, `SILVER-W2KP.tango.dance.com`). The part after the first dot is the primary DNS suffix (in this example: `tango.dance.com`).

Step 3 To change the primary DNS suffix, click **Change** on the Computer Name tab.

The Computer Name Changes dialog displays.

Step 4 Click **More...**.

This action displays the DNS Suffix and Net BIOS Computer Name dialog. The Primary DNS suffix of this computer entry identifies the primary suffix. You can edit this entry.

Identifying a Connection-Specific DNS Suffix

You can identify a connection-specific DNS suffix in one of two ways.

1. The connection-specific DNS value is listed as the DNS suffix for the selected connection on the Advanced TCP/IP Settings dialog.

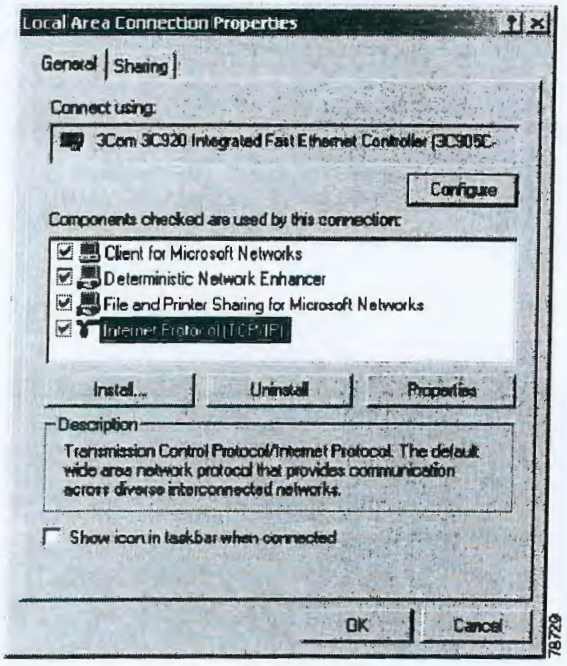
Note The following instructions are for a Windows 2000 platform. There may be slight variations on a Windows XP platform.

To display the Advanced TCP/IP Settings dialog, use the following procedure:

Step 1 Right click the **My Network Places** icon to display the Properties dialog, which lists your connections.

Step 2 Double-click on a connection (for example, **local**) to display its Properties dialog. The connection uses the checked components, such as those shown in Figure 2-1, which shows components of a connection named Local Area Connection.

Figure 2-1 Displaying Properties for a Connection



Step 3 Double-click **Internet Protocol (TCP/IP)** to reveal its properties.

Step 4 Select **Advanced**.

Step 5 Display the **DNS** tab and look at `DNS suffix for this connection` box. If the box is empty, you can have it assigned by the DHCP Server.

a. To identify the connection-specific suffix assigned by the DHCP Server, use the **ipconfig /all** command (Alternative 2, below) and for the DNS Server address.

2. The connection-specific DNS value is listed in the output from the **ipconfig /all** command, executed at the command-line prompt. Look under Windows 2000 IP Configuration for `DNS Suffix Search List`. Under Ethernet Adapter Connection Name, look for `Connection-specific DNS Suffix`.

Method 2—User Supplied DNS Suffix

For this method, you can provide specific suffixes. You can view and change suffixes in the DNS tab of the connection properties page. The Append these DNS suffixes (in order) edit box supplies the name that you can edit. The values you provide here are global to all adapters.

VPN Client Behavior

When the VPN Client establishes a VPN tunnel to the VPN central device (for example, the VPN 3000 Concentrator), the VPN Client uses Method 2 without regard for the method that the Windows platform uses. If the Windows platform is using Method 2, the VPN Client appends the suffix provided by the VPN central device. This is the default behavior and works correctly with no problem.

However if Windows is using Method 1, the VPN Client does not append the primary or connection-specific suffix. To fix this problem, you can set the AppendOriginalSuffix option in the vpnclient.ini file. In Table 2-1, the [DNS] section contains this option:

[DNS]

AppendOriginalSuffix Option=1:

In this case, the VPN Client appends the primary DNS suffix to the suffix provided by the VPN Concentrator. While the tunnel is established, Windows has two suffixes: one provided by the VPN Concentrator and the primary DNS suffix.

AppendOriginalSuffix Option=2:

In this case, the VPN Client appends the primary and connection-specific DNS suffixes to the suffix provided by the VPN Concentrator. While the tunnel is established, Windows has three suffixes: one provided by the VPN Concentrator, the primary DNS suffix, and the connection-specific DNS suffix.

Note If Windows is using Method 2, adding these values to the vpnclient.ini file has no effect.

The VPN Client sets these values every time a tunnel is established and then restores the original configuration when tearing down the tunnel.

Setting Up RADIUS SDI Extended Authentication

You can configure the VPN Client to handle RADIUS SDI authentication the same way it handles "native" SDI authentication, which is more seamless and easier to use. With this configuration, users do not have to deal with the RSA SecurID software interface; the VPN Client software directly interfaces with the RSA SecureID software for the user.

To enable intelligent handling of RADIUS SDI authentication, you must configure one profile (.pcf) parameter and possibly three global (vpnclient.ini) parameters:

- In the vpnclient.ini file, enter the following information. (For complete information on these parameters, see Table 2-1.)
  - RadiusSDI—identifies the configuration section for RADIUS SDI
  - A question sub-string to identify question prompts (e.g. "?")
  - A new PIN sub-string to identify prompts for a new PIN
  - A new passcode sub-string to identify prompts for a new passcode
- In the profile (connection entry) file under the Main section, enter the parameter "RadiusSDI = 1". (See Table 2-2.)

Now when the request comes in to the VPN Client, the software identifies it as a RADIUS SDI extended authentication request and knows how to process the request.

Creating Connection Profiles

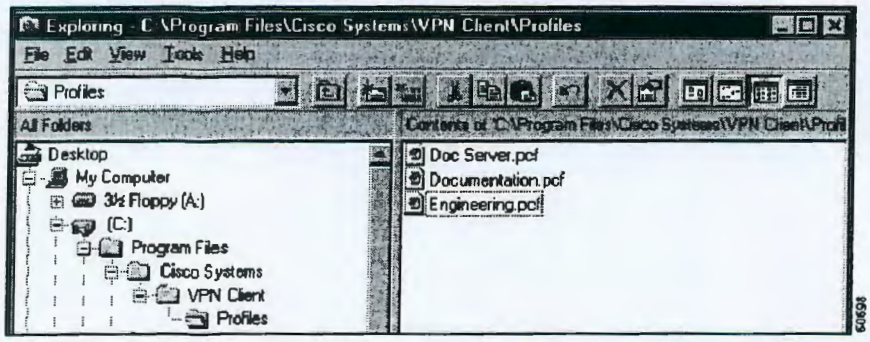
The VPN Client uses parameters that must be uniquely configured for each remote user of the private network. Together these parameters make up a user profile, which is contained in a profile configuration file (.pcf file) in the VPN Client user's local file system in the following directories:

- For Windows platforms—Program Files\Cisco Systems\VPN Client\Profiles (if the software installed in the default location)
- For the Linux, Solaris, and Mac OS X platforms— /etc/CiscoSystemsVPNClient/Profiles/

These parameters include the remote server address, IPSec group name and password, use of a log file, use of backup servers, and automatic Internet connection via Dial-Up Networking. Each connection entry has its own .pcf file. For example, if you have three connection entries, named Doc Server, Documentation, and Engineering, the Profiles directory shows the list of .pcf files.

Figure 2-2 shows the directory structure for the user profile in the Windows platforms.

Figure 2-2 List of .pcf files



Features Controlled by Connection Profiles

A connection profile (.pcf file) controls the following features on all platforms):

- Description of the connection profile
- The remote server address
- Authentication type
- Name of IPSec group containing the remote user
- Group password
- Connecting to the Internet via dial-up networking
- Name of remote user
- Remote user's password
- Backup servers
- Split DNS
- Type of dial-up networking connection
- Transparent tunneling

- TCP tunneling port
- Allowing of local LAN access
- Enabling of IKE and ESP keepalives
- Setting of peer response time-out
- Certificate parameters for a certificate connection
- Setting of certificate chain
- Diffie-Hellman group
- Verification of the DN of a peer certificate
- RADIUS SDI extended authentication setting
- Use of SDI hardware token setting
- Split DNS setting
- Use legacy IKE port setting

A connection profile (.pcf file) controls the following additional features on the Windows platform:

- Dial-Up networking phone book entry for Microsoft
- Command string for connecting through an ISP
- NT domain
- Logging on to Microsoft Network and credentials
- Change the default IKE port from 500/4500 (must be explicitly added)
- Enable Force Network Login, which forces a user on Windows NT, Windows 2000, and Windows XP to log out and then log back in to the network without using cached credentials

Sample .pcf file

Note Connection profiles for the VPN Client are interchangeable between platforms. Keywords that are specific to the Windows platform are ignored by other platforms.

When you open the Doc Server.pcf file, it looks like the example below. This is a connection entry that uses preshared keys. Note that the `enc_` prefix (for example, `enc_GroupPwd`) indicates that the value for that parameter is encrypted.

```
[main]
Description=connection to TechPubs server
Host=10.10.99.30
AuthType=1
GroupName=docusers
GroupPwd=
enc_GroupPwd=158E47893BDCD398BF863675204775622C494B39523E5CB65434D3C851ECF2DCC8BD488857EFA
FDE1397A95E01910CABECCE4E040B7A77BF
EnableISPConnect=0
ISPConnectType=0
ISPConnect=
ISPCommand=
Username=alice
SaveUserPassword=0
UserPassword=
enc_UserPassword=
NTDomain=
```

```
EnableBackup=1
BackupServer=Engineering1, Engineering2, Engineering 3, Engineering4
EnableMSLogon=0
MSLogonType=0
EnableNat=1
EnableLocalLAN=0
TunnelingMode=0
TCPTunnelingPort=10000
CertStore=0
CertName=
CertPath=
CertSubjectName
SendCertChain=0
VerifyCertDN=CN="ID Cert",OU*"Cisco",ISSUER-CN!="Entrust",ISSURE-OU!*"wonderland"
DHGroup=2
PeerTimeOut=90
ForceNetLogin=1
```

You can configure the VPN Client for remote users by creating a profile configuration file for each connection entry and distribute the .pcf files with the VPN Client software. These configuration files can include all, or only some, of the parameter settings. Users must configure those settings not already configured.

You can also distribute the VPN Client to users without a configuration file and let them configure it on their own. In this case, when they complete their configuration using the VPN Client program, they are in effect creating a `.pcf` file for each connection entry, which they can edit and share.

To protect system security you should *not* include key security parameters such as the IPSec group password, authentication username, or authentication password in .pcf files for remote users.

Note Whatever preconfiguring you provide, you must supply users with the information they need to configure the VPN Client. See "Gathering Information You Need" in Chapter 2 of the *VPN Client User Guide* for your platform.

Creating a .pcf file for a Connection Profile

Each user requires a unique configuration file. Use Notepad or another ASCII text editor to create and edit each file. Save as a text-only file with no formatting.

Naming the Connection Profile

For a Windows platform, you can create profile names that contain spaces. However, if you want to distribute profiles to other platforms (Linux, Mac OS X, or Solaris), the name cannot contain spaces.

Connection Profile Configuration Parameters

Table 2-2 lists all parameters, keywords, and values. It also includes the VPN Client parameter name (if it exists) that corresponds to the keyword and where it is configured on the VPN Client GUI.

You can configure each parameter on all VPN Client platforms unless specified.

Table 2-2 .pcf file parameters

.pcf Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client Configuration Location(s)
[main]	(No VPN Client field) Required keyword to identify main section.	[main] As the first entry in the file, enter exactly as shown.	Does not appear in GUI
Description=	Description A line of text that describes this connection entry. Optional.	Any text. Maximum 246 alphanumeric characters.	Connection Entry> New/Modify
Host=	Remote server address The hostname or IP address of the Cisco remote access server (a VPN device) to which remote users connect.	Internet hostname, or IP address in dotted decimal notation. Maximum 255 alphanumeric characters.	Connection Entry > New/Modify
AuthType=	Authentication type	The authentication type of this user: 1 = Pre-shared keys (default) 3 = Digital Certificate using an RSA signature.	Connection Entry > New/Modify > Authentication
GroupName=	Group Name The name of the IPSec group that contains this user. Used with pre-shared keys.	The exact name of the IPSec group configured on the VPN device. Maximum 32 alphanumeric characters. Case-sensitive.	Connection Entry > New/Modify > Authentication
GroupPwd=	Group Password The password for the IPSec group that contains this user. Used with pre-shared keys. The first time the VPN Client reads this password, it replaces it with an encypted one (enc_GroupPwd).	The exact password for the IPSec group configured on the VPN device. Minimum of 4, maximum 32 alphanumeric characters. Case-sensitive clear text.	Connection Entry > New/Modify > Authentication
encGroupPwd=	The password for the IPSec group that contains the user. Used with preshared keys. This is the scrambled version of the GroupPwd.	Binary data represented as alphanumeric text.	Does not appear in GUI.
EnableISPConnect= (Windows-only)	Connect to the Internet via Dial-Up Networking Specifies whether the VPN Client automatically connects to an ISP before initiating the IPSec connection; determines whether to use PppType parameter.	0 = Disable (default) 1 = Enable The VPN Client GUI ignores a read-only setting on this parameter.	Connection Entry > New/Modify >Dial-Up > Connect to the Internet via dial-up

Table 2-2 .pcf file parameters (continued)

.pcf Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client Configuration Location(s)
`ISPConnectType= (Windows-only)`	Dial-Up Networking connection entry type Identifies the type to use: ISPConnect or ISPCommand.	0 = ISPConnect (default) 1 = ISPCommand The VPN Client GUI ignores a read-only setting on this parameter.	Connection Entry > New/Modify >Dial-Up > (choosing either DUN or Third Party (command)
`ISPConnect= (Windows-only)`	Dial-Up Networking Phonebook Entry (Microsoft) Use this parameter to dial into the Microsoft network; dials the specified dial-up networking phone book entry for the user's connection. Applies only if EnableISPconnect=1 and ISPConnectType=0.	*phonebook_name* This variable is the name of the phone book entry for DUN – maximum of 256 alphanumeric characters. The VPN Client GUI ignores a read-only setting on this parameter.	Connection Entry > New/Modify >Dial-Up > Microsoft Dial-Up Networking > Phonebook
`ISPCommand= (Windows-only)`	Dial-Up Networking Phonebook Entry (command) Use this parameter to specify a command to dial the user's ISP dialer. Applies only if EnableISPconnect=1 and ISPConnectType=1.	*command string* This variable includes the pathname to the command and the name of the command complete with arguments; for example: `c:\isp\ispdialer.exe dialEngineering` Maximum 512 alphanumeric characters.	Connection Entry > New/Modify >Dial-Up > Third party dialup program > Application
`Username=`	User Authentication: Username The name that authenticates a user as a valid member of the IPSec group specified in `GroupName`.	The exact username. Case-sensitive, clear text, maximum of 32 characters. The VPN Client prompts the user for this value during user authentication.	Connection Entry > New/Modify > Authentication
`UserPassword=`	User Authentication: Password The password used during extended authentication. The first time the VPN Client reads this password, it saves it in the file as the enc_UserPassword and deletes the clear-text version. If SaveUserPassword is disabled, then the VPN Client deletes the UserPassword and does not create an encrypted version. You should only modify this parameter manually if there is no GUI interface to manage profiles.	Maximum of 32 alphanumeric characters, case sensitive.	Connection Entry > New/Modify > Authentication

Table 2-2 .pcf file parameters (continued)

.pcf Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client Configuration Location(s)
encUserPassword	Scrambled version of the user's password	Binary data represented as alphanumeric text.	Does not appear in GUI.
SaveUserPassword	Determines whether or not the user password or its encrypted version are valid in the profile. This value is pushed down from the VPN device.	0 = (default) do not allow user to save password information locally. 1 = allow user to save password locally.	Does not appear in GUI.
NTDomain= (Windows-only)	User Authentication: Domain The NT Domain name configured for the user's IPSec group. Applies only to user authentication via a Windows NT Domain server.	NT Domain name. Maximum 14 alphanumeric characters. Underbars are not allowed.	Connection Entry > New/Modify
EnableBackup=	Enable backup server(s) Specifies whether to use backup servers if the primary server is not available.	0 = Disable (default) 1 = Enable	Connection Entry > New/Modify > Backup Servers
BackupServer=	(Backup server list) List of hostnames or IP addresses of backup servers. Applies only if EnableBackup=1.	Legitimate Internet hostnames, or IP addresses in dotted decimal notation. Separate multiple entries by commas. Maximum of 255 characters in length.	Connection Entry > New/Modify > Backup Servers
EnableMSLogon= (Windows-only)	Logon to Microsoft Network. Specifies that users log on to a Microsoft network. Applies only to systems running Windows 9x.	0 = Disable 1 = Enable (Default)	Connection Entry > New/Modify > Microsoft Logon This is available only on Windows 98 and Windows ME.
MSLogonType= (Windows-only)	Use default system logon credentials. Prompt for network logon credentials. Specifies whether the Microsoft network accepts the user's Windows username and password for logon, or whether the Microsoft network prompts for a username and password. Applies only if EnableMSLogon=1.	0 = (default) Use default system logon credentials; i.e., use the Windows logon username and password. 1 = Prompt for network logon username and password.	Connection Entry > New/Modify > Microsoft Logon This is available only on Windows 98 and Windows ME.

Table 2-2 .pcf file parameters (continued)

.pcf Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client Configuration Location(s)
EnableNat=	Enable Transparent Tunneling. Allows secure transmission between the VPN Client and a secure gateway through a router serving as a firewall, which may also be performing NAT or PAT.	0 = Disable 1 = Enable (default)	Connection Entry > New/Modify > Transport
TunnelingMode=	Specifies the mode of transparent tunneling, over UDP or over TCP; must match that used by the secure gateway with which you are connecting.	0 = UDP (default) 1 = TCP	Connection Entry > New/Modify > Transport
TCPTunnelingPort=	Specifies the TCP port number, which must match the port number configured on the secure gateway.	Port number from 1 through 65545 Default = 10000	Connection Entry> New/Modify > Transport
EnableLocalLAN=	Allow Local LAN Access. Specifies whether to enable access to resources on a local LAN at the Client site while connected through a secure gateway to a VPN device at a central site.	0 = Disable (default) 1 = Enable	Connection Entry > New/Modify > Transport
PeerTimeout=	Peer response timeout The number of seconds to wait before terminating a connection because the VPN device on the other end of the tunnel is not responding.	Number of seconds Minimum = 30 seconds Maximum = 480 seconds Default = 90 seconds	Connection Entry > New/Modify > Transport
CertStore=	Certificate Store Identifies the type of store containing the configured certificate.	0 = No certificate (default) 1 = Cisco 2 = Microsoft The VPN Client GUI ignores a read-only (!) setting on this parameter. (See note)	Windows GUI Does not appear in GUI. You can view on Certificates tab. Mac OS X GUI Connection Entry > New/Modify > Transport

Note Normally, if a parameter is marked as read only, the GUI disables the checkbox or edit box so users can not change the value of the parameter. However, this is not true for Certificate parameters. These values cannot be overwritten in the file. Users can change them in the GUI display, but these changes are not saved.

CertName=	Certificate Name Identifies the certificate used to connect to a VPN device.	Maximum 129 alphanumeric characters The VPN Client GUI ignores a read-only setting on this parameter.	Certificates > View

Table 2-2 .pcf file parameters (continued)

.pcf Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client Configuration Location(s)
CertPath=	The complete pathname of the directory containing the certificate file.	Maximum 259 alphanumeric characters The VPN Client GUI ignores a read-only setting on this parameter.	Certificates > Import
CertSubjectName	The fully qualified distinguished name (DN) of certificate's owner. If present, the VPN Dialer enters the value for this parameter.	Either do not include this parameter or leave it blank. The VPN Client GUI ignores a read-only setting on this parameter.	Certificates > View
CertSerialHash	A hash of the certificate's complete contents, which provides a means of validating the authenticity of the certificate. If present, the VPN Dialer enters the value for this parameter.	Either do not include this parameter or leave it blank. The VPN Client GUI ignores a read-only setting on this parameter.	Certificates > View
SendCertChain	Sends the chain of CA certificates between the root certificate and the identity certificate plus the identity certificate to the peer for validation of the identity certificate.	0 = disable (default) 1 = enable	• Connection Entry > New/Modify • Certificates > Export
VerifyCertDN	Prevents a user from connecting to a valid gateway by using a stolen but valid certificate and a hijacked IP address. If the attempt to verify the domain name of the peer certificate fails, the client connection also fails.	Include any certificate DN values of both subject and issuer: You can use all valid ASCII characters including -_@<>()., as well as wildcards. See example:	Does not appear in GUI

```
Example: VerifyCertDN=CN="ID Cert",OU*"Cisco",ISSUER-CN!="Entrust",ISSUER-OU!*"wonderland"
CN="ID Cert"—Specifies an exact match on the CN.
OU*"Cisco"—Specifies any OU that contains the string "Cisco".
ISSUER-CN!"Entrust"—Specifies that the Issuer CN must not equal "Entrust".
ISSUER-OU!*"wonderland"—Specifies that the Issuer OU must not contain "wonderland".
```

DHGroup	Allows a network administrator to override the default group value on a VPN device used to generate Diffie-Hellman key pairs.	1 = modp group 1 2 = modp group 2 (default) 5 = modp group 5 Note: This value is preset only for pre-shared keys; for a certificate-authenticated connection, the DHGroup number is negotiated.	Does not appear in GUI

Table 2-2 .pcf file parameters (continued)

.pcf Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client Configuration Location(s)
RadiusSDI	Tells the VPN Client to assume that Radius SDI is being used for extended authentication (XAuth).	0 = No (default) 1 = Yes	If this parameter is enabled, the prompts in the GUI for SDI authentication are from Radius SDI and configured using parameters in the vpnclient.ini file.
SDIUseHardwareToken	Enables a connection entry to avoid using RSA SoftID software.	0 = Yes, use RSA SoftID (default) 1 = No, ignore RSA SoftID software installed on the PC.	Does not appear in GUI
ableSplitDNS	Determines whether the connection entry is using splitDNS, which can direct packets in clear text over the Internet to domains served through an external DNS or through an IPSec tunnel to domains served by a corporate DNS. This feature is configured on the VPN 3000 Concentrator and is used in a split-tunneling connection. **Note** You must also enable this feature on the VPN device you are connecting to.	0 = No 1 = Yes (default)	Does not appear in GUI

Table 2-2 .pcf file parameters (continued)

.pcf Parameter (Keyword)	VPN Client Parameter Description	Values	VPN Client Configuration Location(s)
`UseLegacyIKEPort`	Changes the default IKE port from 500/4500 to dynamic ports to be used during all connections. You must explicitly enter this parameter into the .pcf file.	0 = Turn off the legacy setting; use dynamic ports with cTCP. 1 = (default) Maintain the legacy setting 500/4500. This lets TCP/UDP work easily with VPN devices that support cTCP. This setting enables interoperability with VPN devices that expect the VPN Client to use static port assignments. Enabling this parameter inhibits interoperability with certain versions of Windows.	Does not appear in GUI
`ForceNetlogin (windows-only)`	Enables the Force Net Login feature for this connection profile.	0 = Do not force the user to log out and log in (default). 1 = Force user to log out when the Wait time is reached unless an option is selected. 2 = Disconnect VPN session upon reaching the Wait time unless an option is selected. 3 = Wait for the user to select Connect or Disconnect.	Does not appear in GUI

Distributing Configured VPN Client Software to Remote Users

When you have created the VPN Client profile configuration file, you can distribute it to users separately or as part of the VPN Client software.

Separate Distribution

To distribute the configuration file separately and have users import it to the VPN Client after they have installed it on their PCs, follow these steps:

Note For the Mac OS X platform, the configuration file is placed in the Profiles folder before the VPN Client is installed. See Chapter 2 of the *VPN Client User Guide for Mac OS X* for more information.

Step 1 Distribute the appropriate profile files to users on whatever media you prefer.

Step 2 Supply users with necessary configuration information.

Step 3 Instruct users to:

a. Install the VPN Client according to the instructions in the *VPN Client User Guide* for your platform.

b. Start the VPN Client and follow the instructions in Chapter 5 of the *VPN Client User Guide* for your platform. See the section "Importing a VPN Client Configuration File." (Windows-only)

c. Finish configuring the VPN Client according to the instructions in Chapter 4of the *VPN Client User Guide* for your platform.

d. Connect to the private network, and enter parameters according to the instructions in Chapter 5 of the *VPN Client User Guide* for your platform.

Distribution with the VPN Client Software

If the vpnclient.ini file is bundled with the VPN Client software when it is first installed, it automatically configures the VPN Client during installation. You can also distribute the profile files (one .pcf file for each connection entry) as preconfigured connection profiles for automatic configuration.

To distribute preconfigured copies of the VPN Client software to users for installation, perform the following steps:

Step 1 Copy the VPN Client software files from the distribution CD-ROM into each directory where you created an vpnclient.ini (global) file and separate connection profiles for a set of users.

Note For the Mac OS X platform, preconfigured files are placed in the Profiles and Resources folders before the VPN Client is installed. The vpnclient.ini file is placed in the installer directory. See Chapter 2 of the *VPN Client User Guide for Mac OS X* for more information.

Step 2 Prepare and distribute the bundled software.

CD-ROM or network distribution: Be sure the vpnclient.ini file and profile files are in the same directory with all the CD-ROM image files. You can have users install from this directory through a network connection; or you can copy all files to a new CD-ROM for distribution; or you can create a self-extracting ZIP file that contains all the files from this directory, and have users download it, and then install the software.

Step 3 Supply users with any other necessary configuration information and instructions. See Chapter 2 of the *VPN Client User Guide* for your platform.

Data Sheet

Cisco Secure **Access Control Server**
Version 3.2 for Windows

The Cisco® Secure Access Control Server (ACS) provides a comprehensive identity networking solution and secure user experience for Cisco intelligent information networks. It is the integration and control layer among all enterprise users, administrators, and the resources of the network infrastructure.

Introduction

With the ever-increasing methods of accessing networks today, security breaches and uncontrolled user access are becoming a primary concern. With the increased usage of the Internet, network administrators are challenged to identify devices as well as users, to guarantee secure transactions, and to prevent the spread of viruses and denial-of-service (DoS) attacks. These challenges exist not only at the perimeter but also inside a network. The wide adoption of 802.11 wireless LAN and the high-speed, always-on Internet connections (such as DSL and cable) are only making these challenges more severe from within an organization's network. Investing in identity networking technologies that can mitigate these ubiquitous security vulnerabilities is worth considering from both an operational and a return-on-investment perspective.

These changing network dynamics and increased security threats have driven new opportunities in access control management solutions. According to the latest report by IDC, security authentication, authorization, and accounting (AAA) solutions represent the fastest growing segment in the security software market, with a 22-percent compound annual growth rate (CAGR) throughout 2006. As AAA becomes more available throughout the network and the requirement to control user access expands beyond simple dialup, new trends (including expanded authentication, tracking, and audit management) are emerging that require identity-networking solutions to be pervasive, scalable, and relevant throughout the network. In particular, identity networking solutions must address user access from an expanding set of network access points (that is, voice, video, virtual private network [VPN], firewalls, content, storage, wireless, DSL, and cable).

Stronger forms of authentication, such as public key infrastructure (PKI) and two-factor authentication, are now being used to control users accessing corporate resources from public networks and VPN. Network administrators are looking for solutions that provide flexible authorization policies that are tied not only to who the user is at the end point, but also to the service type that the user has access to. Lastly, the ability to track and monitor the behavior of network users, in a manner independent from the access medium through which users choose to connect, is of primary importance in isolating unwanted and excessive use of valuable network resources.

Identity networking and the ability to provision the network to user- or device-specific services are now possible with the Cisco Secure ACS. The Cisco Secure ACS is a highly scalable, high-performance access control server that operates as a centralized RADIUS server or TACACS+ server. The Cisco Secure ACS extends access security by combining authentication, user or administrator access, and policy control from a centralized identity networking solution, thereby allowing for greater flexibility and mobility, increased security, and user productivity gains. The Cisco Secure ACS greatly reduces the administrative and management burden involved in scaling user and network administrative access to your network. By using a central database for all user accounts, the Cisco Secure ACS centralizes the control of all user privileges and distributes them to hundreds or thousands of access points throughout the network. As an accounting service, the Cisco Secure ACS reduces IT operating costs by providing detailed reporting and monitoring capabilities of network users' behavior and by keeping a record of every access connection and device configuration change across the entire network.

The Cisco Secure ACS provides a centralized identity networking solution and simplified user management experience across all Cisco devices and security-management applications. The Cisco Secure ACS ensures enforcement of assigned policies by allowing network administrators to control:

- Who can log in to the network
- What privileges each user has in the network
- What accounting information is recorded in terms of security audits or account billing
- What access and command controls are enabled for each configuration administrator

The Cisco Secure ACS supports a wide array of access connection types, including wired and wireless LAN, dialup, broadband, content, storage, voice over IP (VoIP), firewalls, and VPNs.

The Cisco Secure ACS is a key component of the Cisco Identity-Based Networking Services (IBNS) architecture. Cisco IBNS is based on port security standards such as 802.1X (IEEE standard for port-based network access control) and Extensible Authentication Protocol (EAP) to extend security AAA inside the LAN when, historically, access control was managed at the perimeter of the network. New policy controls (such as per-user quotas and virtual LANs [VLANs]) are possible with this new architecture, now that the authenticator (switch or wireless access point) becomes a RADIUS client capable of querying an AAA server for these controls. Cisco IBNS offers greater flexibility and mobility to stratified users by combining access control and user profiles. This combination enhances secure network connectivity, services, and applications, allowing enterprises to increase user productivity and reduce operating costs. Cisco IBNS, combined with the Cisco Secure ACS, allows the network administrator to implement true, identity-based network access control and policy enforcement at the user and port levels. It provides user and device identification with policies that are centrally created and administered by the Cisco Secure ACS while using secure and reliable strong authentication technologies (such as one-time-token or smartcard authentication methods).

In addition to offering dynamic, port-based authentication for securing network access based on an identity, the Cisco IBNS architecture, in conjunction with the Cisco Secure ACS, offers the following additional per-user or per-device policy assignments:

- Time-of-day and day-of-week restrictions
- Network access server IP filter that restricts user and switch access based on network-access-server IP address
- Media Access Control (MAC) address filtering that restricts authentication of devices based on their MAC addresses
- Per-user VLANs
- Per-user ACLs

Up to version 3.1, Cisco Secure ACS has been available as software for Windows installations. Version 3.2 introduces a new, secure, appliance-based offering for Cisco Secure ACS. The Cisco Secure ACS Solution Engine, a 1-rack-unit (1-RU) security-hardened appliance with a preinstalled Cisco Secure ACS license, provides essentially the same features and functions as the Cisco Secure ACS for Windows, in a dedicated, application-specific appliance package.

The Cisco Secure ACS Solution Engine provides a zero-touch installation and highly reliable AAA solution with increased total-cost-of-ownership protection through high availability and simplified day-to-day operation of the Cisco Secure ACS service. The Cisco Secure ACS Solution Engine also includes additional features specific to its operation and management. For more information, refer to the Cisco Secure ACS Solution Engine data sheet.

Cisco Secure ACS 3.2 adds new Extensible Authentication Protocol (EAP) enhancements to support Protected EAP (PEAP) for Microsoft Windows clients. PEAP retains the security benefits of Cisco EAP wireless (LEAP) while providing more extensibility and support for one-time-token authentication. PEAP is a draft in the Internet Engineering Task Force (IETF) Internet Standards group. Cisco Secure ACS Version 3.2 adds support for machine authentication (using EAP-Transport Layer Security [TLS] or PEAP) on secure 802.1X ports, further extending the Cisco IBNS scope. This capability is crucial for device control access in an 802.1X secure environment where port access is blocked until a user has successfully been identified behind an 802.1X-provisioned port. Also new to Cisco Secure ACS 3.2 are EAP-TLS enhancements that provide expanded PKI authentication into open-database-connectivity (ODBC) databases and improved EAP-TLS domain search capabilities.

Features and Benefits

New Features for Cisco Secure ACS Version 3.2

- *PEAP support for Microsoft Windows clients*—Cisco Secure ACS 3.2 adds support for Microsoft PEAP supplicants available today for Windows 98, NT, 2000, and XP. The Microsoft PEAP supplicant supports client authentication only by MS-CHAPv2, as compared to Cisco PEAP supplicant (available through Cisco Aironet® wireless adapters), which supports client authentication by logon passwords or one-time passwords. Unlike the Microsoft PEAP supplicant the Cisco PEAP supplicant provides support for one-time-token authentication and powerful extensibility of non-MSCHAP end-user databases such as Lightweight Directory Access Protocol (LDAP), Novell Directory Service (NDS), and ODBC. Cisco Secure ACS 3.2 allows selection of Microsoft PEAP or Cisco PEAP from its EAP configuration page.
- *LDAP multithreading*—Cisco Secure ACS 3.2 is now capable of processing multiple LDAP authentication requests in parallel, as opposed to the sequential processing mechanism employed in pre-3.2 versions. This feature greatly improves Cisco Secure ACS performance in "task-intensive" configurations such as in wireless deployments.
- *EAP-TLS enhancements*—New EAP-TLS enhancements have been added to Cisco Secure ACS 3.2 that further extend Cisco Secure ACS PKI capabilities. EAP-TLS authentication against ODBC user databases and EAP-TLS silent-session-resume support are among the new added capabilities. Similar to the PEAP silent session resume, EAP-TLS silent session resume prevents users from reauthenticating during a RADIUS session timeout. This feature is particularly advantageous in wireless applications where users are constantly mobile. The duration of the EAP-TLS silent session timeout is configurable from the Cisco Secure ACS GUI.

- *Machine authentication support*—Cisco Secure ACS 3.2 adds the 802.1X machine authentication option using either PEAP with MSCHAPv2 implementation (PEAP-EAP-MSCHAPv2) or EAP-TLS. Machine authentication is used at boot time to authenticate and communicate with Windows domain controllers when connecting to 802.1X secure ports. Machine authentication allows pulling down machine group policies from the Windows Active Directory independent of a subsequent interactive user authentication session.
- *EAP mixed configurations*—Cisco Secure ACS 3.2 now supports the following EAP types: PEAP-EAP-GTC (Cisco PEAP), PEAP-EAP-MSCHAPv2 (Microsoft PEAP), EAP-TLS, EAP message digest algorithm 5 (MD5), and Cisco EAP Wireless (LEAP). Cisco Secure ACS 3.2 allows flexible EAP settings (one or several EAP types can be selected concurrently), allowing Cisco Secure ACS to intelligently process EAP authentications, depending on the nature of the 802.1X supplicant presented by the end users.
- *Accounting support for Cisco Aironet wireless access points*—Cisco Secure ACS 3.2 now supports user-based accounting from Cisco Aironet wireless access points when they are configured as RADIUS (Cisco Aironet Access Point) AAA clients.
- *Downloadable access control lists (ACLs) for VPN users*—Cisco Secure ACS 3.2 extends per-user access-control-list support to Cisco VPN solutions (in addition to the current support for Cisco PIX® Firewall solutions). With this option, administrators can define ACLs of any length, for a user or group of users within the Cisco Secure ACS GUI. Cisco VPN 3000 Concentrator v4.0 is required for this feature.

Cisco Secure ACS Benefits

Cisco Secure ACS is a powerful access control server with many high-performance and scalability features for any organization growing its WAN or LAN connectivity:

- *Ease of use*—A Web-based user interface simplifies and distributes configuration for user profiles, group profiles, and Cisco Secure ACS configuration.
- *Scalability*—Cisco Secure ACS is built to support large networked environments with support for redundant servers, remote databases, and user database backup services.
- *Extensibility*—LDAP authentication forwarding supports the authentication of user profiles stored in directories from leading directory vendors, including Sun, Novell, and Microsoft.
- *Management*—Windows Active Directory and Windows NT database support consolidates Windows username and password management, and uses the Windows Performance Monitor for real-time statistics viewing.
- *Administration*—Different access levels for each Cisco Secure ACS administrator—and the ability to group network devices—enable easier control and maximum flexibility to facilitate enforcement and changes of security policy administration over all the devices in a network.
- *Product flexibility*—Because Cisco IOS® Software has embedded support for AAA, Cisco Secure ACS can be used across virtually any network access server that Cisco sells. (The Cisco IOS Software release must support RADIUS or TACACS+.)
- *Protocol flexibility*—Cisco Secure ACS includes simultaneous TACACS+ and RADIUS support for a flexible solution with VPN or dial support at the origin and termination of IP Security (IPSec) and Point-to-Point Tunneling Protocol (PPTP) tunnels.
- *Integration*—Tight coupling with Cisco IOS routers and VPN solutions provides features such as Multichassis Multilink Point-to-Point Protocol and Cisco IOS command authorization.

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- *Third-party support*—Cisco Secure ACS offers token server support for any OTP vendor that provides an RFC-compliant RADIUS interface (such as RSA, PassGo, Secure Computing, ActiveCard, Vasco, and CryptoCard).
- *Control*—Cisco Secure ACS provides dynamic quotas for time-of-day, network usage, number of logged sessions, and day-of-week access restrictions.

System Requirements

Cisco Secure ACS is available in two options: Cisco Secure ACS Windows and Cisco Secure ACS Solution Engine—a 1-RU security-hardened appliance with a preinstalled Cisco Secure ACS license

Hardware Requirements

For implementation of Cisco Secure ACS Windows, your Windows Server must meet the following minimum hardware requirements:

- Pentium processor, 550 MHz or faster
- 256 MB RAM
- 250 MB free disk space, more if you are running your database on the same device
- Minimum resolution of 800 x 600 with 256 colors

The Cisco Secure ACS Solution Engine is available on a Cisco 1111 platform with the following specifications:

- Pentium IV processor, 2.66 GHz
- 1 GB RAM
- 40 GB free disk space
- 2 built-in 10/100 Ethernet controllers
- 1 floppy disk drive
- 1 CD-ROM drive

Device and User Directory Compatibility

A complete list of minimum system and software requirements for devices, browsers, and user directories compatible with Cisco Secure ACS 3.2 is found in the *Supported and Interoperable Devices and Software Tables for Cisco Secure ACS v3.2* document published with Cisco Secure ACS v3.2 user guides.

Ordering Information

Cisco Secure ACS is available for purchase through regular Cisco sales and distribution channels worldwide. Cisco Secure ACS Windows includes all the necessary components needed for an independent installation on a Microsoft Windows workstation. Cisco Secure ACS Solution Engine is shipped with a preinstalled Cisco Secure ACS software license.

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For More Information

For more information about Cisco Secure ACS 3.2, including the user guide and release notes for the Cisco Secure ACS Version 3.2, visit: http://www.cisco.com/go/acs.

For information about specific product functions or technical questions, send e-mail to the Cisco Secure ACS product marketing group at ACS-MKT@cisco.com.

For questions about product ordering, availability, and support contract information, send e-mail to the product marketing group at ciscoworks@cisco.com.

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Cisco Systems

Data Sheet

Cisco Secure **Access Control Server** Solution Engine

The Cisco® Secure Access Control Server (ACS) provides a comprehensive identity networking solution and secure user experience for Cisco intelligent information networks. It is the integration and control layer among all enterprise users, administrators, and the resources of the network infrastructure. The Cisco Secure ACS Solution Engine adds new security improvements, simplified management, and reduced total cost of ownership (TCO) for the operation of the underlying ACS service.

Introduction

The Cisco Secure ACS Solution Engine is a high-performance and highly scalable user and administrative access control solution that operates as a centralized RADIUS or TACACS+ server system for the Cisco 1111 platform. Packaged in a dedicated and secure 1-rack-unit (1-RU) hardened appliance, the Cisco Secure ACS Solution Engine provides a reduced-configuration, plug and play solution, and highly reliable platform with the unique ability to protect existing networking infrastructure through fully Web-based remote-access and configuration capabilities.

The need for security appliances is rapidly increasing in today's IT space. Security, convenience, and ease of installation and troubleshooting are the important advantages of security appliances compared to the many software-based security applications that exist in the marketplace today. The innovative, new, 1-RU, security-hardened Cisco Secure ACS Solution Engine was designed to specifically alleviate the security issue with a closed-device design that makes it substantially more difficult for intruders to penetrate than an open-platform system.

Security appliances provide an all-in-one approach that simplifies product selection, product integration, and ongoing support. By combining all necessary operating system installation and patching with the ACS software service, customers can avoid maintaining software versioning and proliferation of servers, patches, and operating system (OS) maintenance issues. This is particularly important in large networking environments where security solutions are required in remote sites with no IT professionals present to regularly manage and upgrade these solutions. In addition, a security appliance greatly simplifies support and troubleshooting in failure modes, hence enabling quick service restoration (through a one-stop support contact)—an important consideration, especially when the security application is mission-critical, a situation that is true with security authentication, authorization, and accounting (AAA) applications.

Changing network dynamics and increased security threats have influenced new opportunities in access control management solutions. As AAA becomes more relevant and the requirement to

control user access expands beyond just dialup, new trends (including expanded authentication, tracking, and audit management) are emerging that require identity-networking solutions to be pervasive, scalable, and available throughout the network.

Cisco Secure ACS extends access security by combining authentication, user or administrator access, and policy control from a centralized location, allowing for greater flexibility and mobility, increased security, and user productivity gains. As an accounting service, the Cisco Secure ACS Solution Engine reduces IT operations costs by providing detailed reporting and monitoring capabilities of network users' behavior and by keeping a record of every access connection and device configuration change across the entire network.

Cisco Secure ACS provides a centralized identity networking solution and simplified user-management experience across all Cisco devices and security-management applications. Cisco Secure ACS ensures enforcement of assigned policies by allowing network administrators to control:

- Who can log in to the network
- What privileges each user has in the network
- What accounting information is recorded in terms of security audits or account billing
- What access and command controls are enabled for each configuration administrator

Like the Cisco Secure ACS for Windows, the Cisco Secure ACS Solution Engine supports a wide array of access connection types, including wired or wireless LAN, dialup, broadband, content, storage, voice over-IP (VoIP), firewall, and virtual private networks (VPNs).

Cisco Secure ACS Solution Engine Highlights

The Cisco Secure ACS Solution Engine is a highly secure, OS-independent, and dedicated platform that offers a highly manageable access control solution with an increasingly reduced setup and troubleshooting time. The Cisco Secure ACS Solution Engine provides Plug and Play deployment, a highly reliable AAA solution, and increased TCO protection through the high availability and simplified day-to-day operation and management of the Cisco Secure ACS service. It provides the same features and functions as the Cisco Secure ACS for Windows, in a dedicated, security-hardened, application-specific appliance package. Customers with existing Windows-based Cisco Secure ACS deployments can add or upgrade to Cisco Secure ACS Solution Engines without any effect on existing AAA configurations, including remote logging and replication configurations. More information about the latest Cisco Secure ACS features is available from the Cisco Secure ACS for Windows data sheet.

To ensure the high-security posture of the Cisco Secure ACS Solution Engine, additional functions specific to operating and managing the Cisco Secure ACS Solution Engine are provided. Additionally, a Cisco Secure ACS remote agent is available with each Cisco Secure ACS Solution Engine to enable remote logging and Windows authentication. Forwarding all accounting data from the solution engine to a remote agent preserves disk space on the solution engine. It also improves AAA performance by eliminating the frequent and time-consuming disk writes required for local logging on the solution engine. Also, because a Cisco Secure ACS Solution Engine is never a member of a Microsoft Windows domain, the Cisco Secure ACS remote agent establishes the necessary Windows domain trust relationships for Windows-based authentication.

Table 1 lists additional functions provided by the Cisco Secure ACS Solution Engine. These functions are not available from the Cisco Secure ACS for Windows software product.

Table 1 Functions Provided by the Cisco Secure ACS Solution Engine

Hardened underlying operating system	• The Cisco Secure ACS Solution Engine is dedicated to run only the Cisco Secure ACS service, thereby preventing any appliance-based OS changes, additions, or configuration modifications.
Serial console interface	• A serial console interface is provided on the Cisco Secure ACS Solution Engine for initial configuration, subsequent management of IP connections, access to the Cisco Secure ACS HTML interface, and application of upgrade and recovery procedures. • The serial console interface supports both serial line and Telnet connections through which the Cisco Secure ACS service can be reimaged, reloaded, and rebooted, both locally and remotely.
Solution Engine-specific management tools	• Integrated into the existing Cisco Secure ACS HTML interface, Solution Engine-specific management tools provide generic appliance-management capabilities, including backup, recovery, software upgrades, monitoring, maintenance, and troubleshooting functions. • The Cisco Secure ACS HTML interface is accessed though a secured Secure Sockets Layer (SSL)-based connection.
Cisco Secure ACS remote agent	• The Cisco Secure ACS remote agent provides two functions: authentication against Windows domains and remote logging capabilities of user accounting records. • Administrators can provision primary and backup Cisco Secure ACS remote agents in distributed Cisco Secure ACS configurations.
Port-based packet filtering	• The Cisco Secure ACS Solution Engine implements a packet-filtering service to block traffic on all but the necessary Cisco Secure ACS-specific TCP and UDP ports.
Network Timing Protocol (NTP) support	• The Cisco Secure ACS Solution Engine has built-in NTP functions to maintain network timing synchronization and consistency with other Cisco Secure ACS appliances or network devices.

Cisco Secure ACS Solution Engine-Specific Benefits

In addition to the many benefits the Cisco Secure ACS solution brings in controlling user and administrative AAA inside your network, the Cisco Secure ACS Solution Engine, with its 1-RU hardened form factor, adds specific security and operational advantages in the following areas:

- *Security*—With a security-hardened service focused on running exclusively the Cisco Secure ACS service, the solution engine significantly increases the security posture of the Cisco Secure ACS system. All solution engine services and ports not used by the Cisco Secure ACS service are disabled to secure access to the Cisco Secure ACS Solution Engine.
- *Plug and Play solution*—The Cisco Secure ACS Solution Engine provides a record service uptime before starting to configure the Cisco Secure ACS service.
- *Manageability*—With a dedicated, exclusive, and complete Cisco Secure ACS solution, the appliance greatly simplifies manageability and support of the Cisco Secure ACS service while removing the necessity to manage any UNIX or Windows network operating systems.
- *Supportability*—With no external services or applications (other than the Cisco Secure ACS service) allowed to be installed on the solution engine, the support and the day-to-day management of the Cisco Secure ACS Solution Engine are greatly simplified.

- *Reliability*—Enabling only the services that are required by Cisco Secure ACS allows an increase in overall reliability and security of the Cisco Secure ACS service.
- *TCO*—With a turnkey security-hardened solution engine that is easily deployed, Cisco is able to guarantee full support, maintenance, and serviceability of the overall Cisco Secure ACS system—not just the Cisco Secure ACS software running on various hardware configurations, supported by third-party vendors.
- *Migration from Cisco Secure ACS UNIX*—The Cisco Secure ACS Solution Engine provides a suitable alternative for Cisco Secure ACS UNIX customers not willing to install or manage Cisco Secure ACS on the Windows OS.

System Requirements

Hardware Requirements

The Cisco Secure ACS Solution Engine is available on Cisco 1111 platforms with the following specifications:

- Pentium IV processor, 2.66 GHz
- 1 GB RAM
- 40 GB free disk space
- Two built-in 10/100 Ethernet controllers
- 1 floppy disk drive
- 1 CD-ROM drive

The Cisco Secure ACS remote agent is available in a Windows version that can be installed on a Windows 2000 Server (Windows Domain Controller or Member Server supported).

The computer running Cisco Secure ACS remote agent for Windows must meet the following minimum hardware requirements:

- Pentium III processor, 550 MHz or faster
- 256 MB RAM
- 250 MB free disk space

Ordering Information

The Cisco Secure ACS Solution Engine is available for purchase through normal Cisco sales and distribution channels worldwide. The Cisco Secure ACS Solution Engine is shipped with a preinstalled Cisco Secure ACS Software license.

For More Information

For more information about Cisco Secure ACS, visit: http://www.cisco.com/go/acs.

For specific product functions or technical questions, send e-mail to the Cisco Secure ACS product marketing group at ACS-MKT@cisco.com.

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COBRA TECNOLOGIA – MANUAL VOLUME 6

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```
                INTEGER
    }

connUnitLinkUnitId OBJECT-TYPE
    SYNTAX OCTET STRING (SIZE (16))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The connUnitId of the connectivity unit
        that contains this link table."
    ::= { connUnitLinkEntry 1 }

connUnitLinkIndex OBJECT-TYPE
    SYNTAX INTEGER (0..2147483647)
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "This value is used to create a unique value
        for each entry in the link table with the same
  connUnitLinkUnitId. The value
        can only be reused if it is not currently in
        in use and the value is the next candidate to
        be used. This value is allowed to wrap at the
        highest value represented by the number of bits.
        This value is reset to zero when the system is
        Reset and the first value to be used is one."
    ::= { connUnitLinkEntry 2 }

connUnitLinkNodeIdX OBJECT-TYPE
    SYNTAX OCTET STRING (SIZE(64))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The node WWN of the unit at one end
        of the link.  If the node WWN is unknown
        and the node is a connUnit in the responding
        agent then the value of this object MUST BE
        equal to its connUnitID."
    ::= { connUnitLinkEntry 3 }

connUnitLinkPortNumberX OBJECT-TYPE
    SYNTAX INTEGER
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The port number on the unit specified by
        connUnitLinkNodeIdX if known, otherwise -1.
        If the value is nonnegative then it will be
        equal to connUnitPortPhysicalNumber."
    ::= { connUnitLinkEntry 4 }

connUnitLinkPortWwnX OBJECT-TYPE
```

```
        SYNTAX OCTET STRING (SIZE(16))
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The port WWN of the unit specified by
            connUnitLinkNodeIdX if known,
            otherwise 16 octets of binary 0"
        ::= { connUnitLinkEntry 5 }

    connUnitLinkNodeIdY OBJECT-TYPE
        SYNTAX OCTET STRING (SIZE(64))
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The node WWN of the unit at the other end
            of the link.  If the node WWN is unknown
            and the node is a connUnit in the responding
            SNMP agency then the value of this object
            MUST BE equal to its connUnitID."
        ::= { connUnitLinkEntry 6 }

    connUnitLinkPortNumberY OBJECT-TYPE
        SYNTAX INTEGER
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The port number on the unit specified by
            connUnitLinkNodeIdY if known, otherwise -1.
            If the value is nonnegative then it will be
            equal to connUnitPortPhysicalNumber."
        ::= { connUnitLinkEntry 7 }

    connUnitLinkPortWwnY OBJECT-TYPE
        SYNTAX OCTET STRING (SIZE(16))
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The port WWN on the unit specified by
            connUnitLinkNodeIdY if known,
            otherwise 16 octets of binary 0"
        ::= { connUnitLinkEntry 8 }

    connUnitLinkAgentAddressY OBJECT-TYPE
        SYNTAX OCTET STRING (SIZE(16))
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The address of an FCMGMT MIB agent for the
            node identified by connUnitLinkNodeIdY,
            if known; otherwise 16 octets of binary 0"
        ::= { connUnitLinkEntry 9 }
```

```
connUnitLinkAgentAddressTypeY OBJECT-TYPE
    SYNTAX INTEGER
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "If connUnitLinkAgentAddressY is nonzero,
        it is a protocol address.
        ConnUnitLinkAgentAddressTypeY is the
        the 'address family number' assigned by IANA
        to identify the address format.
        (eg, 1 is Ipv4, 2 is Ipv6)."
    ::= { connUnitLinkEntry 10 }

connUnitLinkAgentPortY OBJECT-TYPE
    SYNTAX INTEGER
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The IP port number for the agent. This is
        provided in case the agent is at a non-standard
        SNMP port."
    ::= { connUnitLinkEntry 11 }

connUnitLinkUnitTypeY OBJECT-TYPE
    SYNTAX FcUnitType
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "Type of the FC connectivity unit as defined in
        connUnitType."
    ::= { connUnitLinkEntry 12 }

connUnitLinkConnIdY OBJECT-TYPE
    SYNTAX OCTET STRING (SIZE(3))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "This is the Fibre Channel ID of this port.
        If the connectivity unit is a switch, this
        is expected to be a Big Endian value of 24
        bits. If this is loop, then it is the ALPA
        that is connected. If this is an eport, then
        it will only contain the domain ID. If not
        any of those, unknown or cascaded loop,
        return all bits set to 1."
    ::= { connUnitLinkEntry 13 }

connUnitLinkCurrIndex OBJECT-TYPE
    SYNTAX INTEGER
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
```

```
                    "The last used link index."
                ::= { connUnitLinkEntry 14 }


-- ---------------------------------------------------------------------
-- The following four tables have been obsoleted. These were used to
-- keep statistic information based on the type of port type. It was
-- changed for all ports to use a common statistics table.

-- Hub Port Statistics

--    connUnitPortStatHubTable OBJECT-TYPE
--        SYNTAX SEQUENCE OF ConnUnitPortStatHubEntry
--        ACCESS not-accessible
--        STATUS obsolete
--        DESCRIPTION
--            "A list of statistics for the hub port type.

--      This object has been obsoleted."
--       ::= { statSet 1 }


-- Fabric Port Statistics

--    connUnitPortStatFabricTable OBJECT-TYPE
--        SYNTAX SEQUENCE OF ConnUnitPortStatFabricEntry
--        ACCESS not-accessible
--        STATUS obsolete
--        DESCRIPTION
--            "A list of statistics for the fabric port types.

--      This object has been obsoleted."
--        ::= { statSet 2 }

-- SCSI Port Statistics

--    connUnitPortStatSCSITable OBJECT-TYPE
--        SYNTAX SEQUENCE OF ConnUnitPortStatSCSIEntry
--        ACCESS not-accessible
--        STATUS obsolete
--        DESCRIPTION
--            "A list of statistics for the SCSI port type.

--      This object has been obsoleted."
--        ::= { statSet 3 }

-- LAN/WAN Port Statistics

--    connUnitPortStatLANTable OBJECT-TYPE
--        SYNTAX SEQUENCE OF ConnUnitPortStatLANEntry
--        ACCESS not-accessible
--        STATUS obsolete
```

```
--         DESCRIPTION
--             "A list of statistics for the LAN/WAN port type.

--       This object has been obsoleted."
--         ::= { statSet 4 }


-- There is one and only one statistics table for each
-- individual port. For all objects in statistics table, if the object
   is not
-- supported by the conn unit then the high order bit is set to 1 with
   all other
-- bits set to zero. The high order bit is reserved to indicate if the
   object
-- if supported or not. All objects start at a value of zero at hardware
-- initialization and continue incrementing till end of 63 bits and
   then
-- wrap to zero.

-- Port Statistics

    connUnitPortStatTable OBJECT-TYPE
        SYNTAX SEQUENCE OF ConnUnitPortStatEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            "A list of statistics for the fabric port types."
        ::= { statSet 5 }

    connUnitPortStatEntry OBJECT-TYPE
        SYNTAX ConnUnitPortStatEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            "An entry describing port statistics."
        INDEX { connUnitPortStatUnitId,
                connUnitPortStatIndex }
            ::= { connUnitPortStatTable 1 }

        ConnUnitPortStatEntry ::=
            SEQUENCE {
                connUnitPortStatUnitId
                    FcGlobalId,
                connUnitPortStatIndex
                    INTEGER,
                connUnitPortStatCountError
                    OCTET STRING,
                connUnitPortStatCountTxObjects
                    OCTET STRING,
                connUnitPortStatCountRxObjects
                    OCTET STRING,
```

```
connUnitPortStatCountTxElements
    OCTET STRING,
connUnitPortStatCountRxElements
    OCTET STRING,
connUnitPortStatCountBBCreditZero
    OCTET STRING,
connUnitPortStatCountInputBuffersFull
    OCTET STRING,
connUnitPortStatCountFBSYFrames
    OCTET STRING,
connUnitPortStatCountPBSYFrames
    OCTET STRING,
connUnitPortStatCountFRJTFrames
    OCTET STRING,
connUnitPortStatCountPRJTFrames
    OCTET STRING,
connUnitPortStatCountClass1RxFrames
    OCTET STRING,
connUnitPortStatCountClass1TxFrames
    OCTET STRING,
connUnitPortStatCountClass1FBSYFrames
    OCTET STRING,
connUnitPortStatCountClass1PBSYFrames
    OCTET STRING,
connUnitPortStatCountClass1FRJTFrames
    OCTET STRING,
connUnitPortStatCountClass1PRJTFrames
    OCTET STRING,
connUnitPortStatCountClass2RxFrames
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connUnitPortStatCountClass2PBSYFrames
    OCTET STRING,
connUnitPortStatCountClass2FRJTFrames
    OCTET STRING,
connUnitPortStatCountClass2PRJTFrames
    OCTET STRING,
connUnitPortStatCountClass3RxFrames
    OCTET STRING,
connUnitPortStatCountClass3TxFrames
    OCTET STRING,
connUnitPortStatCountClass3Discards
    OCTET STRING,
connUnitPortStatCountRxMulticastObjects
    OCTET STRING,
connUnitPortStatCountTxMulticastObjects
    OCTET STRING,
connUnitPortStatCountRxBroadcastObjects
    OCTET STRING,
```

```
            connUnitPortStatCountTxBroadcastObjects
                OCTET STRING,
            connUnitPortStatCountRxLinkResets
                OCTET STRING,
            connUnitPortStatCountTxLinkResets
                OCTET STRING,
            connUnitPortStatCountNumberLinkResets
                OCTET STRING,
            connUnitPortStatCountRxOfflineSequences
                OCTET STRING,
            connUnitPortStatCountTxOfflineSequences
                OCTET STRING,
            connUnitPortStatCountNumberOfflineSequences
                OCTET STRING,
            connUnitPortStatCountLinkFailures
                OCTET STRING,
            connUnitPortStatCountInvalidCRC
                OCTET STRING,
            connUnitPortStatCountInvalidTxWords
                OCTET STRING,
            connUnitPortStatCountPrimitiveSequenceProtocolErrors
                OCTET STRING,
            connUnitPortStatCountLossofSignal
                OCTET STRING,
            connUnitPortStatCountLossofSynchronization
                OCTET STRING,
            connUnitPortStatCountInvalidOrderedSets
                OCTET STRING,
            connUnitPortStatCountFramesTooLong
                OCTET STRING,
            connUnitPortStatCountFramesTruncated
                OCTET STRING,
            connUnitPortStatCountAddressErrors
                OCTET STRING,
            connUnitPortStatCountDelimiterErrors
                OCTET STRING,
            connUnitPortStatCountEncodingDisparityErrors
                OCTET STRING
        }

    connUnitPortStatUnitId OBJECT-TYPE
        SYNTAX FcGlobalId
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The connUnitId of the connectivity unit
            that contains this port stat table."
        ::= { connUnitPortStatEntry 1 }

    connUnitPortStatIndex OBJECT-TYPE
        SYNTAX INTEGER (0..2147483647)
        ACCESS read-only
```

```
            STATUS mandatory
            DESCRIPTION
                "A unique value among all entrys
                in this table, between 0 and
                connUnitNumPort[connUnitPortUnitId]."
            ::= { connUnitPortStatEntry 2 }

        connUnitPortStatCountError OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "A count of the errors that have occured
                on this port."
            ::= { connUnitPortStatEntry 3 }

        connUnitPortStatCountTxObjects OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The number of frames/packets/IOs/etc that have been
transmitted
                by this port. Note: A Fibre Channel frame starts with
SOF and
                ends with EOF. FC loop devices should not count frames
passed
                through. This value represents the sum total for all
other Tx
                objects."
            ::= { connUnitPortStatEntry 4 }

        connUnitPortStatCountRxObjects OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The number of frames/packets/IOs/etc that have been
received
                by this port. Note: A Fibre Channel frame starts with
SOF and
                ends with EOF. FC loop devices should not count frames
passed
                through. This value represents the sum total for all
other Rx
                objects."
            ::= { connUnitPortStatEntry 5 }

        connUnitPortStatCountTxElements OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
```

```
            DESCRIPTION
                    "The number of octets or bytes that have been
transmitted
                    by this port. One second periodic polling of the
port. This
                    value is saved and compared with the next polled
value to
                    compute net throughput. Note, for Fibre Channel,
ordered
                     sets are not included in the count."
            ::= { connUnitPortStatEntry 6 }

        connUnitPortStatCountRxElements OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The number of octets or bytes that have been received.
                    by this port. One second periodic polling of the
port. This
                    value is saved and compared with the next polled
value to
                    compute net throughput. Note, for Fibre Channel,
ordered
                     sets are not included in the count."
            ::= { connUnitPortStatEntry 7 }

        connUnitPortStatCountBBCreditZero OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                 "Count of transitions in/out of BBcredit zero state.
                   The other side is not providing any credit. Note,
                   this is a Fibre Channel stat only."
            ::= { connUnitPortStatEntry 8 }

        connUnitPortStatCountInputBuffersFull OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                  "Count of occurrences when all input buffers of a
                  port were full and outbound buffer-to-buffer credit
                   transitioned to zero. There is no credit to
                  provide to other side. Note, this is a Fibre Channel
                   stat only."
            ::= { connUnitPortStatEntry 9 }

        connUnitPortStatCountFBSYFrames OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
```

```
            STATUS mandatory
            DESCRIPTION
                "Count of times that FBSY was returned to this port as a
                    result of a frame that could not be delivered to
the other
                end of the link. This occurs if either the Fabric or the
                    destination port is temporarily busy.  Port can
only occur
                    on SOFc1 frames (the frames that establish a
connection).
                Note, this is a Fibre Channel only stat. This is the sum
                    of all classes. If you cannot keep the by class
counters,
                    then keep the sum counters."
            ::= { connUnitPortStatEntry 10 }

        connUnitPortStatCountPBSYFrames OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "Count of times that PBSY was returned to this port as a
                    result of a frame that could not be delivered to
the other
                 end of the link. This occurs if the destination port is
                  temporarily busy.  PBSY can only occur on SOFc1 frames
                 (the frames that establish a connection). Note, this is
                    a Fibre Channel only stat.This is the sum
                    of all classes. If you cannot keep the by class
counters,
                    then keep the sum counters."
            ::= { connUnitPortStatEntry 11 }

        connUnitPortStatCountFRJTFrames OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "Count of times that FRJT was returned to this port as a
                result of a Frame that was rejected by the fabric. Note,
                This is the total for all classes and is a Fibre Channel
                    only stat."
            ::= { connUnitPortStatEntry 12 }

        connUnitPortStatCountPRJTFrames OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "Count of times that FRJT was returned to this port as a
                 result of a Frame that was rejected at the destination
```

```
              N_Port. Note, This is the total for all classes and is
                a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 13 }

      connUnitPortStatCountClass1RxFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
               "Count of Class 1 Frames received at this port.
Note, this
                is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 14 }

      connUnitPortStatCountClass1TxFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
              "Count of Class 1 Frames transmitted out this port.
Note,
                this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 15 }

      connUnitPortStatCountClass1FBSYFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
             "Count of times that FBSY was returned to this port as a
              result of a Class 1 Frame that could not be delivered
to the
                other end of the link. This occurs if either the
Fabric or the
                destination port is temporarily busy.  FBSY can
only occur on
             SOFc1 frames (the frames that establish a connection).
Note,
                this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 16 }

      connUnitPortStatCountClass1PBSYFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
              "Count of times that PBSY was returned to this port
as a result
               of a Class 1 Frame that could not be delivered to
the other end
              of the link. This occurs if the destination N_Port
is temporarily
```

```
                busy.  PBSY can only occur on SOFc1 frames (the
frames that
                establish a connection). Note, this is a Fibre
Channel only
                stat."
          ::= { connUnitPortStatEntry 17 }

     connUnitPortStatCountClass1FRJTFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
               "Count of times that FRJT was returned to this port
as a result
               of a Class 1 Frame that was rejected by the fabric.
Note, this
                is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 18 }

     connUnitPortStatCountClass1PRJTFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
               "Count of times that FRJT was returned to this port
as a result
                of a Class 1 Frame that was rejected at the
destination N_Port.
                Note, this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 19 }

     connUnitPortStatCountClass2RxFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
               "Count of Class 2 Frames received at this port.
Note, this
                is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 20 }

     connUnitPortStatCountClass2TxFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
               "Count of Class 2 Frames transmitted out this port.
Note,
                this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 21 }
```

```
      connUnitPortStatCountClass2FBSYFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
              "Count of times that FBSY was returned to this port as a
               result of a Class 2 Frame that could not be delivered
to the
                   other end of the link. This occurs if either the
Fabric or the
                   destination port is temporarily busy.  FBSY can
only occur on
              SOFc1 frames (the frames that establish a connection).
Note,
                   this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 22 }

      connUnitPortStatCountClass2PBSYFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
                "Count of times that PBSY was returned to this port
as a result
                 of a Class 2 Frame that could not be delivered to
the other end
                of the link. This occurs if the destination N_Port
is temporarily
                   busy.  PBSY can only occur on SOFc1 frames (the
frames that
                   establish a connection). Note, this is a Fibre
Channel only
                   stat."
          ::= { connUnitPortStatEntry 23 }

      connUnitPortStatCountClass2FRJTFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
                "Count of times that FRJT was returned to this port
as a result
                of a Class 2 Frame that was rejected by the fabric.
Note, this
                   is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 24 }

      connUnitPortStatCountClass2PRJTFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
```

```
                "Count of times that FRJT was returned to this port
as a result
                 of a Class 2 Frame that was rejected at the
destination N_Port.
                 Note, this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 25 }

     connUnitPortStatCountClass3RxFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
                 "Count of Class 3 Frames received at this port.
Note, this
                 is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 26 }

     connUnitPortStatCountClass3TxFrames OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
               "Count of Class 3 Frames transmitted out this port.
Note,
                this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 27 }

     connUnitPortStatCountClass3Discards OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
                 "Count of Class 3 Frames that were discarded upon
reception
                 at this port.  There is no FBSY or FRJT generated
for Class 3
                 Frames.  They are simply discarded if they cannot
be delivered.
                  Note, this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 28 }

     connUnitPortStatCountRxMulticastObjects OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
                 "Count of Multicast Frames or Packets received at
this port."
          ::= { connUnitPortStatEntry 29 }

     connUnitPortStatCountTxMulticastObjects OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
```

```
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                    "Count of Multicast Frames or Packets transmitted
out this port."
            ::= { connUnitPortStatEntry 30 }

        connUnitPortStatCountRxBroadcastObjects OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                    "Count of Broadcast Frames or Packets received at
this port."
            ::= { connUnitPortStatEntry 31 }

        connUnitPortStatCountTxBroadcastObjects OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                    "Count of Broadcast Frames or Packets transmitted
out this port.
                     On a Fibre Channel loop, count only OPNr frames
generated."
            ::= { connUnitPortStatEntry 32 }

        connUnitPortStatCountRxLinkResets OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                    "Count of Link resets. This is the number of LRs
received. Note, this
                     is a Fibre Channel only stat."
            ::= { connUnitPortStatEntry 33 }

        connUnitPortStatCountTxLinkResets OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                    "Count of Link resets. This is the number LRs
transmitted. Note, this
                     is a Fibre Channel only stat."
            ::= { connUnitPortStatEntry 34 }

        connUnitPortStatCountNumberLinkResets OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
```

```
                "Count of Link resets and LIPs detected at this port.
                The number times the reset link protocol is initiated.
                  These are the count of the logical resets, a count
of the
              number of primatives. Note, this is a Fibre Channel only
                   stat."
            ::= { connUnitPortStatEntry 35 }

      connUnitPortStatCountRxOfflineSequences OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
              "Count of Offline Primitive OLS received at this port.
                  Note, this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 36 }

      connUnitPortStatCountTxOfflineSequences OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
               "Count of Offline Primitive OLS transmitted by this
port.
                  Note, this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 37 }

      connUnitPortStatCountNumberOfflineSequences OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
                "Count of Offline Primitive sequence received at
this port.
                  Note, this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 38 }

      connUnitPortStatCountLinkFailures OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
               "Count of link failures. This count is part of the
Link Error
            Status Block (LESB). (FC-PH 29.8). Note, this is a Fibre
                  Channel only stat."
          ::= { connUnitPortStatEntry 39 }

      connUnitPortStatCountInvalidCRC OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
```

```
          DESCRIPTION
                "Count of frames received with invalid CRC. This
count is
                part of the Link Error Status Block (LESB). (FC-PH
29.8). Loop
              ports should not count CRC errors passing through when
               monitoring. Note, this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 40 }

     connUnitPortStatCountInvalidTxWords OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
               "Count of invalid transmission words received at this
                 port. This count is part of the Link Error Status
Block (LESB).
              (FC-PH 29.8). Note, this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 41 }

     connUnitPortStatCountPrimitiveSequenceProtocolErrors
OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
             "Count of primitive sequence protocol errors detected at
               this port. This count is part of the Link Error Status
                 Block (LESB). (FC-PH 29.8). Note, this is a Fibre
Channel
                  only stat."
          ::= { connUnitPortStatEntry 42 }

     connUnitPortStatCountLossofSignal OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
               "Count of instances of signal loss detected at port.
                 This count is part of the Link Error Status Block
(LESB).
              (FC-PH 29.8). Note, this is a Fibre Channel only stat."
          ::= { connUnitPortStatEntry 43 }

     connUnitPortStatCountLossofSynchronization OBJECT-TYPE
          SYNTAX OCTET STRING (SIZE (8))
          ACCESS read-only
          STATUS mandatory
          DESCRIPTION
               "Count of instances of synchronization loss detected
at port.
```

```
                    This count is part of the Link Error Status Block
(LESB).
                (FC-PH 29.8). Note, this is a Fibre Channel only stat."
            ::= { connUnitPortStatEntry 44 }

        connUnitPortStatCountInvalidOrderedSets OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                    "Count of invalid ordered sets received at port.
This count
                     is part of the Link Error Status Block (LESB).
(FC-PH 29.8).
                     Note, this is a Fibre Channel only stat."
            ::= { connUnitPortStatEntry 45 }

        connUnitPortStatCountFramesTooLong OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                    "Count of frames received at this port where the
                   frame length was greater than what was agreed to in
                 FLOGI/PLOGI. This could be caused by losing the end of
                   frame delimiter. Note, this is a Fibre Channel only
stat."
            ::= { connUnitPortStatEntry 46 }

        connUnitPortStatCountFramesTruncated OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                    "Count of frames received at this port where the
                frame length was less than the minimum indicated by the
                    frame header - normally 24 bytes, but it could be
more if the
                     DFCTL field indicates an optional header should
have been
                    present. Note, this is a Fibre Channel only stat."
            ::= { connUnitPortStatEntry 47 }

        connUnitPortStatCountAddressErrors OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (8))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                    "Count of frames received with unknown addressing.
                     e.x. unknown SID or DID. the SID or DID is not
known to the
```

```
                    routing algorithm. Note. this is a Fibre Channel
    only stat."
              ::= { connUnitPortStatEntry 48 }

         connUnitPortStatCountDelimiterErrors OBJECT-TYPE
              SYNTAX OCTET STRING (SIZE (8))
              ACCESS read-only
              STATUS mandatory
              DESCRIPTION
                    "Count of invalid frame delimiters received at this
                     port. An example is a frame with a class 2 start
    and and a
                    class 3 at the end. Note, this is a Fibre Channel
    only stat."
              ::= { connUnitPortStatEntry 49 }

         connUnitPortStatCountEncodingDisparityErrors OBJECT-TYPE
              SYNTAX OCTET STRING (SIZE (8))
              ACCESS read-only
              STATUS mandatory
              DESCRIPTION
                  "Count of disparity errors received at this port. Note,
                       this is a Fibre Channel only stat."
              ::= { connUnitPortStatEntry 50 }


-- ----------------------------------------------------------------------
-- the Fibre Channel Simple Name Server table
--
-- The Fibre Channel Simple Name Server table contains an entry for
   each device
-- presently known to this connUnit. There will not be any version on
   this since
-- FC-GS3 does not define a version today.
--
-- This table is accessed either directly if the management
-- software has an index value or via GetNexts. The value of
-- the indexes are not required to be contiguous. Each entry
-- created in this table will be assigned an index. This
-- relationship is kept persistent until the entry is removed
-- from the table or the system is reset. The total number of
-- entries are defined by the size of the table

connUnitSnsMaxEntry OBJECT-TYPE
   SYNTAX  INTEGER
   ACCESS  read-only
        STATUS  mandatory
   DESCRIPTION
              "The maximum number of entries in the table."
        ::= { connUnitServiceScalars 1 }

connUnitSnsTable OBJECT-TYPE
```

```
        SYNTAX      SEQUENCE OF ConnUnitSnsEntry
        ACCESS      not-accessible
        STATUS      mandatory
        DESCRIPTION
              "This table contains an entry for each object registered with
                 this port in the switch."
        ::= { connUnitServiceTables 1 }

    connUnitSnsEntry OBJECT-TYPE
        SYNTAX      ConnUnitSnsEntry
        ACCESS      not-accessible
        STATUS      mandatory
        DESCRIPTION
                "The Simple Name Server table for the port represented by
                 connUnitSnsPortIndex ."
        INDEX { connUnitSnsId, connUnitSnsPortIndex,
       connUnitSnsPortIdentifier }
        ::= { connUnitSnsTable 1 }

    ConnUnitSnsEntry ::=
        SEQUENCE {
               connUnitSnsId
                   OCTET STRING,
               connUnitSnsPortIndex
                    INTEGER,
                connUnitSnsPortIdentifier
                    FcAddressId,
                connUnitSnsPortName
                    FcNameId,
                connUnitSnsNodeName
                    FcNameId,
                connUnitSnsClassOfSvc
                    OCTET STRING,
                connUnitSnsNodeIPAddress
                    OCTET STRING,
                connUnitSnsProcAssoc
                    OCTET STRING,
                connUnitSnsFC4Type
                    OCTET STRING,
                connUnitSnsPortType
                    OCTET STRING,
                connUnitSnsPortIPAddress
                    OCTET STRING,
                connUnitSnsFabricPortName
                    FcNameId,
                connUnitSnsHardAddress
                    FcAddressId,
                connUnitSnsSymbolicPortName
                    DisplayString,
                connUnitSnsSymbolicNodeName
                    DisplayString
        }
```

```
connUnitSnsId OBJECT-TYPE
    SYNTAX OCTET STRING (SIZE (16))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The connUnitId of the connectivity unit
        that contains this Name Server table."
    ::= { connUnitSnsEntry 1 }

connUnitSnsPortIndex OBJECT-TYPE
    SYNTAX      INTEGER
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION
            "The physical port number of this SNS table entry.  Each
   physical port
      has an SNS table with 1-n entries indexed by
   connUnitSnsPortIdentifier (port
      address)"
    ::= { connUnitSnsEntry 2 }

connUnitSnsPortIdentifier OBJECT-TYPE
    SYNTAX      FcAddressId
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION
            "The Port Identifier for this entry in the SNS table."
    ::= { connUnitSnsEntry 3 }

connUnitSnsPortName OBJECT-TYPE
    SYNTAX      FcNameId
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION
            "The Port Name for this entry in the SNS table."
    ::= { connUnitSnsEntry 4 }

connUnitSnsNodeName OBJECT-TYPE
    SYNTAX      FcNameId
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION
            "The Node Name for this entry in the SNS table."
    ::= { connUnitSnsEntry 5 }

connUnitSnsClassOfSvc OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(1))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION
```

```
                "The Classes of Service offered by this entry in the SNS
    table."
     ::= { connUnitSnsEntry 6 }

connUnitSnsNodeIPAddress OBJECT-TYPE
     SYNTAX       OCTET STRING (SIZE(16))
     ACCESS       read-only
     STATUS       mandatory
     DESCRIPTION
             "The IPv6 formatted address of the Node for this entry in
    the SNS table."

     ::= { connUnitSnsEntry 7 }

connUnitSnsProcAssoc OBJECT-TYPE
     SYNTAX       OCTET STRING (SIZE(1))
     ACCESS       read-only
     STATUS       mandatory
     DESCRIPTION
             "The Process Associator for this entry in the SNS table."
     ::= { connUnitSnsEntry 8 }

connUnitSnsFC4Type OBJECT-TYPE
     SYNTAX       OCTET STRING (SIZE(1))
     ACCESS       read-only
     STATUS       mandatory
     DESCRIPTION
             "The FC-4 Types supported by this entry in the SNS table."
     ::= { connUnitSnsEntry 9 }

connUnitSnsPortType OBJECT-TYPE
     SYNTAX       OCTET STRING (SIZE(1))
     ACCESS       read-only
     STATUS       mandatory
     DESCRIPTION
             "The Port Type of this entry in the SNS table."
     ::= { connUnitSnsEntry 10 }

connUnitSnsPortIPAddress OBJECT-TYPE
     SYNTAX       OCTET STRING (SIZE(16))
     ACCESS       read-only
     STATUS       mandatory
     DESCRIPTION
           "The IPv6 formatted address of this entry in the SNS table."
     ::= { connUnitSnsEntry 11 }

connUnitSnsFabricPortName OBJECT-TYPE
     SYNTAX       FcNameId
     ACCESS       read-only
     STATUS       mandatory
     DESCRIPTION
```

```
            "The Fabric Port name of this entry in the SNS table."
    ::= { connUnitSnsEntry 12 }

connUnitSnsHardAddress OBJECT-TYPE
    SYNTAX      FcAddressId
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION
            "The Hard Address of this entry in the SNS table."
    ::= { connUnitSnsEntry 13 }

connUnitSnsSymbolicPortName OBJECT-TYPE
    SYNTAX      DisplayString (SIZE(0..79))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION
            "The Symbolic Port Name of this entry in the SNS table."
    ::= { connUnitSnsEntry 14 }

connUnitSnsSymbolicNodeName OBJECT-TYPE
    SYNTAX      DisplayString (SIZE(0..79))
    ACCESS      read-only
    STATUS      mandatory
    DESCRIPTION
            "The Symbolic Node Name of this entry in the SNS table."
    ::= { connUnitSnsEntry 15 }


----------------------------------------------------------------------
  ---
-- SNMP trap registration group

    trapMaxClients OBJECT-TYPE
        SYNTAX INTEGER
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The maximum number of SNMP trap recipients
            supported by the connectivity unit."
        ::= { trapReg 1 }

    trapClientCount OBJECT-TYPE
        SYNTAX INTEGER
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The current number of rows in the trap table."
        ::= { trapReg 2 }

    trapRegTable OBJECT-TYPE
        SYNTAX SEQUENCE OF TrapRegEntry
        ACCESS not-accessible
```

```
        STATUS mandatory
        DESCRIPTION
            "A table containing a row for each IP address/port
            number that traps will be sent to."
        ::= { trapReg 3 }

    trapRegEntry OBJECT-TYPE
        SYNTAX TrapRegEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            "Ip/Port pair for a specific client."
        INDEX { trapRegIpAddress,
                trapRegPort }
        ::= { trapRegTable 1 }

    TrapRegEntry ::=
        SEQUENCE {
            trapRegIpAddress
                IpAddress,
            trapRegPort
                INTEGER (1..2147483647),
            trapRegFilter
                FcEventSeverity,
            trapRegRowState
                INTEGER
        }

    trapRegIpAddress OBJECT-TYPE
        SYNTAX IpAddress
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The Ip address of a client registered for
            traps."
        ::= { trapRegEntry 1 }

    trapRegPort OBJECT-TYPE
        SYNTAX INTEGER (1..2147483647)
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The UDP port to send traps to for this host.
            Normally this would be the standard trap port
            (162).  This object is an index and must be
            specified to create a row in this table."
        ::= { trapRegEntry 2 }

    trapRegFilter OBJECT-TYPE
        SYNTAX FcEventSeverity
        ACCESS read-write
        STATUS mandatory
```

```
        DESCRIPTION
            "This value defines the trap severity
            filter for this trap host. The connUnit will send
            traps to this host that have a severity level
            less than or equal to this value.
            The default value of this object is 'warning'."
        ::= { trapRegEntry 3}

    trapRegRowState OBJECT-TYPE
        SYNTAX INTEGER {
            rowDestroy(1), -- Remove row from table.
            rowInactive(2), -- Row exists, but TRAPs disabled
            rowActive(3)    -- Row exists and is enabled for
                            -- sending traps
        }
        ACCESS read-write
        STATUS mandatory
        DESCRIPTION
            "Specifies the state of the row.
            rowDestroy
                READ: Can never happen.
                WRITE: Remove this row from the table.
            rowInactive
                READ: Indicates that this row does exist, but
                      that traps are not enabled to be sent to the
                      target.
                WRITE: If the row does not exist, and the agent
                       allows writes to the trap table, then a new
                       row is created. The values of the optional
                      columns will be set to default values. Traps are
                      not enabled to be sent to the target. If the row
                     already existed, then traps are disabled from being
                       sent to the target.
            rowActive
                READ: Indicates that this row exists, and that traps
                      are enabled to be sent to the target.
                WRITE: If the row does not exist, and the agent
                    allows writes to the trap table, then a new row is
                   created. The values of the optional columns will be
                   set to default values. Traps are enabled to be sent
                  to the target. If the row already exists, then traps
                      are enabled to be sent to the target.

            A value of rowActive or rowInactive must be specified to
            create a row in the table."
        ::= { trapRegEntry 4}


-- Related traps

    connUnitStatusChange TRAP-TYPE
        ENTERPRISE fcmgmt
```

```
        VARIABLES { connUnitStatus, connUnitState }
        DESCRIPTION
            "The overall status of the connectivity unit has
            changed.
            Recommended severity level (for filtering): alert"
        ::= 1

    -- connUnitAddedTrap , 2, no longer used

    connUnitDeletedTrap TRAP-TYPE
        ENTERPRISE fcmgmt
        VARIABLES { connUnitId }
        DESCRIPTION
            "A connUnit has been deleted from this agent.
            Recommended severity level (for filtering): warning"
        ::= 3

    connUnitEventTrap TRAP-TYPE
        ENTERPRISE fcmgmt
        VARIABLES { connUnitEventId,
                    connUnitEventType,
                    connUnitEventObject,
                    connUnitEventDescr }
        DESCRIPTION
            "An event has been generated by the
            connectivity unit.
            Recommended severity level (for filtering): info"
        ::= 4

    connUnitSensorStatusChange TRAP-TYPE
        ENTERPRISE fcmgmt
        VARIABLES { connUnitSensorStatus }
        DESCRIPTION
            "The overall status of the connectivity unit has
            changed.
            Recommended severity level (for filtering): alert"
        ::= 5

    connUnitPortStatusChange TRAP-TYPE
        ENTERPRISE fcmgmt
        VARIABLES { connUnitPortStatus, connUnitPortState }
        DESCRIPTION
            "The overall status of the connectivity unit has
            changed.
            Recommended severity level (for filtering): alert"
        ::= 6

END
```

D

FE-MIB

This appendix contains the FE-MIB v.4.

FE-MIB

```
FIBRE-CHANNEL-FE-MIB DEFINITIONS ::= BEGIN
  IMPORTS
    MODULE-IDENTITY, OBJECT-TYPE,
    Unsigned32,Counter32, Gauge32, Integer32, mib-2
      FROM SNMPv2-SMI
    TEXTUAL-CONVENTION,TruthValue, TimeStamp
      FROM SNMPv2-TC
    SnmpAdminString
      FROM SNMP-FRAMEWORK-MIB-- rfc2571
    MODULE-COMPLIANCE, OBJECT-GROUP
      FROM SNMPv2-CONF;

  fcFeMIB MODULE-IDENTITY
    LAST-UPDATED "9702070000Z"
    ORGANIZATION "IETF IPFC Working Group"
    CONTACT-INFO "Kha Sin Teow
         Brocade Communications Systems,
         1901 Guadalupe Parkway,
         San Jose, CA 95131
         U.S.A
         Tel: +1 408 487 8180
         Fax: +1 408 487 8190
         Email: khasin@Brocade.COM

        WG Mailing list:ipfc@standards.gadzoox.com
        To Subscribe: ipfc-request@standards.gadzoox.com
        In Body: subscribe"

    DESCRIPTION"The MIB modulefor Fibre Channel Fabric Element."
    REVISION "9702070000Z"
    DESCRIPTION"Initial revision, published asRFC 2837."
    ::={ mib-275 }

  fcFeMIBObjects OBJECTIDENTIFIER ::= { fcFeMIB 1 }

   --  Note:
   --  fcFeMIBConformance OBJECT IDENTIFIER ::={ fcFeMIB 2 }
   --  see at the end of the module

  -- Groups under fcFeMIBObjects



  fcFeConfig    OBJECT IDENTIFIER ::= { fcFeMIBObjects 1 }
  fcFeStatus    OBJECT IDENTIFIER ::= { fcFeMIBObjects 2 }
  fcFeError        OBJECT IDENTIFIER ::= { fcFeMIBObjects 3 }
  fcFeAccounting    OBJECT IDENTIFIER ::= { fcFeMIBObjects 4 }
  fcFeCapabilities OBJECT IDENTIFIER ::= { fcFeMIBObjects 5 }
```

```
-- Textual Conventions
MilliSeconds ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents time unit value in milliseconds."
  SYNTAX    Unsigned32

MicroSeconds ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents time unit value in microseconds."
  SYNTAX    Unsigned32

FcNameId ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents the Worldwide Name associated with
        a Fibre Channel (FC) entity."
  SYNTAX    OCTET STRING(SIZE (8))

FcAddressId ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents Fibre Channel Address ID, a 24-bit
        value unique withinthe address space of a Fabric."
  SYNTAX    OCTET STRING(SIZE (3))

FcRxDataFieldSize ::=TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents the receive datafield size of an
        NxPort or FxPort."
  SYNTAX    Integer32 (128..2112)

FcBbCredit ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents the buffer-to-buffer credit of an
        NxPort or FxPort."
  SYNTAX    Integer32 (0..32767)

FcphVersion ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents the version of FC-PH supported by an
        NxPort or FxPort."
  SYNTAX    Integer32 (0..255)

FcStackedConnMode ::=TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents an enumerated value usedto indicate
        theClass 1StackedConnectMode supported by
        an NxPort or FxPort."
  SYNTAX    INTEGER {
       none(1),
       transparent(2),
       lockedDown(3)
  }
```

```
FcCosCap ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents the class of service capability of an
        NxPort or FxPort."
  SYNTAX    BITS{ classF(0), class1(1),class2(2), class3(3),
         class4(4), class5(5),class6(6) }

FcFeModuleCapacity ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents the maximum number of modules within
        a Fabric Element."
  SYNTAX    Unsigned32

FcFeFxPortCapacity ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents the maximum number of FxPorts within
        a module."
  SYNTAX    Unsigned32

FcFeModuleIndex ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents the module indexwithin a conceptual
 table."
  SYNTAX    Unsigned32

FcFeFxPortIndex ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents the FxPort indexwithin a conceptual
 table."
  SYNTAX    Unsigned32

FcFeNxPortIndex ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents the NxPort indexwithin a conceptual
 table."
  SYNTAX    Integer32 (1..126)

FcBbCreditModel ::= TEXTUAL-CONVENTION
  STATUS    current
  DESCRIPTION    "Represents the BB_Credit model of an FxPort."
  SYNTAX    INTEGER { regular(1), alternate (2) }



-- The Configuration group

-- This groupconsists of scalar objects and tables.
-- Itcontains the configuration and service parameters
-- ofthe Fabric Element and the FxPorts.
-- The group represents a setof parameters associated with
-- the FabricElement or an FxPort to support its NxPorts.
```

```
fcFeFabricName OBJECT-TYPE
    SYNTAX  FcNameId
    MAX-ACCESS  read-write
    STATUS  current
    DESCRIPTION
  "The Name_Identifier of the Fabric to which this Fabric
   Element belongs."
::= {fcFeConfig 1 }

fcFeElementName OBJECT-TYPE
    SYNTAX  FcNameId
    MAX-ACCESS  read-write
    STATUS  current
    DESCRIPTION
  "The Name_Identifier of the Fabric Element."
::= {fcFeConfig 2 }

fcFeModuleCapacity OBJECT-TYPE
    SYNTAX  FcFeModuleCapacity
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The maximum number ofmodulesin the Fabric Element,
   regardless oftheir current state."
::= {fcFeConfig 3 }

-- The ModuleTable.
-- This tablecontains one entry for each module,
-- information of themodules.

fcFeModuleTable OBJECT-TYPE
    SYNTAX  SEQUENCE OF FcFeModuleEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "A table that contains, one entry for each module in the
   Fabric Element, information of the modules."
::= {fcFeConfig 4 }

fcFeModuleEntry OBJECT-TYPE
    SYNTAX  FcFeModuleEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "An entry containing the configurationparameters of a
   module."
    INDEX { fcFeModuleIndex }
::= {fcFeModuleTable1 }

FcFeModuleEntry ::=
    SEQUENCE {
   fcFeModuleIndex
```

```
        FcFeModuleIndex,
    fcFeModuleDescr
        SnmpAdminString,
    fcFeModuleObjectID
        OBJECT IDENTIFIER,
    fcFeModuleOperStatus
        INTEGER,
    fcFeModuleLastChange
        TimeStamp,
    fcFeModuleFxPortCapacity
        FcFeFxPortCapacity,
    fcFeModuleName
        FcNameId
     }

fcFeModuleIndex OBJECT-TYPE
    SYNTAX  FcFeModuleIndex
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "This object identifies the module within the Fabric Element
   for which this entry containsinformation. This valueis
   nevergreaterthan fcFeModuleCapacity."
::= {fcFeModuleEntry1 }

fcFeModuleDescr OBJECT-TYPE
    SYNTAX  SnmpAdminString
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A textual descriptionof the module. This value should
   include the full nameand version identification of the
   module."
::= {fcFeModuleEntry2 }

fcFeModuleObjectID OBJECT-TYPE
    SYNTAX  OBJECT IDENTIFIER
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The vendor's authoritative identification of the module.
   This value may be allocated within the SMI enterprises
   subtree (1.3.6.1.4.1)and provides a straight-forwardand
   unambiguous means fordetermining what kind of moduleis
   beingmanaged.
   For example, this object could take the value
   1.3.6.1.4.1.99649.3.9if vendor 'Neufe Inc.' was assigned
   the subtree 1.3.6.1.4.1.99649, and had assigned the
   identifier 1.3.6.1.4.1.99649.3.9 to its 'FeFiFo-16
   PlugInCard.'"
::= {fcFeModuleEntry3 }
```

```
fcFeModuleOperStatus  OBJECT-TYPE
    SYNTAX  INTEGER {
          online  (1), -- functional
          offline (2), -- not available
          testing (3), -- under testing
          faulty  (4)  -- defective
        }
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "This object indicatesthe operationalstatus of the module:
   online(1)   the module is functioningproperly;
   offline(2)  the module is notavailable;
   testing(3)  the module is under testing; and
   faulty(4)   the module is defective in some way."
::= {fcFeModuleEntry4 }

fcFeModuleLastChange OBJECT-TYPE
    SYNTAX  TimeStamp
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "This object contains the value of sysUpTime when the module
   entered its current operational status. A value of zero
   indicates that the operational statusof the module has not
   changed sincethe agent last restarted."
::= {fcFeModuleEntry5 }

fcFeModuleFxPortCapacity OBJECT-TYPE
    SYNTAX  FcFeFxPortCapacity
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofFxPort that canbe contained within the
   module. Within each module, the portsare uniquely numbered
   in the range from 1 to fcFeModuleFxPortCapacity inclusive.
   However, the numbers are not requiredto be contiguous."
::= {fcFeModuleEntry6 }

fcFeModuleName OBJECT-TYPE
    SYNTAX  FcNameId
    MAX-ACCESS  read-write
    STATUS  current
    DESCRIPTION
  "The Name_Identifier of the module."
::= {fcFeModuleEntry7 }

-- the FxPortConfiguration Table.
-- This tablecontains, one entry foreach FxPort,
-- configuration parameters of the ports.

fcFxPortTable OBJECT-TYPE
```

```
    SYNTAX SEQUENCE OF FcFxPortEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
  "A table that contains,one entry for each FxPort in the
   FabricElement, configuration and service parameters of the
   FxPorts."
::= { fcFeConfig 5 }

fcFxPortEntry OBJECT-TYPE
    SYNTAX FcFxPortEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
  "An entry containing the configuration and service parameters
   of a FxPort."
    INDEX { fcFeModuleIndex, fcFxPortIndex }
::= { fcFxPortTable 1 }

FcFxPortEntry ::=
    SEQUENCE {
   fcFxPortIndex
       FcFeFxPortIndex,
   fcFxPortName
       FcNameId,
   -- FxPort common service parameters
   fcFxPortFcphVersionHigh
       FcphVersion,
   fcFxPortFcphVersionLow
       FcphVersion,
   fcFxPortBbCredit
       FcBbCredit,
   fcFxPortRxBufSize
       FcRxDataFieldSize,
   fcFxPortRatov
       MilliSeconds,
   fcFxPortEdtov
       MilliSeconds,
   -- FxPort class service parameters
   fcFxPortCosSupported
       FcCosCap,
   fcFxPortIntermixSupported
       TruthValue,
   fcFxPortStackedConnMode
       FcStackedConnMode,
   fcFxPortClass2SeqDeliv
       TruthValue,
   fcFxPortClass3SeqDeliv
       TruthValue,
   -- other configurationparameters
   fcFxPortHoldTime
       MicroSeconds
```

```
    }

fcFxPortIndexOBJECT-TYPE
    SYNTAX  FcFeFxPortIndex
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "This object identifies the FxPort within the module.This
   number rangesfrom 1 to the value of fcFeModulePortCapacity
   for the associated module. The value remains constantfor
   the identified FxPortuntil the module is re-initialized."
::= {fcFxPortEntry 1}

fcFxPortName OBJECT-TYPE
    SYNTAX  FcNameId
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The World_wide Name of this FxPort.  Each FxPort has a
   unique Port World_wide Name within the Fabric."
::= {fcFxPortEntry 2}


-- FxPort common service parameters

fcFxPortFcphVersionHigh OBJECT-TYPE
    SYNTAX  FcphVersion
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The highest or most recent version ofFC-PH that the FxPort
   is configuredto support."
::= {fcFxPortEntry 3}

fcFxPortFcphVersionLow OBJECT-TYPE
    SYNTAX  FcphVersion
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The lowest orearliest version of FC-PH that the FxPort is
   configured tosupport."
::= {fcFxPortEntry 4}

fcFxPortBbCredit OBJECT-TYPE
    SYNTAX  FcBbCredit
    UNITS  "buffers"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The total number of receive buffers availablefor holding
   Class1 connect-request, Class 2 or 3frames from the
   attached NxPort.  It is for buffer-to-buffer flow control
```

```
   in the direction fromthe attached NxPort (ifapplicable)
   to FxPort."
    ::= { fcFxPortEntry 5 }

fcFxPortRxBufSize OBJECT-TYPE
    SYNTAX  FcRxDataFieldSize
    UNITS  "bytes"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The largest Data_Field Size (in octets) for an FT_1 frame
   that can be received by the FxPort."
::= {fcFxPortEntry 6}

fcFxPortRatovOBJECT-TYPE
    SYNTAX  MilliSeconds
    UNITS  "milliseconds"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The Resource_Allocation_Timeout Valueconfigured for the
   FxPort.  Thisis usedas the timeout value for determining
   when to reusean NxPort resource suchas a
   Recovery_Qualifier.  It represents E_D_TOV (see next
   object) plus twice the maximum time that a frame may be
   delayed within the Fabric andstill be delivered."
    ::= { fcFxPortEntry 7 }

fcFxPortEdtovOBJECT-TYPE
    SYNTAX  MilliSeconds
    UNITS  "milliseconds"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The E_D_TOV value configured for the FxPort. The
   Error_Detect_Timeout Value isused asthe timeout value for
   detecting an error condition."
::= {fcFxPortEntry 8}


-- FxPort class service parameters

fcFxPortCosSupported OBJECT-TYPE
    SYNTAX  FcCosCap
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A value indicating the set ofClassesof Service supported
   by the FxPort."
::= {fcFxPortEntry 9}

fcFxPortIntermixSupported OBJECT-TYPE
```

```
    SYNTAX  TruthValue
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A flag indicating whether or not the FxPort supports an
   Intermixed Dedicated Connection."
::= {fcFxPortEntry 10 }

fcFxPortStackedConnMode OBJECT-TYPE
    SYNTAX  FcStackedConnMode
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A value indicating the mode of Stacked Connect supported by
   the FxPort."
::= {fcFxPortEntry 11 }

fcFxPortClass2SeqDeliv OBJECT-TYPE
    SYNTAX  TruthValue
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A flag indicating whether or not Class 2 Sequential
   Delivery is supportedby the FxPort."
::= {fcFxPortEntry 12 }

fcFxPortClass3SeqDeliv OBJECT-TYPE
    SYNTAX  TruthValue
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A flag indicating whether or not Class 3 Sequential
   Delivery is supportedby the FxPort."
::= {fcFxPortEntry 13 }


-- other FxPort parameters

fcFxPortHoldTime OBJECT-TYPE
    SYNTAX  MicroSeconds
    UNITS  "microseconds"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The maximum time (in microseconds) that the FxPort shall
   hold a frame before discarding the frame if it is unable to
   deliver the frame. The value 0 means that theFxPort does
   not support this parameter."
::= {fcFxPortEntry 14 }


-- the Statusgroup
```

```
-- This groupconsists of tables thatcontains operational
-- status andestablished service parameters for the Fabric
-- Element and the attached NxPorts.

-- The FxPortStatus table
-- This tablecontains, one entry foreach FxPort,
-- the operational status andparameters of the FxPorts.

fcFxPortStatusTable OBJECT-TYPE
    SYNTAX  SEQUENCE OF FcFxPortStatusEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "A table that contains, one entry for each FxPort in the
   Fabric Element, operational status and parameters of the
   FxPorts."
::= {fcFeStatus 1 }

fcFxPortStatusEntry OBJECT-TYPE
    SYNTAX  FcFxPortStatusEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "An entry containing operational status and parametersof a
   FxPort."
    AUGMENTS { fcFxPortEntry }
::= {fcFxPortStatusTable 1 }

FcFxPortStatusEntry ::=
    SEQUENCE {
   fcFxPortID
       FcAddressId,
   fcFxPortBbCreditAvailable
       Gauge32,
   fcFxPortOperMode
       INTEGER,
   fcFxPortAdminMode
       INTEGER
    }

fcFxPortID   OBJECT-TYPE
    SYNTAX  FcAddressId
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The address identifier by which this FxPort is identified
   within the Fabric.  The FxPort may assign itsaddress
   identifier toits attached NxPort(s) during Fabric Login."
::= {fcFxPortStatusEntry 1 }

fcFxPortBbCreditAvailable OBJECT-TYPE
```

```
    SYNTAX  Gauge32
    UNITS  "buffers"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofbufferscurrently available forreceiving
   frames from the attached portin the buffer-to-bufferflow
   control. The value should be less than or equal to
   fcFxPortBbCredit."
::= {fcFxPortStatusEntry 2 }

fcFxPortOperMode    OBJECT-TYPE
    SYNTAX  INTEGER { unknown(1),fPort(2), flPort(3) }
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The current operational mode of the FxPort."
::= {fcFxPortStatusEntry 3 }

fcFxPortAdminMode   OBJECT-TYPE
    SYNTAX  INTEGER { fPort(2), flPort(3)}
    MAX-ACCESS  read-write
    STATUS  current
    DESCRIPTION
  "The desired operational mode of the FxPort."
::= {fcFxPortStatusEntry 4 }


-- the FxPortPhysical Level table
-- This tablecontains, one entry foreach FxPort in the
-- Fabric Element, the physical levelstatus and parameters
-- ofthe FxPorts.

fcFxPortPhysTable OBJECT-TYPE
    SYNTAX  SEQUENCE OF FcFxPortPhysEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "A table that contains, one entry for each FxPort in the
   Fabric Element, physical level statusand parameters of the
   FxPorts."
::= {fcFeStatus 2 }

fcFxPortPhysEntry OBJECT-TYPE
    SYNTAX  FcFxPortPhysEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "An entry containing physical level status andparameters of
   a FxPort."
    AUGMENTS { fcFxPortEntry }
::= {fcFxPortPhysTable 1 }
```

```
FcFxPortPhysEntry ::=

    SEQUENCE {
   fcFxPortPhysAdminStatus
       INTEGER,
   fcFxPortPhysOperStatus
       INTEGER,
   fcFxPortPhysLastChange
       TimeStamp,
   fcFxPortPhysRttov
       MilliSeconds
    }

fcFxPortPhysAdminStatus OBJECT-TYPE
    SYNTAX  INTEGER {
          online  (1),  -- place port online
          offline (2),  -- take port offline
          testing (3)   -- initiatetest procedures
      }
    MAX-ACCESS  read-write
    STATUS  current
    DESCRIPTION
  "The desired state of the FxPort.  A management station may
   placethe FxPort in adesiredstate by setting this object
   accordingly.The testing(3) state indicates that no
   operational frames can be passed.  When a Fabric Element
   initializes, all FxPorts start with fcFxPortPhysAdminStatus
   in the offline(2) state.  As the result of either explicit
   management action or per configuration information
   accessible bythe Fabric Element, fcFxPortPhysAdminStatus
   is then changed to either theonline(1) or testing(3)
   states, or remains inthe offline state."
::= {fcFxPortPhysEntry 1 }

fcFxPortPhysOperStatus   OBJECT-TYPE
    SYNTAX  INTEGER {
   online       (1), -- Login may proceed
   offline      (2), -- Login cannot proceed
   testing      (3), -- port is under test
   linkFailure  (4)  -- failure after online/testing
    }
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The current operational status of theFxPort. The
   testing(3) indicates that no operational frames can be
   passed.  If fcFxPortPhysAdminStatus is offline(2) then
   fcFxPortPhysOperStatus shouldbe offline(2). If
   fcFxPortPhysAdminStatus is changed toonline(1) then
   fcFxPortPhysOperStatus shouldchange to online(1) if the
   FxPort is ready to accept Fabric Login request from the
```

```
   attached NxPort; it should proceed and remainin the link-
   failure(4) state if and only if thereis a fault that
   prevents it from going to theonline(1) state."
::= {fcFxPortPhysEntry 2 }

fcFxPortPhysLastChange OBJECT-TYPE
    SYNTAX  TimeStamp
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The value of sysUpTime at thetime the FxPortenteredits
   current operational status. Avalue of zero indicatesthat
   the FxPort's operational status has not changed sincethe
   agentlast restarted."
::= {fcFxPortPhysEntry 3 }

fcFxPortPhysRttov OBJECT-TYPE
    SYNTAX  MilliSeconds
    UNITS  "milliseconds"
    MAX-ACCESS  read-write
    STATUS  current
    DESCRIPTION
  "The Receiver_Transmitter_Timeout value of theFxPort.This
   is used by the receiver logicto detect Loss of
   Synchronization."
::= {fcFxPortPhysEntry 4 }

-- The FxPortFabric Login table
--
-- This tablecontains, one entry foreach FxPort in the
-- Fabric Element, the Service Parameters that have been
-- established from the most recent Fabric Login,
-- implicit or explicit.

fcFxLoginTable OBJECT-TYPE
    SYNTAX  SEQUENCE OF FcFxLoginEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "A table that contains, one entry for each NxPort attached
   to a particular FxPort in theFabric Element,services
   parameters established from the most recent Fabric Login,
   explicit or implicit.Note that an FxPort mayhave one or
   more NxPort attached to it."
::= {fcFeStatus 3 }

fcFxLoginEntry OBJECT-TYPE
    SYNTAX  FcFxLoginEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "An entry containing service parameters established from a
```

```
    successful Fabric Login."
     INDEX { fcFeModuleIndex, fcFxPortIndex, fcFxPortNxLoginIndex }
::= {fcFxLoginTable 1 }

FcFxLoginEntry ::=
    SEQUENCE {
    fcFxPortNxLoginIndex
        FcFeNxPortIndex,
    fcFxPortFcphVersionAgreed
        FcphVersion,
    fcFxPortNxPortBbCredit
        FcBbCredit,
    fcFxPortNxPortRxDataFieldSize
        FcRxDataFieldSize,
    fcFxPortCosSuppAgreed
        FcCosCap,
    fcFxPortIntermixSuppAgreed
        TruthValue,
    fcFxPortStackedConnModeAgreed
        FcStackedConnMode,
    fcFxPortClass2SeqDelivAgreed
        TruthValue,
    fcFxPortClass3SeqDelivAgreed
        TruthValue,
    --
    fcFxPortNxPortName
        FcNameId,
    fcFxPortConnectedNxPort
        FcAddressId,
    fcFxPortBbCreditModel
        FcBbCreditModel
     }

fcFxPortNxLoginIndex OBJECT-TYPE
    SYNTAX  FcFeNxPortIndex
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "The object identifiesthe associated NxPort in the
   attachment for which the entry contains information."
::= {fcFxLoginEntry 1 }

fcFxPortFcphVersionAgreed OBJECT-TYPE
    SYNTAX  FcphVersion
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The version of FC-PH that theFxPort has agreed to support
   from the Fabric Login"
::= {fcFxLoginEntry 2 }

fcFxPortNxPortBbCredit OBJECT-TYPE
```

```
    SYNTAX  FcBbCredit
    UNITS  "buffers"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The total number of buffers availablefor holding Class 1
   connect-request, Class 2 or Class 3 frames tobe
   transmitted to the attached NxPort.  It is for buffer-to-
   buffer flow control in the direction from FxPort to NxPort.
   The buffer-to-buffer flow control mechanism is indicated in
   the respective fcFxPortBbCreditModel."
::= {fcFxLoginEntry 3 }

fcFxPortNxPortRxDataFieldSizeOBJECT-TYPE
    SYNTAX  FcRxDataFieldSize
    UNITS  "bytes"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The Receive Data Field Size of the attached NxPort. This
   object specifies the largest Data Field Size for an FT_1
   framethat can be received bythe NxPort."
::= {fcFxLoginEntry 4 }

fcFxPortCosSuppAgreedOBJECT-TYPE
    SYNTAX  FcCosCap
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A variable indicatingthat the attached NxPort has
   requested theFxPort for the support of classes of services
   and the FxPort has granted the request."
::= {fcFxLoginEntry 5 }

fcFxPortIntermixSuppAgreed OBJECT-TYPE
    SYNTAX  TruthValue
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A variable indicatingthat the attached NxPort has
   requested theFxPort for the support of Intermix and the
   FxPort has granted the request. This flag is only valid if
   Class1 service is supported."
::= {fcFxLoginEntry 6 }

fcFxPortStackedConnModeAgreedOBJECT-TYPE
    SYNTAX  FcStackedConnMode
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A variable indicatingwhetherthe FxPort has agreed to
   support stacked connect from the Fabric Login. This is only
```

```
   meaningful ifClass 1servicehas been agreed."
::= {fcFxLoginEntry 7 }

fcFxPortClass2SeqDelivAgreed OBJECT-TYPE
    SYNTAX  TruthValue
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A variable indicatingwhetherthe FxPort has agreed to
   support Class2 sequential delivery from the Fabric Login.
   This is only meaningful if Class 2 service has been
   agreed."
::= {fcFxLoginEntry 8 }

fcFxPortClass3SeqDelivAgreed OBJECT-TYPE
    SYNTAX  TruthValue
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A flag indicating whether theFxPort has agreed to support
   Class3 sequential delivery from the Fabric Login. This is
   only meaningful if Class 3 service has been agreed."
::= {fcFxLoginEntry 9 }

fcFxPortNxPortName OBJECT-TYPE
    SYNTAX  FcNameId
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The port nameof the attachedNxPort."
::= {fcFxLoginEntry 10 }

fcFxPortConnectedNxPort OBJECT-TYPE
    SYNTAX  FcAddressId
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The address identifier of thedestination NxPort withwhich
   this FxPort is currently engaged in aeither a Class 1 or
   loop connection. If this FxPort is not engaged in a
   connection, then the value ofthis object is '000000'H."
::= {fcFxLoginEntry 11 }

fcFxPortBbCreditModelOBJECT-TYPE
    SYNTAX  FcBbCreditModel
    MAX-ACCESS  read-write
    STATUS  current
    DESCRIPTION
  "This object identifies the BB_Credit model used by the
   FxPort."
::= {fcFxLoginEntry 12 }
```

```
-- the Error group
-- This groupconsists of tables thatcontaininformation about
-- the various types of errors detected.  Themanagement station
-- may use the information inthis group to determinethe
-- quality ofthe link between the FxPort andits attached NxPort.

-- the FxPortError table
-- This tablecontains, one entry foreach FxPort in the Fabric
-- Element, counters recording numbers of errors detected
-- since the management agentre-initialized.
-- The first 6 columnar objects afterthe port index corresponds
-- tothe counters inthe Link Error Status Block.

fcFxPortErrorTable OBJECT-TYPE
    SYNTAX  SEQUENCE OF FcFxPortErrorEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "A table that contains, one entry for each FxPort, counters
   that record the numbers of errors detected."
::= {fcFeError 1 }

fcFxPortErrorEntry OBJECT-TYPE
    SYNTAX  FcFxPortErrorEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "An entry containing error counters ofa FxPort."
    AUGMENTS { fcFxPortEntry }
::= {fcFxPortErrorTable 1 }


FcFxPortErrorEntry ::=
    SEQUENCE {
   fcFxPortLinkFailures
       Counter32,
   fcFxPortSyncLosses
       Counter32,
   fcFxPortSigLosses
       Counter32,
   fcFxPortPrimSeqProtoErrors
       Counter32,
   fcFxPortInvalidTxWords
       Counter32,
   fcFxPortInvalidCrcs
       Counter32,
   fcFxPortDelimiterErrors
       Counter32,
   fcFxPortAddressIdErrors
       Counter32,
   fcFxPortLinkResetIns
```

```
        Counter32,
    fcFxPortLinkResetOuts
        Counter32,
    fcFxPortOlsIns
        Counter32,
    fcFxPortOlsOuts
        Counter32
     }

fcFxPortLinkFailures OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number oflink failures detected by this FxPort."
::= {fcFxPortErrorEntry 1 }

fcFxPortSyncLosses OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofloss ofsynchronizationdetected by the
   FxPort."
::= {fcFxPortErrorEntry 2 }

fcFxPortSigLosses OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofloss ofsignal detectedby the FxPort."
::= {fcFxPortErrorEntry 3 }

fcFxPortPrimSeqProtoErrors OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofprimitive sequence protocol errors detected
   by the FxPort."
::= {fcFxPortErrorEntry 4 }

fcFxPortInvalidTxWords OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofinvalidtransmission word detected by the
   FxPort."
::= {fcFxPortErrorEntry 5 }
```

```
fcFxPortInvalidCrcs OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofinvalidCRC detected bythis FxPort."
::= {fcFxPortErrorEntry 6 }

fcFxPortDelimiterErrors OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofDelimiter Errors detected by this FxPort."
::= {fcFxPortErrorEntry 7 }

fcFxPortAddressIdErrors OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofaddressidentifier errors detected by this
   FxPort."
::= {fcFxPortErrorEntry 8 }

fcFxPortLinkResetIns OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofLink Reset Protocol received bythis FxPort
   from the attached NxPort."
::= {fcFxPortErrorEntry 9 }

fcFxPortLinkResetOutsOBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofLink Reset Protocol issued by this FxPort to
   the attached NxPort."
::= {fcFxPortErrorEntry 10 }

fcFxPortOlsIns OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofOfflineSequence received by this FxPort."
::= {fcFxPortErrorEntry 11 }

fcFxPortOlsOuts OBJECT-TYPE
```

```
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofOfflineSequence issuedby thisFxPort."
::= {fcFxPortErrorEntry 12 }

-- AccountingGroups:
-- (1) Class 1 Accounting Group,
-- (2) Class 2 Accounting Group, and
-- (3) Class 3 Accounting Group.
-- Each groupconsists of a table that contains accounting
-- information for the FxPorts in theFabric Element.

-- the Class 1 Accounting table
-- This tablecontains, one entry foreach FxPort in the Fabric
-- Element, Counter32s for certain types of events occurred in the
-- the FxPorts since the the management agenthas re-initialized.

fcFxPortC1AccountingTable OBJECT-TYPE
    SYNTAX  SEQUENCE OF FcFxPortC1AccountingEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "A table that contains, one entry for each FxPort in the
   Fabric Element, Class1 accounting information recorded
   sincethe management agent has re-initialized."
::= {fcFeAccounting 1 }

fcFxPortC1AccountingEntry OBJECT-TYPE
    SYNTAX  FcFxPortC1AccountingEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "An entry containing Class 1 accounting information for each
   FxPort."
    AUGMENTS { fcFxPortEntry }
::= {fcFxPortC1AccountingTable 1 }

FcFxPortC1AccountingEntry ::=
    SEQUENCE {
   fcFxPortC1InFrames
       Counter32,
   fcFxPortC1OutFrames
       Counter32,
   fcFxPortC1InOctets
       Counter32,
   fcFxPortC1OutOctets
       Counter32,
   fcFxPortC1Discards
       Counter32,
   fcFxPortC1FbsyFrames
```

```
        Counter32,
    fcFxPortC1FrjtFrames
        Counter32,
    fcFxPortC1InConnections
        Counter32,
    fcFxPortC1OutConnections
        Counter32,
    fcFxPortC1ConnTime
        MilliSeconds
     }

fcFxPortC1InFrames OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofClass 1frames (other than Class 1 connect-
   request) received by this FxPort fromits attached NxPort."
::= {fcFxPortC1AccountingEntry 1 }

fcFxPortC1OutFrames OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofClass 1frames (other than Class 1 connect-
   request) delivered through this FxPort to itsattached
   NxPort."
::= {fcFxPortC1AccountingEntry 2 }

fcFxPortC1InOctets OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofClass 1frame octets, includingthe frame
   delimiters,  receivedby thisFxPort from itsattached
   NxPort."
::= {fcFxPortC1AccountingEntry 3 }

fcFxPortC1OutOctets OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofClass 1frame octets, includingthe frame
   delimiters, deliveredthroughthis FxPort itsattached
   NxPort."
::= {fcFxPortC1AccountingEntry 4 }

fcFxPortC1Discards OBJECT-TYPE
    SYNTAX  Counter32
```

```
        MAX-ACCESS  read-only
        STATUS  current
        DESCRIPTION
      "The number ofClass 1frames discarded by this FxPort."
    ::= {fcFxPortC1AccountingEntry 5 }

    fcFxPortC1FbsyFrames OBJECT-TYPE
        SYNTAX  Counter32
        MAX-ACCESS  read-only
        STATUS  current
        DESCRIPTION
      "The number ofF_BSY frames generated by this FxPort against
       Class1 connect-request."
    ::= {fcFxPortC1AccountingEntry 6 }

    fcFxPortC1FrjtFrames OBJECT-TYPE
        SYNTAX  Counter32
        MAX-ACCESS  read-only
        STATUS  current
        DESCRIPTION
      "The number ofF_RJT frames generated by this FxPort against
       Class1 connect-request."
    ::= {fcFxPortC1AccountingEntry 7 }

    fcFxPortC1InConnections OBJECT-TYPE
        SYNTAX  Counter32
        MAX-ACCESS  read-only
        STATUS  current
        DESCRIPTION
      "The number ofClass 1connections successfully established
       in which the attachedNxPort is the source ofthe connect-
       request."
    ::= {fcFxPortC1AccountingEntry 8 }

    fcFxPortC1OutConnections OBJECT-TYPE
        SYNTAX  Counter32
        MAX-ACCESS  read-only
        STATUS  current
        DESCRIPTION
      "The number ofClass 1connections successfully established
       in which the attachedNxPort is the destination of the
       connect-request."
    ::= {fcFxPortC1AccountingEntry 9 }

    fcFxPortC1ConnTime OBJECT-TYPE
        SYNTAX  MilliSeconds
        UNITS  "milliseconds"
        MAX-ACCESS  read-only
        STATUS  current
        DESCRIPTION
      "The cumulative time that thisFxPort has beenengagedin
       Class1 connection.  The amount of time is counted from
```

```
   aftera connect-request has been accepted until the
   connection isdisengaged, either by an EOFdt or Link
   Reset."
::= {fcFxPortC1AccountingEntry 10 }


-- the Class 2 Accounting table
-- This tablecontains, one entry foreach FxPort in the Fabric
-- Element, Counter32s for certain types of events occurred in the
-- the FxPorts since the the management agenthas re-initialized.

fcFxPortC2AccountingTable OBJECT-TYPE
    SYNTAX  SEQUENCE OF FcFxPortC2AccountingEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "A table that contains, one entry for each FxPort in the
   Fabric Element, Class2 accounting information recorded
   sincethe management agent has re-initialized."
::= {fcFeAccounting 2 }

fcFxPortC2AccountingEntry OBJECT-TYPE
    SYNTAX  FcFxPortC2AccountingEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "An entry containing Class 2 accounting information for each
   FxPort."
    AUGMENTS { fcFxPortEntry }
::= {fcFxPortC2AccountingTable 1 }

FcFxPortC2AccountingEntry ::=
    SEQUENCE {
   fcFxPortC2InFrames
       Counter32,
   fcFxPortC2OutFrames
     Counter32,
   fcFxPortC2InOctets
     Counter32,
   fcFxPortC2OutOctets
     Counter32,
   fcFxPortC2Discards
     Counter32,
   fcFxPortC2FbsyFrames
     Counter32,
   fcFxPortC2FrjtFrames
     Counter32
    }

fcFxPortC2InFrames OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
```

```
    STATUS  current
    DESCRIPTION
  "The number ofClass 2frames receivedby thisFxPort from
   its attached NxPort."
::= {fcFxPortC2AccountingEntry 1 }

fcFxPortC2OutFrames OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofClass 2frames delivered through this FxPort
   to its attached NxPort."
::= {fcFxPortC2AccountingEntry 2 }

fcFxPortC2InOctets OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofClass 2frame octets, includingthe frame
   delimiters, received by this FxPort from its attached
   NxPort."
::= {fcFxPortC2AccountingEntry 3 }

fcFxPortC2OutOctets OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofClass 2frame octets, includingthe frame
   delimiters, deliveredthroughthis FxPort to its attached
   NxPort."
::= {fcFxPortC2AccountingEntry 4 }

fcFxPortC2Discards OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofClass 2frames discarded by this FxPort."
::= {fcFxPortC2AccountingEntry 5 }

fcFxPortC2FbsyFrames OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofF_BSY frames generated by this FxPort against
   Class2 frames."
::= {fcFxPortC2AccountingEntry 6 }
```

```
fcFxPortC2FrjtFrames OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofF_RJT frames generated by this FxPort against
   Class2 frames."
::= {fcFxPortC2AccountingEntry 7 }

-- the Class 3 Accounting Group
-- This tablecontains, one entry foreach FxPort in the Fabric
-- Element, Counter32s for certain types of events occurred in the
-- the FxPorts since the management agent hasre-initialized.

fcFxPortC3AccountingTable OBJECT-TYPE
    SYNTAX  SEQUENCE OF FcFxPortC3AccountingEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "A table that contains, one entry for each FxPort in the
   Fabric Element, Class3 accounting information recorded
   sincethe management agent has re-initialized."
::= {fcFeAccounting 3 }

fcFxPortC3AccountingEntry OBJECT-TYPE
    SYNTAX  FcFxPortC3AccountingEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "An entry containing Class 3 accounting information for each
   FxPort."
    AUGMENTS { fcFxPortEntry }
::= {fcFxPortC3AccountingTable 1 }

FcFxPortC3AccountingEntry ::=
    SEQUENCE {
   fcFxPortC3InFrames
       Counter32,
   fcFxPortC3OutFrames
       Counter32,
   fcFxPortC3InOctets
       Counter32,
   fcFxPortC3OutOctets
       Counter32,
   fcFxPortC3Discards
       Counter32
    }

fcFxPortC3InFrames OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
```

```
    DESCRIPTION
  "The number ofClass 3frames receivedby thisFxPort from
   its attached NxPort."
::= {fcFxPortC3AccountingEntry 1 }

fcFxPortC3OutFrames OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofClass 3frames delivered through this FxPort
   to its attached NxPort."
::= {fcFxPortC3AccountingEntry 2 }

fcFxPortC3InOctets OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofClass 3frame octets, includingthe frame
   delimiters, received by this FxPort from its attached
   NxPort."
::= {fcFxPortC3AccountingEntry 3 }

fcFxPortC3OutOctets OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofClass 3frame octets, includingthe frame
   delimiters, deliveredthroughthis FxPort to its attached
   NxPort."
::= {fcFxPortC3AccountingEntry 4 }

fcFxPortC3Discards OBJECT-TYPE
    SYNTAX  Counter32
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The number ofClass 3frames discarded by this FxPort."
::= {fcFxPortC3AccountingEntry 5 }


-- The Capability Group - consists ofa tabledescribing
-- information about what each FxPortis inherently capable
-- ofoperating or supporting.
-- A capability may be used, as expressed in its respective
-- object value in the Configuration group.

fcFxPortCapTable OBJECT-TYPE
    SYNTAX  SEQUENCE OF FcFxPortCapEntry
    MAX-ACCESS  not-accessible
```

```
    STATUS  current
    DESCRIPTION
  "A table that contains, one entry for each FxPort, the
   capabilities of the port within the Fabric Element."
::= {fcFeCapabilities 1 }

fcFxPortCapEntry OBJECT-TYPE
    SYNTAX  FcFxPortCapEntry
    MAX-ACCESS  not-accessible
    STATUS  current
    DESCRIPTION
  "An entry containing the Cap of a FxPort."
    AUGMENTS { fcFxPortEntry }
::= {fcFxPortCapTable 1 }


FcFxPortCapEntry ::=
    SEQUENCE {
   fcFxPortCapFcphVersionHigh
       FcphVersion,
   fcFxPortCapFcphVersionLow
       FcphVersion,
   fcFxPortCapBbCreditMax
       FcBbCredit,
   fcFxPortCapBbCreditMin
       FcBbCredit,
   fcFxPortCapRxDataFieldSizeMax
       FcRxDataFieldSize,
   fcFxPortCapRxDataFieldSizeMin
       FcRxDataFieldSize,
   fcFxPortCapCos
       FcCosCap,
   fcFxPortCapIntermix
       TruthValue,
   fcFxPortCapStackedConnMode
       FcStackedConnMode,
   fcFxPortCapClass2SeqDeliv
       TruthValue,
   fcFxPortCapClass3SeqDeliv
       TruthValue,
   fcFxPortCapHoldTimeMax
       MicroSeconds,
   fcFxPortCapHoldTimeMin
       MicroSeconds
    }

fcFxPortCapFcphVersionHigh OBJECT-TYPE
    SYNTAX  FcphVersion
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The highest or most recent version ofFC-PH that the FxPort
```

```
   is capable ofsupporting."
::= {fcFxPortCapEntry 1 }

fcFxPortCapFcphVersionLow OBJECT-TYPE
    SYNTAX  FcphVersion
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The lowest orearliest version of FC-PH that the FxPort is
   capable of supporting."
::= {fcFxPortCapEntry 2 }

fcFxPortCapBbCreditMax OBJECT-TYPE
    SYNTAX  FcBbCredit
    UNITS  "buffers"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The maximum number ofreceivebuffersavailable for holding
   Class1 connect-request, Class 2 or Class 3 frames from the
   attached NxPort."
::= {fcFxPortCapEntry 3 }

fcFxPortCapBbCreditMin OBJECT-TYPE
    SYNTAX  FcBbCredit
    UNITS  "buffers"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The minimum number ofreceivebuffersavailable for holding
   Class1 connect-request, Class 2 or Class 3 frames from the
   attached NxPort."
::= {fcFxPortCapEntry 4 }

fcFxPortCapRxDataFieldSizeMaxOBJECT-TYPE
    SYNTAX  FcRxDataFieldSize
    UNITS  "bytes"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The maximum size in bytes of the DataField in a frame that
   the FxPort iscapableof receiving from its attached
   NxPort."
::= {fcFxPortCapEntry 5 }

fcFxPortCapRxDataFieldSizeMinOBJECT-TYPE
    SYNTAX  FcRxDataFieldSize
    UNITS  "bytes"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The minimum size in bytes of the DataField in a frame that
```

```
   the FxPort iscapableof receiving from its attached
   NxPort."
::= {fcFxPortCapEntry 6 }

fcFxPortCapCos OBJECT-TYPE
    SYNTAX  FcCosCap
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A value indicating the set ofClassesof Service thatthe
   FxPort is capable of supporting."
::= {fcFxPortCapEntry 7 }

fcFxPortCapIntermix OBJECT-TYPE
    SYNTAX  TruthValue
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A flag indicating whether or not the FxPort is capable of
   supporting the intermixing ofClass 2and Class 3 frames
   during a Class 1 connection. This flag is only valid if the
   port is capable of supportingClass 1service."
::= {fcFxPortCapEntry 8 }

fcFxPortCapStackedConnMode OBJECT-TYPE
    SYNTAX  FcStackedConnMode
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A value indicating the mode of Stacked Connect request that
   the FxPort iscapableof supporting."
::= {fcFxPortCapEntry 9 }

fcFxPortCapClass2SeqDeliv OBJECT-TYPE
    SYNTAX  TruthValue
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A flag indicating whether or not the FxPort is capable of
   supporting Class 2 SequentialDelivery."
::= {fcFxPortCapEntry 10 }

fcFxPortCapClass3SeqDeliv OBJECT-TYPE
    SYNTAX  TruthValue
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "A flag indicating whether or not the FxPort is capable of
   supporting Class 3 SequentialDelivery."
::= {fcFxPortCapEntry 11 }

fcFxPortCapHoldTimeMax OBJECT-TYPE
```

```
    SYNTAX  MicroSeconds
    UNITS  "microseconds"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The maximum holding time (in microseconds) that the FxPort
   is capable ofsupporting."
::= {fcFxPortCapEntry 12 }

fcFxPortCapHoldTimeMin OBJECT-TYPE
    SYNTAX  MicroSeconds
    UNITS  "microseconds"
    MAX-ACCESS  read-only
    STATUS  current
    DESCRIPTION
  "The minimum holding time (in microseconds) that the FxPort
   is capable ofsupporting."
::= {fcFxPortCapEntry 13 }

-- conformance information
fcFeMIBConformance OBJECT IDENTIFIER::= { fcFeMIB 2}
fcFeMIBCompliances  OBJECT IDENTIFIER::= { fcFeMIBConformance 1 }
fcFeMIBGroups      OBJECT IDENTIFIER::= { fcFeMIBConformance 2 }

-- compliancestatements
fcFeMIBMinimumCompliance   MODULE-COMPLIANCE
    STATUS   current
    DESCRIPTION
  "The minimum compliance statement for SNMP entities
   whichimplement the FIBRE-CHANNEL-FE-MIB."
    MODULE  -- this module
    MANDATORY-GROUPS { fcFeConfigGroup, fcFeStatusGroup,
        fcFeErrorGroup}

    OBJECT    fcFeFabricName
    MIN-ACCESS    read-only
    DESCRIPTION
  "Writeaccess is not required."

    OBJECT    fcFeElementName
    MIN-ACCESS    read-only
    DESCRIPTION
  "Writeaccess is not required."

    OBJECT    fcFeModuleName
    MIN-ACCESS    read-only
    DESCRIPTION
  "Writeaccess is not required."

    OBJECT    fcFxPortAdminMode
    MIN-ACCESS    read-only
    DESCRIPTION
```

```
  "Writeaccess is not required."

    OBJECT    fcFxPortPhysAdminStatus
    MIN-ACCESS    read-only
    DESCRIPTION
  "Writeaccess is not required."

    OBJECT    fcFxPortPhysRttov
    MIN-ACCESS    read-only
    DESCRIPTION
  "Writeaccess is not required."

    OBJECT    fcFxPortBbCreditModel
    MIN-ACCESS    read-only
    DESCRIPTION
  "Writeaccess is not required."
 ::= { fcFeMIBCompliances 1 }

fcFeMIBFullCompliance  MODULE-COMPLIANCE
    STATUS   current
    DESCRIPTION
  "The full compliance statementfor SNMP entities
   whichimplement the FIBRE-CHANNEL-FE-MIB."
    MODULE  -- this module
    MANDATORY-GROUPS { fcFeConfigGroup, fcFeStatusGroup,
        fcFeErrorGroup,  fcFeCapabilitiesGroup}

    GROUP fcFeClass1AccountingGroup
    DESCRIPTION
  "This group ismandatory for all fibrechannelfabric
   elements which support class 1 frames."

    GROUP fcFeClass2AccountingGroup
    DESCRIPTION
  "This group ismandatory for all fibrechannelfabric
   elements which support class 2 frames."

    GROUP fcFeClass3AccountingGroup
    DESCRIPTION
  "This group ismandatory for all fibrechannelfabric
   elements which support class 3 frames."

    OBJECT    fcFeFabricName
    MIN-ACCESS    read-only
    DESCRIPTION
  "Writeaccess is not required."

    OBJECT    fcFeElementName
    MIN-ACCESS    read-only
    DESCRIPTION
  "Writeaccess is not required."
```

```
        OBJECT    fcFeModuleName
        MIN-ACCESS    read-only
        DESCRIPTION
      "Writeaccess is not required."

        OBJECT    fcFxPortAdminMode
        MIN-ACCESS    read-only
        DESCRIPTION
      "Writeaccess is not required."

        OBJECT    fcFxPortPhysAdminStatus
        MIN-ACCESS    read-only
        DESCRIPTION
      "Writeaccess is not required."

        OBJECT    fcFxPortPhysRttov
        MIN-ACCESS    read-only
        DESCRIPTION
      "Writeaccess is not required."

        OBJECT    fcFxPortBbCreditModel
        MIN-ACCESS    read-only
        DESCRIPTION
      "Writeaccess is not required."

      ::= { fcFeMIBCompliances 2 }

      -- units of conformance
      fcFeConfigGroup  OBJECT-GROUP
         OBJECTS {fcFeFabricName,fcFeElementName, fcFeModuleCapacity,
         fcFeModuleDescr, fcFeModuleObjectID,
         fcFeModuleOperStatus, fcFeModuleLastChange,
         fcFeModuleFxPortCapacity, fcFeModuleName,
         fcFxPortName, fcFxPortFcphVersionHigh,
         fcFxPortFcphVersionLow,fcFxPortBbCredit,
         fcFxPortRxBufSize, fcFxPortRatov, fcFxPortEdtov,
         fcFxPortCosSupported, fcFxPortIntermixSupported,
         fcFxPortStackedConnMode, fcFxPortClass2SeqDeliv,
         fcFxPortClass3SeqDeliv,fcFxPortHoldTime }
         STATUScurrent
         DESCRIPTION
       "A collection of objects providing theconfiguration and service
        parameters ofthe Fabric Element, themodules, and FxPorts."
      ::= { fcFeMIBGroups 1 }

    fcFeStatusGroup  OBJECT-GROUP
       OBJECTS { fcFxPortID, fcFxPortBbCreditAvailable,
            fcFxPortOperMode, fcFxPortAdminMode,
            fcFxPortPhysAdminStatus,fcFxPortPhysOperStatus,
            fcFxPortPhysLastChange, fcFxPortPhysRttov,
            fcFxPortFcphVersionAgreed, fcFxPortNxPortBbCredit,
            fcFxPortNxPortRxDataFieldSize, fcFxPortCosSuppAgreed,
```

```
        fcFxPortIntermixSuppAgreed,
        fcFxPortStackedConnModeAgreed,
        fcFxPortClass2SeqDelivAgreed,
        fcFxPortClass3SeqDelivAgreed,
        fcFxPortNxPortName, fcFxPortConnectedNxPort,
        fcFxPortBbCreditModel }
    STATUS    current
    DESCRIPTION
  "A collection of objects providing the operational status and
   established service parametersfor theFabric Element and the
   attached NxPorts."
  ::= { fcFeMIBGroups 2 }

  fcFeErrorGroup  OBJECT-GROUP
     OBJECTS {fcFxPortLinkFailures, fcFxPortSyncLosses,
     fcFxPortSigLosses, fcFxPortPrimSeqProtoErrors,
     fcFxPortInvalidTxWords,fcFxPortInvalidCrcs,
     fcFxPortDelimiterErrors, fcFxPortAddressIdErrors,
     fcFxPortLinkResetIns, fcFxPortLinkResetOuts,
     fcFxPortOlsIns,fcFxPortOlsOuts}
     STATUScurrent
     DESCRIPTION
   "A collection of objects providing various error
    statistics detected by the FxPorts."
  ::= { fcFeMIBGroups 3 }

  fcFeClass1AccountingGroup  OBJECT-GROUP
     OBJECTS {fcFxPortC1InFrames, fcFxPortC1OutFrames,
     fcFxPortC1InOctets, fcFxPortC1OutOctets,
     fcFxPortC1Discards, fcFxPortC1FbsyFrames,
     fcFxPortC1FrjtFrames, fcFxPortC1InConnections,
     fcFxPortC1OutConnections, fcFxPortC1ConnTime
     }
     STATUScurrent
     DESCRIPTION
   "A collection of objects providing various class 1
performance statistics detected by the FxPorts."
  ::= { fcFeMIBGroups 4 }

  fcFeClass2AccountingGroup  OBJECT-GROUP
     OBJECTS {fcFxPortC2InFrames, fcFxPortC2OutFrames,
     fcFxPortC2InOctets, fcFxPortC2OutOctets,
     fcFxPortC2Discards, fcFxPortC2FbsyFrames,
     fcFxPortC2FrjtFrames
     }
     STATUScurrent
     DESCRIPTION
   "A collection of objects providing various class 2
performance statistics detected by the FxPorts."
  ::= { fcFeMIBGroups 5 }

  fcFeClass3AccountingGroup  OBJECT-GROUP
```

```
        OBJECTS {fcFxPortC3InFrames, fcFxPortC3OutFrames,
        fcFxPortC3InOctets, fcFxPortC3OutOctets,
        fcFxPortC3Discards
        }
        STATUScurrent
        DESCRIPTION
      "A collection of objects providing various class 3
       performance statistics detected by the FxPorts."
     ::= { fcFeMIBGroups 6 }

   fcFeCapabilitiesGroup OBJECT-GROUP
      OBJECTS { fcFxPortCapFcphVersionHigh, fcFxPortCapFcphVersionLow,
           fcFxPortCapBbCreditMax, fcFxPortCapBbCreditMin,
           fcFxPortCapRxDataFieldSizeMax,
           fcFxPortCapRxDataFieldSizeMin,
           fcFxPortCapCos, fcFxPortCapIntermix,
           fcFxPortCapStackedConnMode, fcFxPortCapClass2SeqDeliv,
           fcFxPortCapClass3SeqDeliv, fcFxPortCapHoldTimeMax,
           fcFxPortCapHoldTimeMin
      }
      STATUS    current
      DESCRIPTION
    "A collection of objects providing the inherent
     capability of each FxPort within the Fabric Element."
    ::= { fcFeMIBGroups 7 }


   END
   -- End of Object Definitions
```

E SW-MIB

This appendix contains the SW-MIB v.4.

SW-MIB

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<!-- saved from
   url=(0061)http://www.brocade.com/support/mibs_rsh/files/V4.0/V4_0S
   W.mib -->
<HTML><HEAD>
<META http-equiv=Content-Type content="text/html;
   charset=windows-1252">
<META content="MSHTML 5.50.4923.2500" name=GENERATOR></HEAD>
<BODY><XMP>--
-- Title: Fibre Channel Switch MIB, Version 4.0
--
-- This is specified based on SMIv1, mainly to ensure that the
   specification
-- can be parsed easily by off-the-shelf network management product in
-- the market.
--
-- Changes since the last release (v3.0):
--
-- swAdmStatus has new enumeration 'switchReboot'.
-- swEndDeviceRlsTable has header description.
-- swNbMyPort, swNbRemPort, swFcPortIndex, swTrunkPortIndex,
   swTrunkMaster,
-- swTrunkGrpMaster enumerations are removed for port numbers.
-- swFwActs has new enumeration for e-mail alerts.
-- swFCPortType has new enumerations.
-- swPortTrunked description is modified to reflect enumeration.
-- swBlmPerfAlpaCRCCnt description had a spelling mistake and is
   corrected.
-- swBlmPerfEEDid description is changed to add more info.
-- swFwDefaultInBetweenActs and swFwDefaultInBetweenActs are included
   in
-- SwFwClassAreaEntry.
-- swEventNumEntries syntax is changed.
-- swEventIndex syntax is changed.
-- swFCPortSpeed description is changed.
-- swFlashDLAdmStatus now has description for swCurrent (1)
   enumeration
-- and a note about initializing to 0 is removed since the
-- default value is 1 (swCurrent).
--
-- Major changes since the last release (V2.2):
--
-- Added the Table Related to Bloom Performance.
-- Added the swTrunkPortTable.
-- Added the swTrunkGrpTable.

SW-MIB DEFINITIONS ::= BEGIN
  IMPORTS
   enterprises, Counter, NetworkAddress
```

```
    FROM RFC1155-SMI
OBJECT-TYPE
    FROM RFC1212;

-- additional textual conventions

-- DisplayString: comment out the next line if your MIB compiler
 complains
-- that it is already defined.
DisplayString::= OCTET STRING  -- containing displayable octets (aka
 ASCII)

FcWwn ::= OCTET STRING (SIZE(8))

SwDomainIndex::= INTEGER (0..239)
SwNbIndex::= INTEGER (0..2048)
SwSensorIndex::= INTEGER (1..1024)
SwPortIndex ::=INTEGER
SwTrunkMaster::=INTEGER

bcsiOBJECT IDENTIFIER ::= { enterprises 1588 }

-- Product Lines or Generic Product information
--   { bcsi 1 } is reserved
commDevOBJECT IDENTIFIER ::= { bcsi 2 } -- communication devices

fibrechannelOBJECT IDENTIFIER ::= { commDev 1 }
fcSwitchOBJECT IDENTIFIER ::= { fibrechannel 1 }

sw  OBJECT IDENTIFIER ::= { fcSwitch 1 }
sw28kOBJECT IDENTIFIER ::= { fcSwitch 2 }
sw21kN24kOBJECT IDENTIFIER ::= { fcSwitch 3 }
sw20x0OBJECT IDENTIFIER ::= { fcSwitch 4 }

-- various groups
swSystemOBJECT IDENTIFIER ::= { sw 1 }
swFabricOBJECT IDENTIFIER ::= { sw 2 }
swModuleOBJECT IDENTIFIER ::= { sw 3 }
swAgtCfgOBJECT IDENTIFIER ::= { sw 4 }
-- { sw 5 } is reserved
swFCportOBJECT IDENTIFIER ::= { sw 6 }
swNsOBJECT IDENTIFIER ::= { sw 7 }
swEventOBJECT IDENTIFIER ::= { sw 8 }
-- { sw 9 } is reserved
swFwSystemOBJECT IDENTIFIER ::= { sw 10 }

swEndDeviceOBJECT IDENTIFIER ::= { sw 21 }
swBlmPerfMnt    OBJECT IDENTIFIER ::= { sw 23 }
swTrunk      OBJECT IDENTIFIER ::= { sw 24 }
--
-- the System Group (sw)
--
```

```
swCurrentDateOBJECT-TYPE
 SYNTAX DisplayString (SIZE (0..64))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The current date information in displayable textual
    format."
::= { swSystem 1 }

swBootDateOBJECT-TYPE
 SYNTAX DisplayString (SIZE (0..64))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The date and time when the system last booted, in
    displaybale textual format."
::= { swSystem 2 }

swFWLastUpdatedOBJECT-TYPE
 SYNTAX DisplayString (SIZE (0..64))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The information indicates the date when the firmware
    was last updated, in displayable textual format."
::= { swSystem 3 }

swFlashLastUpdatedOBJECT-TYPE
 SYNTAX DisplayString
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The information indicates the date when the FLASH
    was last updated, in displayable textual format."
::= { swSystem 4 }

swBootPromLastUpdatedOBJECT-TYPE
 SYNTAX DisplayString (SIZE (0..64))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The information indicates the date when the boot PROM
    was last updated, in displayable textual format."
::= { swSystem 5 }

swFirmwareVersionOBJECT-TYPE
 SYNTAX DisplayString (SIZE (0..24))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The current version of the firwmare."
::= { swSystem 6 }

swOperStatusOBJECT-TYPE
 SYNTAX INTEGER {
          online(1),
          offline(2),
```

```
            testing(3),
            faulty(4)
          }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The current operational status of the switch.
     The states are as follow:
     o online(1) means the switch is accessible by an external
       Fibre Channel port;
     o offline(2) means the switch is not accesible;
     o testing(3) means the switch is in a built-in test mode
       and is not accessible by an external Fibre Channel port;
     o faulty(4) means the switch is not operational."
::= { swSystem 7 }

swAdmStatusOBJECT-TYPE
 SYNTAX INTEGER {
            online(1),
            offline(2),
            testing(3),
            faulty(4),
            reboot(5),
            fastboot(6),
            switchReboot(7)
          }
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"The desired administrative status of the
     switch/enclosure(enclosure may contain 1 or 2 switches).
     A management station may place the switch/enclosure in a
     desired state by setting this object accordingly. The states
     are as follow:
     o online(1) means set the switch to be accessible by an
       external Fibre Channel port;
     o offline(2) means set the switch to be inaccesible;
     o testing(3) means set the switch to run the built-in test;
     o faulty(4) means set the switch to a 'soft' faulty
       condition;
     o reboot(5) means set the enclosure to reboot in 1 second.
     o fastboot(6) means set the enclosure to fastboot in 1 second.
     Fastboot would cause the switch to boot but skip over the
     POST.
     o switchReboot(7) means set the current switch to reboot in
       1 second.

             When the switch is in faulty state, only two states
             can be set: faulty and reboot/fastboot/switchReboot."

::= { swSystem 8 }

swTelnetShellAdmStatusOBJECT-TYPE
 SYNTAX     INTEGER {
```

```
                unknown(0),
                terminated(1)
              }
 ACCESS     read-write
 STATUS     obsolete -- Ulysses have more than one telnet sessions
 DESCRIPTION"The desired adminstrative status of the Telnet
     shell. By setting it to terminated(1), the current
     Telnet shell task is deleted. When this variable instance
     is read, it reports the value last set through SNMP."
::= { swSystem 9 }

swSsn   OBJECT-TYPE
       SYNTAX          DisplayString (SIZE (0..128))
       ACCESS          read-only
       STATUS          mandatory
       DESCRIPTION     "The soft serial number of the switch."
::= { swSystem 10 }

-- FLASH administration
-- the next 5 objects are related to firmware or config file
 management.
--
-- The underlying method in the transfer of the firmware or config
 file
-- is based on either FTP or remote shell.
-- If a password is provided, then FTP is used.
-- If NO password is provided, then remote shell is used.
--
-- 2 steps to manage firmware or switch config file in the switch
 FLASH,
-- (A1) set swFlashDLHost.0, swFlashDLUser.0 and swFlashDLFile.0 to
--       appropriate
--         host IP address in user dot notation (e.g. 192.168.1.7),
--         user name (e.g. "administrator"), and
--         file name of the firmware or config file (e.g.
 "/home/fcswh/v2.2")
--       respectively;
-- (A2) set swFlashDLPassword.0 to an appropriate value (e.g.
 "secret")
--       if FTP is the desired method of transfer;
-- (B) set swFlashDLAdmStatus.0 to swFwUpgrade(2), swCfUpload(3),
--   or swCfDownload(4) accordingly.
--

swFlashDLOperStatusOBJECT-TYPE
 SYNTAX INTEGER {
          swCurrent(1),
          swFwUpgraded(2),
          swCfUploaded(3),
          swCfDownloaded(4)
        }
 ACCESS read-only
```

```
 STATUS mandatory
 DESCRIPTION"The operational status of the FLASH.
    The operational states are as follow:
    o swCurrent(1) indicates that the FLASH contains the
      current firmware image or config file;
    o swFwUpgraded(2) state indicates that it contains the image
      upgraded from the swFlashDLHost.0.;
    o swCfUploaded(3) state indicates that the switch configuration
      file has been uploaded to the host; and
    o swCfDownloaded(4) state indicates that the switch
      configuration file has been downloaded from the host."
::= { swSystem 11 }

swFlashDLAdmStatusOBJECT-TYPE
 SYNTAX INTEGER {
          swCurrent(1),
          swFwUpgrade(2),
          swCfUpload(3),
          swCfDownload(4)
        }
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"The desired state of the FLASH.
    A management station may place the FLASH in a desired
    state by setting this object accordingly:
    o swCurrent(1) indicates that the FLASH contains the
      current firmware image or config file;
    o swFwUpgrade(2) means that the firmware in theFLASH is to be
      upgraded from the host specified;
    o swCfUpload(3) means that the switch config file is to be
      uploaded to the host specified; or
    o swCfDownload(4) means that the switch config file is to be
      downloaded from the host specified.

    The host is specified in swFlashDLHost.0. In addition,
    user name is specified in swFlashDLUser.0, and
    the file name specified in swFlashDLFile.0.

    Reference the user manual on the following commands,
    o firmwareDownload,
    o configUpload, and
    o configDownload."
::= { swSystem 12 }

swFlashDLHostOBJECT-TYPE
 SYNTAX DisplayString (SIZE (0..64))
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"The name or IP address (in dot notation) of the host
        to download or upload a relevant file to the FLASH."
::= { swSystem 13 }
```

```
swFlashDLUserOBJECT-TYPE
 SYNTAX DisplayString (SIZE (0..64))
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"The user name on the host to download or upload
        a relevant file to or from the FLASH."
::= { swSystem 14 }

swFlashDLFileOBJECT-TYPE
 SYNTAX DisplayString (SIZE (0..256))
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"The name of the file to be downloaded or uploaded."
::= { swSystem 15 }

swFlashDLPasswordOBJECT-TYPE
 SYNTAX DisplayString (SIZE (0..100))
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"The password to be used in for FTP transfer of
        files in the download or upload operation."
::= { swSystem 16 }

-- 17..19 are reserved

swBeaconOperStatusOBJECT-TYPE
 SYNTAX INTEGER {
           on (1),
           off(2)
        }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The current operational status of the switch beacon.
        When the beacon is on, the LEDs on the front panel
        of the switch run alternately from left to right
        and right to left. The color is yellow.
        When the beacon is off, each LED will be in their
        its regular status indicating color and state."
::= { swSystem 18 }

swBeaconAdmStatusOBJECT-TYPE
 SYNTAX INTEGER {
           on (1),
           off(2)
        }
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"The desired status of the switch beacon.
        When the beacon is set to on, the LEDs on the front
        panel of the switch run alternately from left to right
        and right to left. The color is yellow.
        When the beacon is set to off, each LED will be in
```

```
        its regular status indicating color and state."
::= { swSystem 19 }

swDiagResultOBJECT-TYPE
 SYNTAX INTEGER {
           sw-ok      (1),
           sw-faulty(2)
        }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The result of the power-on startup (POST)
        diagnostics."
::= { swSystem 20 }

-- operating environment sensors (temperature, fan, power supply...)
swNumSensorsOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The number of sensors inside the switch."
::= { swSystem 21 }

swSensorTableOBJECT-TYPE
 SYNTAX SEQUENCE OF SwSensorEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"The table of sensor entries."
::= { swSystem 22 }

swSensorEntryOBJECT-TYPE
 SYNTAX SwSensorEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"An entry of the sensor information."
 INDEX  { swSensorIndex }
::= { swSensorTable 1 }

SwSensorEntry::= SEQUENCE {
 swSensorIndexSwSensorIndex,
 swSensorTypeINTEGER,
 swSensorStatusINTEGER,
 swSensorValueINTEGER,
 swSensorInfoDisplayString (SIZE(0..255))
}

swSensorIndexOBJECT-TYPE
 SYNTAX SwSensorIndex
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object identifies the sensor."
::= { swSensorEntry 1 }
```

```
swSensorTypeOBJECT-TYPE
 SYNTAX INTEGER {
          temperature(1),
          fan  (2),
          power-supply(3)
        }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object identifies the sensor type."
::= { swSensorEntry 2 }

swSensorStatusOBJECT-TYPE
 SYNTAX INTEGER {
          unknown(1),
          faulty(2),
          below-min(3),
          nominal(4),
          above-max(5),
          absent(6)
        }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The current status of the sensor."
::= { swSensorEntry 3 }

swSensorValueOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The current value (reading) of the sensor.
    The value, -2147483648, represents an unknown quantity.
    It also means that the sensor does not have the capability to
    measure the actual value. In V2.0, the temperature sensor
    value will be in Celsius; the fan value will be in RPM
    (revoluation per minute); and the power supply sensor reading
    will be unknown."
::= { swSensorEntry 4 }

swSensorInfoOBJECT-TYPE
 SYNTAX DisplayString (SIZE(0..255))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"Additional displayable information on the sensor.
    In V2.x, it contains the sensor type and number
    in textual format. For example, 'Temp 3', 'Fan 6'."
::= { swSensorEntry 5 }

-- track changes string scalar
swTrackChangesInfoOBJECT-TYPE
 SYNTAX DisplayString (SIZE(0..256))
 ACCESS read-only
 STATUS mandatory
```

```
 DESCRIPTION"Track changes string. For trap only"
::= { swSystem 23 }

--
-- End of System Group
--

--
-- Fabric Group
--
swDomainIDOBJECT-TYPE
 SYNTAX SwDomainIndex
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"The current Fibre Channel domain ID of the switch.
    To set a new value, the switch (swAdmStatus) must be in
    offline or testing state."
::= { swFabric 1 }

swPrincipalSwitchOBJECT-TYPE
 SYNTAX INTEGER {
           yes (1),
           no  (2)
         }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object indicates whether the switch is
    the Principal switch as per FC-SW."
::= { swFabric 2 }

-- swFabric 3..7 are reserved

-- (immediate) Neighborhood ISL family
--
swNumNbsOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The number of Inter-Switch Links in the (immediate)
    neighborhood."
::= { swFabric 8 }

swNbTableOBJECT-TYPE
 SYNTAX SEQUENCE OF SwNbEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"This table contains the ISLs in the immediate
    neighorhood of the switch."
::= { swFabric 9 }

swNbEntryOBJECT-TYPE
 SYNTAX SwNbEntry
```

```
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"An entry containing each neighbor ISL parameters."
 INDEX  { swNbIndex }
::= { swNbTable 1 }

SwNbEntry::= SEQUENCE {
 swNbIndexSwNbIndex,
 swNbMyPortINTEGER,
 swNbRemDomainSwDomainIndex,
 swNbRemPortINTEGER,
 swNbBaudRateINTEGER,
 swNbIslStateINTEGER,
 swNbIslCostINTEGER,
      swNbRemPortNameOCTET STRING (SIZE (8))
}

swNbIndexOBJECT-TYPE
 SYNTAX SwNbIndex
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object identifies the neighbour ISL entry."
::= { swNbEntry 1 }

swNbMyPortOBJECT-TYPE
 SYNTAX SwPortIndex
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This is the port that has an ISL to another switch."
::= { swNbEntry 2 }

swNbRemDomainOBJECT-TYPE
 SYNTAX SwDomainIndex
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This is the Fibre Channel domain on the other end
    of the ISL."
::= { swNbEntry 3 }

swNbRemPortOBJECT-TYPE
 SYNTAX SwPortIndex
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This is the port index on the other end of the ISL."
::= { swNbEntry 4 }

swNbBaudRateOBJECT-TYPE
 SYNTAX INTEGER {
          other          (1),    -- none of below
          oneEighth      (2),    -- 155 Mbaud
          quarter        (4),    -- 266 Mbaud
          half           (8),    -- 532 Mbaud
```

```
            full            (16),    --   1 Gbaud
            double          (32),    --   2 Gbaud
            quadruple       (64)     --   4 Gbaud
        }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The baud rate of the ISL."
::= { swNbEntry 5 }

swNbIslStateOBJECT-TYPE
 SYNTAX INTEGER {
            -- sw-down(0),
            sw-init(1),
            sw-internal2(2),
            sw-internal3(3),
            sw-internal4(4),
            sw-active(5)
        }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The current state of the ISL."
::= { swNbEntry 6 }

swNbIslCostOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"The current link cost of the ISL."
::= { swNbEntry 7 }

swNbRemPortNameOBJECT-TYPE
 SYNTAX OCTET STRING (SIZE (8))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The World_wide_Name of the remote port."
::= { swNbEntry 8 }

--
-- SNMP Agent Configuration
--

-- swAgtCfg 1..10 are reserved

swAgtCmtyTableOBJECT-TYPE
 SYNTAX SEQUENCE OF SwAgtCmtyEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"A table that contains, one entry for each Community,
    the access control and parameters of the Community."
::= { swAgtCfg 11 }

swAgtCmtyEntryOBJECT-TYPE
```

```
 SYNTAX SwAgtCmtyEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"An entry containing the Community parameters."
 INDEX{ swAgtCmtyIdx }
::= { swAgtCmtyTable 1 }

SwAgtCmtyEntry::= SEQUENCE {
 swAgtCmtyIdxINTEGER (1..6),
 swAgtCmtyStrDisplayString (SIZE (0..16)),
 swAgtTrapRcpNetworkAddress
}

swAgtCmtyIdxOBJECT-TYPE
 SYNTAX INTEGER (1..6)
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object identifies the SNMPv1 Community entry."
::= { swAgtCmtyEntry 1 }

swAgtCmtyStrOBJECT-TYPE
 SYNTAX DisplayString (SIZE (0..16))
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"This is a Community string supported by the agent.
    If a new value is set successfully, it takes effect
    immediately."
::= { swAgtCmtyEntry 2 }

swAgtTrapRcpOBJECT-TYPE
 SYNTAX NetworkAddress
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"This is the trap recipient associated with the
    Community. If a new value is set successfully, it takes
    effect immediately."
::= { swAgtCmtyEntry 3 }

--
-- End of SNMP Agent Configuration Group
--

--
-- Fibre Channel Port Group
-- This group contains information about the physical state,
-- operational status, performance and error statistics of each
-- Fibre Channel port on the switch. A Fibre Channel port is one which
-- supports the Fibre Channel protocol. E.g. F_Port, E_Port, FL_Port.
--

swFCPortCapacityOBJECT-TYPE
 SYNTAX INTEGER
```

```
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The maximum number of Fibre Channel ports on this
    switch. It includes G_Port, F_Port, FL_Port and any other
    types of Fibre Channel port."
::= { swFCport 1 }

swFCPortTableOBJECT-TYPE
 SYNTAX SEQUENCE OF SwFCPortEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"A table that contains, one entry for each switch port,
    configuration and service parameters of the port."
::= { swFCport 2 }

swFCPortEntryOBJECT-TYPE
 SYNTAX SwFCPortEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"An entry containing the configuration and service
    parameters of the switch port."
 INDEX{ swFCPortIndex }
 ::= { swFCPortTable 1 }

SwFCPortEntry::= SEQUENCE {
 swFCPortIndexINTEGER,
 swFCPortTypeINTEGER,
 swFCPortPhyStateINTEGER,
 swFCPortOpStatusINTEGER,
 swFCPortAdmStatusINTEGER,

 swFCPortLinkStateINTEGER,
 swFCPortTxTypeINTEGER,

 -- the rest is mapped to gstat_t
 swFCPortTxWordsCounter,
 swFCPortRxWordsCounter,
 swFCPortTxFramesCounter,
 swFCPortRxFramesCounter,
 swFCPortRxC2FramesCounter,
 swFCPortRxC3FramesCounter,
 swFCPortRxLCsCounter,
 swFCPortRxMcastsCounter,
 swFCPortTooManyRdysCounter,
 swFCPortNoTxCreditsCounter,
 swFCPortRxEncInFrsCounter,
 swFCPortRxCrcsCounter,
 swFCPortRxTruncsCounter,
 swFCPortRxTooLongsCounter,
 swFCPortRxBadEofsCounter,
 swFCPortRxEncOutFrsCounter,
 swFCPortRxBadOsCounter,
```

```
 swFCPortC3DiscardsCounter,
 swFCPortMcastTimedOutsCounter,
 swFCPortTxMcastsCounter,

 -- LIP statistics
 swFCPortLipInsCounter,
 swFCPortLipOutsCounter,
 swFCPortLipLastAlpaOCTET STRING (SIZE(4)),

 -- new for V2.1
 swFCPortWwnOCTET STRING,

 -- new for V3.0
    swFCPortSpeed       INTEGER

}

swFCPortIndexOBJECT-TYPE
 SYNTAX SwPortIndex
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object identifies the switch port index.
    Note that the value of a port index is 1 higher than the
    port number labeled on the front panel.
    E.g. port index 1 correspond to port number 0."
::= { swFCPortEntry 1 }

swFCPortTypeOBJECT-TYPE
 SYNTAX INTEGER {
          stitch(1),
          flannel(2),
          loom (3),
          bloom(4),
          rdbloom(5),
          wormhole(6)
        }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object identifies the type of switch port.
       It may be of type stitch(1), flannel(2), loom(3) ,
bloom(4),rdbloom(5) or wormhole(6)."
::= { swFCPortEntry 2 }

swFCPortPhyStateOBJECT-TYPE
 SYNTAX INTEGER {
          noCard(1),
          noGbic(2),
          laserFault(3),
          noLight(4),
          noSync(5),
          inSync(6),
          portFault(7),
```

```
            diagFault(8),
            lockRef(9)
          }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object identifies the physical state of
    the port:
        noCard(1)no card present in this switch slot;
        noGbic(2)no GBIC module in this port;
        laserFault(3)the module is signaling a laser fault
               (defective GBIC);
        noLight(4)the module is not receiving light;
        noSync(5)the module is receiving light but is
               out of sync;
        inSync(6)the module is receiving light and is
               in sync;
        portFault(7)the port is marked faulty (defective
               GBIC, cable or device);
        diagFault(8)the port failed diagnostics (defective
               G_Port or FL_Port card or motherboard);
        lockRef(9)the port is locking to the reference
               signal.
    "
::= { swFCPortEntry 3 }

swFCPortOpStatusOBJECT-TYPE
 SYNTAX INTEGER {
            unknown(0),
            online(1),
            offline(2),
            testing(3),
            faulty(4)
          }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object identifies the operational status of
    the port. The online(1) state indicates that user frames
    can be passed. The unknown(0) state indicates that likely
    the port module is physically absent (see swFCPortPhyState)."
::= { swFCPortEntry 4 }

swFCPortAdmStatusOBJECT-TYPE
 SYNTAX INTEGER {
            online(1),
            offline(2),
            testing(3),
            faulty(4)
          }
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"The desired state of the port. A management station
             may place the port in a desired state by setting this
```

```
                object accordingly.  The testing(3) state indicates that
                  no user frames can be passed. As the result of
                  either explicit management action or per configuration
                information accessible by the switch, swFCPortAdmStatus is
        then changed to either the online(1) or testing(3)
        states,or remains in the offline(2) state."
    ::= { swFCPortEntry 5 }

    swFCPortLinkStateOBJECT-TYPE
     SYNTAX INTEGER {
              enabled(1),
              disabled(2),
              loopback(3)
            }
     ACCESS read-write
     STATUS mandatory
     DESCRIPTION"This object indicates the link state of the port.
        The value may be:
          enabled(1) - port is allowed to participate in the FC-PH
           protocol with its attached port (or ports if it is
           in a FC-AL loop);
          disabled(2) - the port is not allowed to participate in
           the FC-PH protocol with its attached port(s);
          loopback(3) - the port may transmit frames through an
           internal path to verify the health of the transmitter
           and receiver path.

        Note that when the port's link state changes, its
        operational status (swFCPortOpStatus) will be affected."
    ::= { swFCPortEntry 6 }

    swFCPortTxTypeOBJECT-TYPE
     SYNTAX INTEGER {
              unknown(1),
              lw   (2),
              sw   (3),
              ld   (4),
              cu   (5)
            }
     ACCESS read-only
     STATUS mandatory
     DESCRIPTION"This object indicates the media transmitter type of
        the port. The value may be:
          unknown(1)cannot determined to the port driver
          lw(2)    long wave laser
          sw(3)    short wave laser
          ld(4)    long wave LED
          cu(5)    copper (electrical)

        Note that there is a new type of GBIC which has a serial ID
        and will be mapped as unknown(1) for the current firmware
        revision."
```

```
::= { swFCPortEntry 7 }

-- counters
swFCPortTxWordsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of Fibre Channel
    words that the port has transmitted."
::= { swFCPortEntry 11 }

swFCPortRxWordsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of Fibre Channel
    words that the port has received."
::= { swFCPortEntry 12 }

swFCPortTxFramesOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of (Fibre Channel)
    frames that the port has transmitted."
::= { swFCPortEntry 13 }

swFCPortRxFramesOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of (Fibre Channel)
    frames that the port has received."
::= { swFCPortEntry 14 }

swFCPortRxC2FramesOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of Class 2
    frames that the port has received."
::= { swFCPortEntry 15 }

swFCPortRxC3FramesOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of Class 3
    frames that the port has received."
::= { swFCPortEntry 16 }

swFCPortRxLCsOBJECT-TYPE
```

```
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of Link Control
    frames that the port has received."
::= { swFCPortEntry 17 }

swFCPortRxMcastsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of Multicast
    frames that the port has received."
::= { swFCPortEntry 18 }

swFCPortTooManyRdysOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of times when RDYs
     exceeds the frames received."
::= { swFCPortEntry 19 }

swFCPortNoTxCreditsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of times when the
     transmit credit has reached zero."
::= { swFCPortEntry 20 }

swFCPortRxEncInFrsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of encoding error or
    disparity error inside frames received."
::= { swFCPortEntry 21 }

swFCPortRxCrcsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of CRC errors
    detected for frames received."
::= { swFCPortEntry 22 }

swFCPortRxTruncsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of truncated
```

```
    frames that the port has received."
::= { swFCPortEntry 23 }

swFCPortRxTooLongsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of received frames that
    are too long."
::= { swFCPortEntry 24 }

swFCPortRxBadEofsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of received frames that
    have bad EOF delimiter."
::= { swFCPortEntry 25 }

swFCPortRxEncOutFrsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of encoding error or
    disparity error outside frames received."
::= { swFCPortEntry 26 }

swFCPortRxBadOsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of invalid Ordered
    Sets received."
::= { swFCPortEntry 27 }

swFCPortC3DiscardsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of Class 3
    frames that the port has discarded."
::= { swFCPortEntry 28 }

swFCPortMcastTimedOutsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of Multicast
    frames that has been timed out."
::= { swFCPortEntry 29 }

swFCPortTxMcastsOBJECT-TYPE
```

```
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of Multicast
    frames that has been transmitted."
::= { swFCPortEntry 30 }

-- LIP statistics
swFCPortLipInsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of Loop Initializations
    that has been initiated by loop devices attached."
::= { swFCPortEntry 31 }

swFCPortLipOutsOBJECT-TYPE
 SYNTAX Counter
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object counts the number of Loop Initializations
    that has been initiated by the port."
::= { swFCPortEntry 32 }

swFCPortLipLastAlpaOBJECT-TYPE
 SYNTAX OCTET STRING (SIZE(4))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object indicates the Physical Address (AL_PA)
    of the loop device that initiated the last
    Loop Initialization."
::= { swFCPortEntry 33 }

swFCPortWwnOBJECT-TYPE
 SYNTAX OCTET STRING (SIZE(8))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The World_wide_Name of the Fibre Channel port.
    The contents of an instance are in the IEEE extended format
    as specified in FC-PH; the 12-bit port identifier represents
    the port number within the switch."
::= { swFCPortEntry 34 }

swFCPortSpeed     OBJECT-TYPE
   SYNTAX       INTEGER
                {
                   one-GB    (1),
                   two-GB    (2),
                   auto-Negotiate (3)
                }
 ACCESS         read-write
 STATUS         mandatory
```

```
 DESCRIPTION " The desired baud rate for the port. It can have the
 values of 1GB(1),
    2GB (2) or Auto-Negotiate (3)."
::= { swFCPortEntry 35 }

--
-- End of Fibre Channel Port group
--



--
-- The Name Server Database group
--

swNsLocalNumEntryOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The number of local Name Server entries."
::= { swNs 1 }

swNsLocalTableOBJECT-TYPE
 SYNTAX SEQUENCE OF SwNsEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"The table of local Name Server entries."
::= { swNs 2 }

swNsLocalEntryOBJECT-TYPE
 SYNTAX SwNsEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"An entry of the local Name Server database."
 INDEX  { swNsEntryIndex }
::= { swNsLocalTable 1 }

SwNsEntry ::= SEQUENCE {
 swNsEntryIndexINTEGER,
 swNsPortIDOCTET STRING(SIZE(4)),
 swNsPortTypeINTEGER,
 swNsPortNameFcWwn,
 swNsPortSymbOCTET STRING,
 swNsNodeNameFcWwn,
 swNsNodeSymbOCTET STRING,
 swNsIPAOCTET STRING,
 swNsIpAddressOCTET STRING,
 swNsCosINTEGER,
 swNsFc4OCTET STRING,
 swNsIpNxPort    OCTET STRING(SIZE(16)),
  swNsWwn         OCTET STRING(SIZE(8)),
  swNsHardAddr    OCTET STRING(SIZE(3))
```

```
}

swNsEntryIndexOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The object identifies the Name Server database entry."
::= { swNsLocalEntry 1 }

swNsPortIDOBJECT-TYPE
 SYNTAX OCTET STRING (SIZE(4))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The object identifies the Fibre Channel port address
    ID of the entry."
::= { swNsLocalEntry 2 }

swNsPortTypeOBJECT-TYPE
 SYNTAX INTEGER {
        --  unknown(0),
          nPort(1),
          nlPort(2)
        }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The object identifies the type of port: N_Port,
    NL_Port, etc., for this entry. The type is defined in FC-GS-2."
::= { swNsLocalEntry 3 }

swNsPortNameOBJECT-TYPE
 SYNTAX FcWwn
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The object identifies the Fibre Channel World_wide
    Name of the port entry."
::= { swNsLocalEntry 4 }

swNsPortSymbOBJECT-TYPE
 SYNTAX OCTET STRING(SIZE(0..255))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The object identifies the contents of a Symbolic Name
    of the port entry. In FC-GS-2, a Symbolic Name consists of
    a byte array of 1 through 256 bytes, and the first byte of the
    array specifies the length of its 'contents'.
    This object variable corresponds to the 'contents' of the
    Symbolic Name, without the first byte."
::= { swNsLocalEntry 5 }

swNsNodeNameOBJECT-TYPE
 SYNTAX FcWwn
 ACCESS read-only
```

```
 STATUS mandatory
 DESCRIPTION"The object identifies the Fibre Channel World_wide
    Name of the associated node as defined in FC-GS-2."
::= { swNsLocalEntry 6 }

swNsNodeSymbOBJECT-TYPE
 SYNTAX OCTET STRING (SIZE(0..255))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The object identifies the contents of a Symbolic Name
    of the the node associated with the entry. In FC-GS-2,
    a Symbolic Name consists of a byte array of 1 through 256
    bytes, and the first byte of the array specifies the length
    of its 'contents'.
    This object variable corresponds to the 'contents' of the
    Symbolic Name, without the first byte (specifying the length)."
::= { swNsLocalEntry 7 }

swNsIPAOBJECT-TYPE
 SYNTAX OCTET STRING (SIZE(8))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The object identifies the Initial Process Associator
    of the node for the entry as defined in FC-GS-2."
::= { swNsLocalEntry 8 }

swNsIpAddressOBJECT-TYPE
 SYNTAX OCTET STRING (SIZE(16))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The object identifies the IP address of the node
    for the entry as defined in FC-GS-2. The format of the address
    is in IPv6."
::= { swNsLocalEntry 9 }

swNsCosOBJECT-TYPE
 SYNTAX INTEGER {
    --    class-unknown(0),
          class-F(1),
          class-1(2),
          class-F-1(3),
          class-2(4),
          class-F-2(5),
          class-1-2(6),
          class-F-1-2(7),
          class-3(8),
          class-F-3(9),
          class-1-3(10),
          class-F-1-3(11),
          class-2-3(12),
          class-F-2-3(13),
          class-1-2-3(14),
```

```
          class-F-1-2-3(15)
        -- more to enumerate in future.
        }
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The object identifies the class of services supported
    by the port. The value is a bit-map defined as follows:
    o bit 0 is class F,
    o bit 1 is class 1,
    o bit 2 is class 2,
    o bit 3 is class 3,
    o bit 4 is class 4, etc."
::= { swNsLocalEntry 10 }

swNsFc4OBJECT-TYPE
 SYNTAX OCTET STRING (SIZE (32))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The object identifies the FC-4s supported
    by the port as defined in FC-GS-2."
::= { swNsLocalEntry 11 }

swNsIpNxPort            OBJECT-TYPE
 SYNTAX      OCTET STRING (SIZE(16))
 ACCESS      read-only
 STATUS      mandatory
 DESCRIPTION     "The object identifies IpAddress of the Nx_port for
 the entry."
::= { swNsLocalEntry 12 }

swNsWwn       OBJECT-TYPE
 SYNTAX      OCTET STRING (SIZE(8))
 ACCESS      read-only
 STATUS      mandatory
 DESCRIPTION     "The object identifies the World Wide Name (WWN) of
 the Fx_port
                 for the entry."
::= { swNsLocalEntry 13 }

swNsHardAddr            OBJECT-TYPE
 SYNTAX      OCTET STRING (SIZE(3))
 ACCESS      read-only
 STATUS      mandatory
 DESCRIPTION     "The object identifies the 24-bit hard address of
 the node
                 for the entry."
::= { swNsLocalEntry 14 }

--
-- End of Fibre Channel Name Server group
--
```

```
--
 ##############################################################################
 #####
--
-- Event Group - to map the errLog
--
-- NOTE
-- Logically, swEventTable is separate from the error log since it is
-- essentially a view of the error log within a particular time
 window.
-- The value of swEventIndex shall indicate the event number that has
-- occurred since the switch booted. The value will range from 1
 through
-- 2147383647 (2^31 - 1).
--
--
 ##############################################################################
 #####

swEventTrapLevel        OBJECT-TYPE
      SYNTAX            INTEGER {
          none (0),
                          critical      (1),
                          error         (2),
                          warning       (3),
                          informational (4),
                          debug         (5)
                        }
      ACCESS            read-write
      STATUS            mandatory
     DESCRIPTION     "This object specifies the swEventTrap level in
    conjunction with an event's severity level. When an event
    occurs and if its severity level is at or below the value
    specified by this object instance, the agent will send
    the associated swEventTrap to configured recipients."
::= { swEvent 1 }

-- { swEvent 2..3 are reserved }

swEventNumEntries       OBJECT-TYPE
      SYNTAX            INTEGER
      ACCESS            read-only
      STATUS            mandatory
      DESCRIPTION       "The number of entries in the Event Table."
::= { swEvent 4 }

swEventTable            OBJECT-TYPE
      SYNTAX            SEQUENCE OF SwEventEntry
      ACCESS            not-accessible
      STATUS            mandatory
      DESCRIPTION       "The table of event entries."
::= { swEvent 5 }
```

```
swEventEntry            OBJECT-TYPE
      SYNTAX            SwEventEntry
      ACCESS            not-accessible
      STATUS            mandatory
      DESCRIPTION       "An entry of the event table."
      INDEX             { swEventIndex }

::= { swEventTable 1 }

SwEventEntry            ::= SEQUENCE {
      swEventIndexINTEGER,
      swEventTimeInfoDisplayString,
      swEventLevelINTEGER,
 swEventRepeatCountINTEGER,
      swEventDescrDisplayString
}

swEventIndex            OBJECT-TYPE
      SYNTAX            INTEGER
      ACCESS            read-only
      STATUS            mandatory
      DESCRIPTION       "This object identifies the event entry."
::= { swEventEntry 1 }

swEventTimeInfo         OBJECT-TYPE
      SYNTAX            DisplayString
      ACCESS            read-only
      STATUS            mandatory
     DESCRIPTION      "This object identifies the date and time when
 this
                event occurred, in textual format."
::= { swEventEntry 2 }

swEventLevel            OBJECT-TYPE
      SYNTAX            INTEGER {
                          critical      (1),
                          error         (2),
                          warning       (3),
         informational(4),
                          debug         (5)
                        }
      ACCESS            read-only
      STATUS            mandatory
     DESCRIPTION      "This object identifies the severity level of
 this
    event entry."
::= { swEventEntry 3 }

swEventRepeatCountOBJECT-TYPE
      SYNTAX            INTEGER
      ACCESS            read-only
```

```
      STATUS          mandatory
      DESCRIPTION     "This object identifies how many times this
particular
    event has occurred."
::= { swEventEntry 4 }

swEventDescr          OBJECT-TYPE
      SYNTAX          DisplayString
      ACCESS          read-only
      STATUS          mandatory
     DESCRIPTION    "This object identifies the textual description
of
              the event."
::= { swEventEntry 5 }

--
-- End of Fibre Channel Event Group
--

--
-- swFwSystem
-- Fabric Watch subsystem
--
 ######################################################################
 #########
-- Fabric Watch subsystem consists of two tables
-- SwFwClassAreaEntry contains control information for a particular
 class/area's
-- thresholds. These thresholds are contained in SwFwThresholdEntry.
--
 ######################################################################
 #########

-- valid action matrix
SwFwActs ::= INTEGER {
              swFwNoAction(0),
              swFwErrlog(1),
              swFwSnmptrap(2),
              swFwErrlogSnmptrap(3),
              swFwPortloglock(4),
              swFwErrlogPortloglock(5),
              swFwSnmptrapPortloglock(6),
              swFwErrlogSnmptrapPortloglock(7),
              swFwRn(8),
              swFwElRn(9),
              swFwStRn(10),
              swFwElStRn(11),
              swFwPlRn(12),
              swFwElPlRn(13),
              swFwStPlRn(14),
              swFwElStPlRn(15),
              swFwMailAlert(16),
```

```
                    swFwMailAlertErrlog(17),
                    swFwMailAlertSnmptrap(18),
                    swFwMailAlertErrlogSnmptrap(19),
                    swFwMailAlertPortloglock(20),
                    swFwMailAlertErrlogPortloglock(21),
                    swFwMailAlertSnmptrapPortloglock(22),
                    swFwMailAlertErrlogSnmptrapPortloglock(23),
                    swFwMailAlertRn(24),
                    swFwElMailAlertRn(25),
                    swFwMailAlertStRn(26),
                    swFwMailAlertElStRn(27),
                    swFwMailAlertPlRn(28),
                    swFwMailAlertElPlRn(29),
                    swFwMailAlertStPlRn(30),
                    swFwMailAlertElStPlRn(31)
                    }

-- variable for threshold values or action matrix level
SwFwLevels ::= INTEGER {
            swFwReserved(1),
            swFwDefault(2),
            swFwCustom(3)
            }

-- classes and areas index
SwFwClassesAreas ::=INTEGER {
            swFwEnvTemp(1),
            swFwEnvFan(2),
            swFwEnvPs(3),
            swFwGbicTemp(4),
            swFwGbicRxp(5),
            swFwGbicTxp(6),
            swFwGbicCurrent(7),
            swFwPortLink(8),
            swFwPortSync(9),
            swFwPortSignal(10),
            swFwPortPe(11),
            swFwPortWords(12),
            swFwPortCrcs(13),
            swFwPortRXPerf(14),
            swFwPortTXPerf(15),
            swFwPortState(16),
            swFwFabricEd(17),
            swFwFabricFr(18),
            swFwFabricDi(19),
            swFwFabricSc(20),
            swFwFabricZc(21),
            swFwFabricFq(22),
            swFwFabricFl(23),
            swFwFabricGs(24),
            swFwEPortLink(25),
            swFwEPortSync(26),
```

```
                swFwEPortSignal(27),
                swFwEPortPe(28),
                swFwEPortWords(29),
                swFwEPortCrcs(30),
                swFwEPortRXPerf(31),
                swFwEPortTXPerf(32),
                swFwEPortState(33),
                swFwFCUPortLink(34),
                swFwFCUPortSync(35),
                swFwFCUPortSignal(36),
                swFwFCUPortPe(37),
                swFwFCUPortWords(38),
                swFwFCUPortCrcs(39),
                swFwFCUPortRXPerf(40),
                swFwFCUPortTXPerf(41),
                swFwFCUPortState(42),
                swFwFOPPortLink(43),
                swFwFOPPortSync(44),
                swFwFOPPortSignal(45),
                swFwFOPPortPe(46),
                swFwFOPPortWords(47),
                swFwFOPPortCrcs(48),
                swFwFOPPortRXPerf(49),
                swFwFOPPortTXPerf(50),
                swFwFOPPortState(51),
                swFwPerfALPACRC(52),
                 swFwPerfEToECRC(53),
                 swFwPerfEToERxCnt(54),
                 swFwPerfEToETxCnt(55),
                 swFwPerffltCusDef(56)
                }

-- write only variable for applying or canceling
-- values or action matrix changes
SwFwWriteVals::= INTEGER {
                swFwCancelWrite(1),
                swFwApplyWrite(2)
                }

-- timebase for thresholds
SwFwTimebase ::= INTEGER {
                swFwTbNone(1),
                swFwTbSec(2),
                swFwTbMin(3),
                swFwTbHour(4),
                swFwTbDay(5)
                }

-- status for thresholds
SwFwStatus ::= INTEGER {
                disabled(1),
                enabled(2)
```

```
            }

-- possible events avaialable
SwFwEvent ::= INTEGER {
            started(1),
            changed(2),
            exceeded(3),
            below(4),
            above(5),
            inBetween(6)
            }

-- behavior type for thresholds
SwFwBehavior ::= INTEGER {
            triggered(1),
            continuous(2)
            }

-- state type for last events
SwFwState ::= INTEGER {
            swFwInformative(1),
            swFwNormal(2),
            swFwFaulty(3)
            }

-- license state
SwFwLicense ::= INTEGER {
            swFwLicensed(1),
            swFwNotLicensed(2)
            }

-- This is the first of the elements declared for Fabric Watch :
-- one scalar & two tables
-- A scalar, swFwFabricWatchLicense is used to tell is if the switch
 has
-- proper license for Fabric Watch. Please refer to Fabric Watch
-- documentation for further information.
-- One table contains classArea information such as threshold unit
 string,
-- time base, low thresholds, etc. The other table contains
 individual
-- threshold information such as name, label, last event, etc.
-- Please refer to Fabric Watch documentation for further
 information.

-- license scalar
swFwFabricWatchLicenseOBJECT-TYPE
 SYNTAX SwFwLicense
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"tells if licensed or not."
::= { swFwSystem 1 }
```

```
-- classArea table
swFwClassAreaTableOBJECT-TYPE
 SYNTAX SEQUENCE OFSwFwClassAreaEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"The table of classes and areas."
::= { swFwSystem 2 }

swFwClassAreaEntryOBJECT-TYPE
 SYNTAX SwFwClassAreaEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"An entry of the classes and areas."
 INDEX  { swFwClassAreaIndex }
::= { swFwClassAreaTable 1 }

SwFwClassAreaEntry ::= SEQUENCE {
 swFwClassAreaIndexSwFwClassesAreas,
 swFwWriteThValsSwFwWriteVals,
 swFwDefaultUnitDisplayString (SIZE(0..256)),
 swFwDefaultTimebaseSwFwTimebase,
 swFwDefaultLowINTEGER,
 swFwDefaultHighINTEGER,
 swFwDefaultBufSizeINTEGER,
 swFwCustUnitDisplayString (SIZE(0..256)),
 swFwCustTimebaseSwFwTimebase,
 swFwCustLow   INTEGER,
 swFwCustHighINTEGER,
 swFwCustBufSizeINTEGER,
 swFwThLevel   SwFwLevels,
 swFwWriteActValsSwFwWriteVals,
 swFwDefaultChangedActsSwFwActs,
 swFwDefaultExceededActsSwFwActs,
 swFwDefaultBelowActsSwFwActs,
 swFwDefaultAboveActsSwFwActs,
 swFwDefaultInBetweenActs        SwFwActs,
 swFwCustChangedActsSwFwActs,
 swFwCustExceededActsSwFwActs,
 swFwCustBelowActsSwFwActs,
 swFwCustAboveActsSwFwActs,
 swFwCustInBetweenActs           SwFwActs,
 swFwValidActsSwFwActs,
 swFwActLevelSwFwLevels
 }

swFwClassAreaIndexOBJECT-TYPE
 SYNTAX SwFwClassesAreas
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object indentifies the class type."
::= { swFwClassAreaEntry 1 }
```

```
-- this variable is used to apply or cancel
-- changes made to swFwCustUnit, swFwCustTimebase, swFwCustLow,
-- swFwCustHigh, swFwCustBufSize.
-- read of this variable will always return cancel.
swFwWriteThValsOBJECT-TYPE
 SYNTAX SwFwWriteVals
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"This variable is used to apply or cancel changes
    made to swFwCustUnit, swFwCustTimebase, swFwCustLow,
    swFwCustHigh, swFwCustBufSize. Setting this variable to
    swFwApplyWrite (2) will commit the changes to the flash.
    Setting this variable to swFwCancelWrite (1) will cancel
    the changes. Read on this variable will always return
    cancel."
::= { swFwClassAreaEntry 2 }

-- {swFwDefaultUnit, swFwDefaultTimebase, swFwDefaultMin, and
 swFwDefaultMax}
-- {swFwCustUnit, swFwCustTimebase, swFwCustMin, and swFwCustMax}
-- are grouped together to be applied to give threshold areas as in
--- Default and Cust. Which of default, or custom groups applies
 depends
--- on swFwThLevel.
swFwDefaultUnitOBJECT-TYPE
 SYNTAX DisplayString (SIZE(0..256))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"A Default unit string name for a threshold area."
::= { swFwClassAreaEntry 3 }

swFwDefaultTimebaseOBJECT-TYPE
 SYNTAX SwFwTimebase
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"A Default timebase for the current threshold counter."
::= { swFwClassAreaEntry 4 }

swFwDefaultLowOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"A Default low threshold value."
::= { swFwClassAreaEntry 5 }

swFwDefaultHighOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"A Default high threshold value."
::= { swFwClassAreaEntry 6 }
```

```
swFwDefaultBufSizeOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"A Default buffer size value."
::= { swFwClassAreaEntry 7 }

swFwCustUnitOBJECT-TYPE
 SYNTAX DisplayString (SIZE(0..256))
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"A custom unit string name for a threshold area.To
    save this value into the flash, set swFwWriteThVals to
    swFwApplyWrite (2)."
::= { swFwClassAreaEntry 8 }

swFwCustTimebaseOBJECT-TYPE
 SYNTAX SwFwTimebase
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"A custom timebase for the current threshold counter.
           To save this value into the flash, set swFwWriteThVals to
              swFwApplyWrite (2)."
::= { swFwClassAreaEntry 9 }

swFwCustLowOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"A custom low threshold value.To save this
              value into the flash, set swFwWriteThVals to
              swFwApplyWrite (2)."
::= { swFwClassAreaEntry 10 }

swFwCustHighOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"A custom high threshold value.To
              save this value into the flash, set swFwWriteThVals
              to swFwApplyWrite (2)."
::= { swFwClassAreaEntry 11 }

swFwCustBufSizeOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"A custom buffer size value.To save this
              value into the flash, set swFwWriteThVals to
              swFwApplyWrite (2)."
::= { swFwClassAreaEntry 12 }
```

```
-- swFwThLevel is used to point to current level for classArea
-- values. It is either default or custom.
swFwThLevelOBJECT-TYPE
 SYNTAX SwFwLevels
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"A level where all the thesold values are set at."
::= { swFwClassAreaEntry 13 }

-- this variable is used to apply or cancel
-- changes made to swFwCustUnit, swFwCustTimebase, swFwCustLow,
-- swFwCustHigh, swFwCustBufSize.
-- read of this variable will always return cancel.
swFwWriteActValsOBJECT-TYPE
 SYNTAX SwFwWriteVals
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"This variable is used to apply or cancel changes
    made to swFwCustChangedActs, swFwCustExceededActs,
    swFwCustBelowActs, swFwCustInBetweenActs, swFwCustAboveActs.
    Setting this variable to swFwApplyWrite(2) will commit the
    changes to the flash. Setting this variable to
    swFwCancelWrite(1) will cancel the changes.Read on this
    variable will always return cancel."
::= { swFwClassAreaEntry 14 }

-- {swFwDefaultChangedActs, swFwDefaultExceededActs,
 swFwDefaultBelowActs,
-- and swFwDefaultAboveActs} and {swFwCustChangedActs,
 swFwCustExceededActs,
-- swFwCustBelowActs, and swFwCustAboveActs} are grouped together to
 be
-- applied to give threshold areas as in default and cust. Which of
-- default, or custom groups applies depends on swFwThLevel.
swFwDefaultChangedActsOBJECT-TYPE
 SYNTAX SwFwActs
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"Default action matrix for changed event."
::= { swFwClassAreaEntry 15 }

swFwDefaultExceededActsOBJECT-TYPE
 SYNTAX SwFwActs
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"Default action matrix for exceeded event."
::= { swFwClassAreaEntry 16 }

swFwDefaultBelowActsOBJECT-TYPE
 SYNTAX SwFwActs
 ACCESS read-only
```

```
 STATUS mandatory
 DESCRIPTION"Default action matrix for below event."
::= { swFwClassAreaEntry 17 }

swFwDefaultAboveActsOBJECT-TYPE
 SYNTAX SwFwActs
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"Default action matrix for above event."
::= { swFwClassAreaEntry 18 }

swFwDefaultInBetweenActsOBJECT-TYPE
 SYNTAX SwFwActs
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"Default action matrix for in-between event."
::= { swFwClassAreaEntry 19 }

swFwCustChangedActsOBJECT-TYPE
 SYNTAX SwFwActs
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"custom action matrix for changed event. To
            save this value into the flash, set swFwWriteActVals to
              swFwApplyWrite (2)."
::= { swFwClassAreaEntry 20 }

swFwCustExceededActsOBJECT-TYPE
 SYNTAX SwFwActs
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"custom action matrix for exceeded event.To
            save this value into the flash, set swFwWriteActVals to
              swFwApplyWrite (2)."
::= { swFwClassAreaEntry 21 }

swFwCustBelowActsOBJECT-TYPE
 SYNTAX SwFwActs
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"custom action matrix for below event.To
            save this value into the flash, set swFwWriteActVals to
              swFwApplyWrite (2)."
::= { swFwClassAreaEntry 22 }

swFwCustAboveActsOBJECT-TYPE
 SYNTAX SwFwActs
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"custom action matrix for above event.To
            save this value into the flash, set swFwWriteActVals to
              swFwApplyWrite (2)."
```

```
::= { swFwClassAreaEntry 23 }

swFwCustInBetweenActsOBJECT-TYPE
 SYNTAX SwFwActs
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"custom action matrix for in-between event.To
             save this value into the flash, set swFwWriteActVals to
               swFwApplyWrite (2)."
::= { swFwClassAreaEntry 24 }

swFwValidActsOBJECT-TYPE
 SYNTAX SwFwActs
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"matrix of valid acts for an class/area."
::= { swFwClassAreaEntry 25 }

-- swFwActLevel is used to point to current level for classArea
-- action matrix. It is either default or custom.
swFwActLevelOBJECT-TYPE
 SYNTAX SwFwLevels
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"A level where all the actions are set at."
::= { swFwClassAreaEntry 26 }

-- table for individual threshold
swFwThresholdTableOBJECT-TYPE
 SYNTAX SEQUENCE OFSwFwThresholdEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"The table of individual thresholds."
::= { swFwSystem 3 }

swFwThresholdEntryOBJECT-TYPE
 SYNTAX SwFwThresholdEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"An entry of an individual threshold."
 INDEX  { swFwClassAreaIndex, swFwThresholdIndex }
::= { swFwThresholdTable 1 }

SwFwThresholdEntry ::= SEQUENCE {
 swFwThresholdIndexINTEGER,
 swFwStatus    SwFwStatus,
 swFwName      DisplayString (SIZE(0..32)),
 swFwLabel     DisplayString (SIZE(0..32)),
 swFwCurVal    INTEGER,
 swFwLastEventSwFwEvent,
 swFwLastEventValINTEGER,
 swFwLastEventTimeDisplayString (SIZE(0..32)),
```

```
 swFwLastStateSwFwState,
 swFwBehaviorTypeSwFwBehavior,
 swFwBehaviorIntINTEGER
 }

swFwThresholdIndexOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object indentifies the element index of
           an threshold."
::= { swFwThresholdEntry 1 }

swFwStatusOBJECT-TYPE
 SYNTAX SwFwStatus
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"This object indentifies if an threshold is
           enabled or disabled."
::= { swFwThresholdEntry 2 }

swFwNameOBJECT-TYPE
 SYNTAX DisplayString (SIZE(0..32))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object is a name of the threshold."
::= { swFwThresholdEntry 3 }

swFwLabelOBJECT-TYPE
 SYNTAX DisplayString (SIZE(0..32))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object is a label of the threshold."
::= { swFwThresholdEntry 4 }

swFwCurValOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object is a current counter of the threshold."
::= { swFwThresholdEntry 5 }

swFwLastEventOBJECT-TYPE
 SYNTAX SwFwEvent
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object is a last event type of the threshold."
::= { swFwThresholdEntry 6 }

swFwLastEventValOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
```

```
 STATUS mandatory
 DESCRIPTION"This object is a last event value of the threshold."
::= { swFwThresholdEntry 7 }

swFwLastEventTimeOBJECT-TYPE
 SYNTAX DisplayString (SIZE(0..32))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object is a last event time of the threshold."
::= { swFwThresholdEntry 8 }

swFwLastStateOBJECT-TYPE
 SYNTAX SwFwState
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"This object is a last event state of the threshold."
::= { swFwThresholdEntry 9 }

swFwBehaviorTypeOBJECT-TYPE
 SYNTAX SwFwBehavior
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"A behavior of which the thresholds generate event."
::= { swFwThresholdEntry 10 }

swFwBehaviorIntOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-write
 STATUS mandatory
 DESCRIPTION"A integer of which the thresholds generate continuous
 event."
::= { swFwThresholdEntry 11 }

-- swEndDevice Group
--
 ##########################################################################
 #########
-- table for RLS of end devices.
-- swEndDevice consists of only one table.
-- swEndDeviceRlsTable contains entries of individual end devices'
 rls.
--
 ##########################################################################
 #########

swEndDeviceRlsTableOBJECT-TYPE
 SYNTAX SEQUENCE OFSwEndDeviceRlsEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"The table of individual end devices' rls."
::= { swEndDevice 1 }
```

```
swEndDeviceRlsEntryOBJECT-TYPE
 SYNTAX SwEndDeviceRlsEntry
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"An entry of an individual end devices' rls."
 INDEX  { swEndDevicePort, swEndDeviceAlpa }
::= { swEndDeviceRlsTable 1 }

SwEndDeviceRlsEntry ::= SEQUENCE {
 swEndDevicePortINTEGER,
 swEndDeviceAlpaINTEGER,
 swEndDevicePortID                OCTET STRING (SIZE(4)),
 swEndDeviceLinkFailureINTEGER,
 swEndDeviceSyncLossINTEGER,
 swEndDeviceSigLossINTEGER,
 swEndDeviceProtoErrINTEGER,
 swEndDeviceInvalidWordINTEGER,
 swEndDeviceInvalidCRCINTEGER
 }

-- Since Silkworm family switches start with port # 0
-- snmp port # should be phisical port # + 1.
-- i.e. snmp port # 3 translates to port # 2
swEndDevicePortOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"This object indentifies the port of the end device."
::= { swEndDeviceRlsEntry 1 }

-- snmp alpa # should be logical alpa # + 1.
-- i.e. snmp alpa # 0xf0 translates to 0xef
swEndDeviceAlpaOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS not-accessible
 STATUS mandatory
 DESCRIPTION"This object indentifies the alpa of the end device."
::= { swEndDeviceRlsEntry 2 }

swEndDevicePortIDOBJECT-TYPE
 SYNTAX OCTET STRING (SIZE(4))
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"The object identifies the Fibre Channel port address
    ID of the entry."
::= { swEndDeviceRlsEntry 3 }

swEndDeviceLinkFailureOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"Link failure count for the end device."
```

```
::= { swEndDeviceRlsEntry 4 }

swEndDeviceSyncLossOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"Sync loss count for the end device."
::= { swEndDeviceRlsEntry 5 }

swEndDeviceSigLossOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"Sig loss count for the end device."
::= { swEndDeviceRlsEntry 6 }

swEndDeviceProtoErrOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"Protocol err count for the end device."
::= { swEndDeviceRlsEntry 7 }

swEndDeviceInvalidWordOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"Invalid word count for the end device."
::= { swEndDeviceRlsEntry 8 }

swEndDeviceInvalidCRCOBJECT-TYPE
 SYNTAX INTEGER
 ACCESS read-only
 STATUS mandatory
 DESCRIPTION"Invalid CRC count for the end device."
::= { swEndDeviceRlsEntry 9 }

--
   ************************************************************************
   ******************
--     Bloom Performance counter tables.
   *
--                                                                        *
--
   ************************************************************************
   ******************

swBlmPerfALPAMntTable      OBJECT-TYPE
   SYNTAX          SEQUENCE OF SwBlmPerfALPAMntEntry
   ACCESS          not-accessible
   STATUS          mandatory
   DESCRIPTION   "ALPA monitoring counter Table. "
```

```
::= { swBlmPerfMnt 1}

swBlmPerfALPAMntEntry      OBJECT-TYPE
  SYNTAX          SwBlmPerfALPAMntEntry
  ACCESS          not-accessible
  STATUS          mandatory
  DESCRIPTION     " ALPA monitoring counter for given ALPA."
  INDEX           { swBlmPerfAlpaPort,swBlmPerfAlpaIndx }
::= { swBlmPerfALPAMntTable 1}

SwBlmPerfALPAMntEntry ::= SEQUENCE {
swBlmPerfAlpaPort           SwPortIndex,
swBlmPerfAlpaIndx           INTEGER,
swBlmPerfAlpa               INTEGER,
swBlmPerfAlpaCRCCnt         OCTET STRING
}

swBlmPerfAlpaPort       OBJECT-TYPE
  SYNTAX          SwPortIndex
  ACCESS          read-only
  STATUS          mandatory
  DESCRIPTION     " This Object identifies the port index of the
  switch."
::= { swBlmPerfALPAMntEntry 1}

swBlmPerfAlpaIndx           OBJECT-TYPE
SYNTAX          INTEGER (1..126)
ACCESS          read-only
STATUS          mandatory
DESCRIPTION    " This Object identifies the ALPA index. There can be
  126 ALPA values"
::= { swBlmPerfALPAMntEntry 2}

swBlmPerfAlpa           OBJECT-TYPE
  SYNTAX          INTEGER
  ACCESS          read-only
  STATUS          mandatory
  DESCRIPTION  " This Object identifies the ALPA values.These values
  range between
            x'01' and x'EF'(1 to 239). ALPA value x'00' is reserved
  for FL_Port
            If Alpa device is invalid, then it will have -1 value.
            "
::= { swBlmPerfALPAMntEntry 3}

swBlmPerfAlpaCRCCnt     OBJECT-TYPE
  SYNTAX          OCTET STRING (SIZE(8))
  ACCESS          read-only
  STATUS          mandatory
 DESCRIPTION   "Get CRC count for given ALPA and port. This monitoring
              provides information on the number of CRC errors
              occurred on the frames destined to each possible ALPA
```

```
                attached to a specific port."

::= { swBlmPerfALPAMntEntry 4}

swBlmPerfEEMntTable         OBJECT-TYPE
  SYNTAX           SEQUENCE OF SwBlmPerfEEMntEntry
  ACCESS           not-accessible
  STATUS           mandatory
  DESCRIPTION      " End-to-End  monitoring counter Table"
::= { swBlmPerfMnt 2}

swBlmPerfEEMntEntry         OBJECT-TYPE
  SYNTAX           SwBlmPerfEEMntEntry
  ACCESS           not-accessible
  STATUS           mandatory
  DESCRIPTION      "End-to-End monitoring counter for given port."
  INDEX                { swBlmPerfEEPort, swBlmPerfEERefKey}
::= { swBlmPerfEEMntTable 1}

SwBlmPerfEEMntEntry ::= SEQUENCE{
swBlmPerfEEPort           SwPortIndex,
swBlmPerfEERefKey         INTEGER,
swBlmPerfEECRC            OCTET STRING,
swBlmPerfEEFCWRx          OCTET STRING,
swBlmPerfEEFCWTx          OCTET STRING,
swBlmPerfEESid            INTEGER,
swBlmPerfEEDid            INTEGER
}

swBlmPerfEEPort      OBJECT-TYPE
  SYNTAX           SwPortIndex
  ACCESS           read-only
  STATUS           mandatory
  DESCRIPTION     " This object identifies the port number of the
  switch."
::= { swBlmPerfEEMntEntry 1}

swBlmPerfEERefKey       OBJECT-TYPE
  SYNTAX           INTEGER (1..8)
  ACCESS           read-only
  STATUS           mandatory
  DESCRIPTION      " This object identifies the reference number
                 of the counter. This reference is  number
                assigned when a filter is created.In SNMP Index start
  one instead of
                 0, add one to actual ref key"
::= { swBlmPerfEEMntEntry 2}

swBlmPerfEECRC       OBJECT-TYPE
  SYNTAX           OCTET STRING (SIZE(8))
  ACCESS           read-only
  STATUS           mandatory
```

```
  DESCRIPTION    " Get End to End CRC error for the frames that matched
                 the SID-DID pair."
::= { swBlmPerfEEMntEntry 3}


swBlmPerfEEFCWRx         OBJECT-TYPE
  SYNTAX           OCTET STRING (SIZE(8))
  ACCESS           read-only
  STATUS           mandatory
  DESCRIPTION     "Get End to End count of Fibre Channel words (FCW),
                 received by the port, that matched
                  the SID-DID pair. "
::= { swBlmPerfEEMntEntry 4 }

swBlmPerfEEFCWTx         OBJECT-TYPE
  SYNTAX           OCTET STRING (SIZE(8))
  ACCESS           read-only
  STATUS           mandatory
  DESCRIPTION     "Get End to End count of Fibre Channel words (FCW),
                 transmitted by the port, that matched the SID-DID
  pair. "
::= { swBlmPerfEEMntEntry 5}

swBlmPerfEESid      OBJECT-TYPE
  SYNTAX           INTEGER
  ACCESS           read-only
  STATUS           mandatory
  DESCRIPTION      " Gets SID info by reference number. SID (Source
  Identifier)
         is a 3-byte field in the frame header used to indicate the
         address identifier of the N-Port from which the frame was
  sent."
::= { swBlmPerfEEMntEntry 6 }

swBlmPerfEEDid      OBJECT-TYPE
  SYNTAX           INTEGER
  ACCESS           read-only
  STATUS           mandatory
  DESCRIPTION     " Gets DID info by reference number.
                  DID (Destination Identifier) is a 3-byte field in the
                frame header used to indicate the address identifier of
                    the N-Port to which the frame was sent."
::= { swBlmPerfEEMntEntry 7 }

swBlmPerfFltMntTable       OBJECT-TYPE
  SYNTAX           SEQUENCE OF SwBlmPerfFltMntEntry
  ACCESS           not-accessible
  STATUS           mandatory
  DESCRIPTION      "Filter based monitoring counter."
::= { swBlmPerfMnt 3}

swBlmPerfFltMntEntry       OBJECT-TYPE
```

```
  SYNTAX          SwBlmPerfFltMntEntry
  ACCESS          not-accessible
  STATUS          mandatory
  DESCRIPTION     " Filter base monitoring counter for given port."
  INDEX           { swBlmPerfFltPort,swBlmPerfFltRefkey}
::= { swBlmPerfFltMntTable 1}

SwBlmPerfFltMntEntry ::= SEQUENCE{
swBlmPerfFltPort        SwPortIndex,
swBlmPerfFltRefkey      INTEGER,
swBlmPerfFltCnt         OCTET STRING,
swBlmPerfFltAlias       DisplayString
}

swBlmPerfFltPort        OBJECT-TYPE
  SYNTAX          SwPortIndex
  ACCESS          read-only
  STATUS          mandatory
  DESCRIPTION     "This object identifies the port number of the
  switch."
::= { swBlmPerfFltMntEntry 1}

swBlmPerfFltRefkey      OBJECT-TYPE
  SYNTAX          INTEGER (1..8)
  ACCESS          read-only
  STATUS          mandatory
  DESCRIPTION    " This object identifies the reference number of the
  filter.
                  This reference number is assigned when a filter is
  created.
                  In SNMP Index start one instead of 0, add one to actual
  ref key"
::= { swBlmPerfFltMntEntry 2}

swBlmPerfFltCnt     OBJECT-TYPE
  SYNTAX          OCTET STRING (SIZE(8))
  ACCESS          read-only
  STATUS          mandatory
  DESCRIPTION     "Get statistics of filter based monitor.
                Filter based monitoring provides information
            about a filter hit count such as
                  1.  Read command
                  2.  SCSI or IP traffic
                  3.  SCSI Read/Write"
::= { swBlmPerfFltMntEntry 3 }

swBlmPerfFltAlias       OBJECT-TYPE
  SYNTAX          DisplayString
  ACCESS          read-only
  STATUS          mandatory
  DESCRIPTION    " Alias name for the filter."
::= { swBlmPerfFltMntEntry 4}
```

```
--
-- Tables to support trunking function
--
swSwitchTrunkableOBJECT-TYPE
  SYNTAX  INTEGER { yes ( 8 ) , no ( 0 ) }
  ACCESS  read-only
  STATUS  mandatory
  DESCRIPTION"The trunking status of the switch - whether the switch
   supports the trunking feature or not. The values are
      yes(8) - the trunking feature is supported
      no(0). - the trunking feature is not supported. "

 ::= { swTrunk 1}

swTrunkTableOBJECT-TYPE
  SYNTAX  SEQUENCE OF SwTrunkEntry
  ACCESS  not-accessible
  STATUS  mandatory
  DESCRIPTION" Table to display trunking information for the switch. "
 ::= { swTrunk 2}

swTrunkEntryOBJECT-TYPE
  SYNTAX  SwTrunkEntry
  ACCESS  not-accessible
  STATUS  mandatory
  DESCRIPTION"Entry for the trunking table."
  INDEX{ swTrunkPortIndex }
 ::= { swTrunkTable 1}

SwTrunkEntry ::= SEQUENCE{
  swTrunkPortIndexINTEGER,
  swTrunkGroupNumber INTEGER,
  swTrunkMasterINTEGER,
  swPortTrunkedINTEGER
 }

swTrunkPortIndexOBJECT-TYPE
  SYNTAX  SwPortIndex
  ACCESS  read-only
  STATUS  mandatory
  DESCRIPTION        "This object identifies the switch port index.
         Note that the value of a port index is 1 higher than the
                        port number labeled on the front panel.
         e.g. port index 1 correspond to port number 0. "
 ::= { swTrunkEntry 1 }

swTrunkGroupNumberOBJECT-TYPE
   SYNTAX     INTEGER
   ACCESS     read-only
   STATUS     mandatory
```

```
    DESCRIPTION"This object is a logical entity which specifies
                the Group Number to which the port belongs to.
                If this value is Zero it means the port is not
    Trunked."
    ::= { swTrunkEntry 2}

swTrunkMasterOBJECT-TYPE
    SYNTAX  SwTrunkMaster
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION"Port number that is the trunk master of the group.
           The trunk master implicitly defines the group.
           All ports with the same master are considered to be part of
    the same group."
  ::= { swTrunkEntry 3 }

    swPortTrunked     OBJECT-TYPE
    SYNTAX  INTEGER {disabled(0), enabled(1)}
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION    "The current state of trunking for a member port.
                  Values are enabled(1) or disabled(0)."
  ::= { swTrunkEntry 4 }


    swTrunkGrpTable    OBJECT-TYPE
    SYNTAX           SEQUENCE OF SwTrunkGrpEntry
    ACCESS           not-accessible
    STATUS           mandatory
    DESCRIPTION     "Table to display trunking Performance
                    information for the switch."
     ::= { swTrunk 3}

     swTrunkGrpEntry      OBJECT-TYPE
     SYNTAX           SwTrunkGrpEntry
     ACCESS           not-accessible
     STATUS           mandatory
     DESCRIPTION     "Entry for the trunking Group table."
     INDEX    { swTrunkGrpNumber}
     ::= { swTrunkGrpTable 1}

     SwTrunkGrpEntry ::= SEQUENCE{
     swTrunkGrpNumber         INTEGER,
     swTrunkGrpMaster         INTEGER,
     swTrunkGrpTx             OCTET STRING (SIZE (8)),
     swTrunkGrpRx             OCTET STRING (SIZE (8))
     }

     swTrunkGrpNumber         OBJECT-TYPE
     SYNTAX           INTEGER
     ACCESS           read-only
     STATUS           mandatory
```

```
 DESCRIPTION     "This object is a logical entity which
                specifies the Group Number to which port
                belongs to."
  ::= { swTrunkGrpEntry  1 }

 swTrunkGrpMaster        OBJECT-TYPE
SYNTAX  SwTrunkMaster
 ACCESS          read-only
 STATUS          mandatory
 DESCRIPTION     "This object gives the master port id
                for the TrunkGroup."
 ::= { swTrunkGrpEntry  2 }

 swTrunkGrpTx            OBJECT-TYPE
   SYNTAX          OCTET STRING (SIZE (8))
   ACCESS          read-only
   STATUS          mandatory
   DESCRIPTION     "Gives the aggregate value of the
                transmitted words from this TrunkGroup."
 ::= { swTrunkGrpEntry  3}

  swTrunkGrpRx            OBJECT-TYPE
    SYNTAX            OCTET STRING (SIZE (8))
    ACCESS          read-only
    STATUS          mandatory
    DESCRIPTION     "Gives the aggregate value of the
                received words by this TrunkGroup."
 ::= { swTrunkGrpEntry  4 }

END
</XMP></BODY></HTML>
```

F

Customer Support

This appendix reviews the EMC process for detecting and resolving software problems, and provides essential questions that you should answer before contacting the EMC Customer Support Center.

This appendix covers the following topics:

Overview of Detecting and Resolving Problems

EMC software products are supported directly by the EMC Customer Support Center in the United States.

EMC uses the following process to resolve customer problems with its software products (Figure F-1).

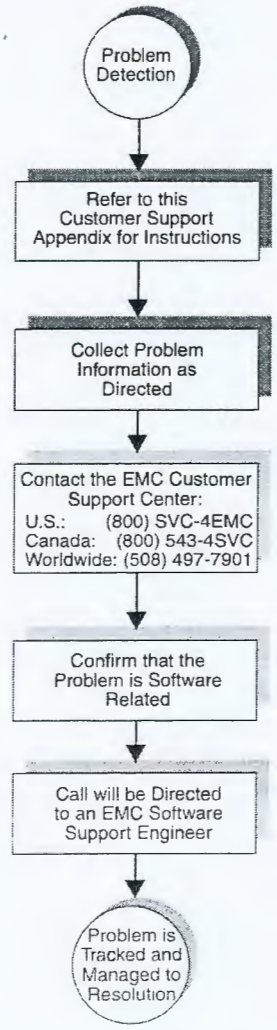

Figure F-1 Problem Detection and Resolution Process

Troubleshooting the Problem

Please perform the relevant diagnostic steps before you contact the EMC Customer Support Center:

1. Read the documentation carefully.
2. Reconstruct the events leading up to the problem and describe them in writing.
3. Run some test cases to reproduce the problem.

If you encounter a problem that requires technical programming or analysis, call the nearest EMC office or contact the EMC Customer Support Center at one of the following numbers:

United States: **(800) 782-4362 (SVC-4EMC)**

Canada: **(800) 543-4782 (543-4SVC)**

Worldwide: **(508) 497-7901**

Please do not request a specific support representative unless one has already been assigned to your particular system problem.

For additional information on EMC products and services available to customers and partners, refer to the EMC Powerlink website at:

```
http://powerlink.EMC.com
```

Before Calling the Customer Support Center

Have the following information available before calling the Customer Support Center or your support representative (if one has been assigned to you):

- ❑ Your company name
- ❑ Your name
- ❑ Your phone number
- ❑ For an existing problem, the problem tracking system ID, if one was previously assigned to the problem by a support representative
- ❑ For an MVS problem, the JESLOG, SYSPRINT, all STDOUT DD members of the server job output and similar output for the client, and the relevant portion of the SYSLOG

Documenting the Problem

If the EMC Customer Support Center requests information regarding the problem, please document it completely, making sure to include the following information:

- ❑ Your company name and address
- ❑ Your name
- ❑ Your telephone number
- ❑ The importance of the problem, so that it can be assigned a priority level

To expedite the processing of your support request, you can photocopy this list and include it with the package.

Reporting a New Problem

For a new problem, please provide the following information:

- ❑ Release level of the software that you are running
- ❑ Software installation parameters
- ❑ Host type on which you are running
- ❑ Operating system you are running and its release number
- ❑ Functions of the software that you are running
- ❑ Whether you can reproduce the problem
- ❑ Previous occurrences of the problem
- ❑ Whether the software has ever worked correctly
- ❑ Time period that the software did work properly
- ❑ Conditions under which the software worked properly
- ❑ Changes to your system between the time the software worked properly and the problem began
- ❑ Exact sequence of events that led to the system error
- ❑ Message numbers and complete text of any messages that the system produced
- ❑ Log file dated near the time the error occurred
- ❑ Results from tests that you have run
- ❑ Other related system output
- ❑ Other information that may help solve the problem

Sending Problem Documentation

Use one of the following methods to send documentation of the problem to the EMC Customer Support Center:

- E-mail
- FTP
- U.S. mail to the following address:

  EMC Customer Support Center
  45 South Street
  Hopkinton, MA 01748-9103

  If the problem was assigned a number or a specific support representative, please include that information in the address as well.

Glossary

The terms in the glossary relate to the switch and Fibre Channel connections. Many of these terms are used in this manual.

Numbers

8b/10b Encoding An encoding scheme that converts each 8-bit byte into 10 bits. Used to balance ones and zeros in high speed transports.

16-Port Card The fibre channel port card provided with the ED-12000B switch. Contains 16 fibre channel ports and the corresponding LEDs indicating port status and speed. See also *Port Card*.

A

Access Control List Enables an organization to bind a specific WWN to a specific switch port or set of ports, preventing a port in another physical location from assuming the identity of a real WWN. May also refer to a list of the read/write access of a particular community string. See also *Device Connection Controls*.

Address Identifier A 24-bit value or 8-bit value used to identify the source or destination of a frame.

Admin Account A login account intended for use by the customer to control switch operation.

Alias An alternate name for an element or group of elements in the fabric. Aliases can be used to simplify the entry of port numbers and WWNs when creating zones.

Alias Address Identifier An address identifier recognized by a port in addition to its standard identifier. An alias address identifier may be shared by multiple ports.

Alias Server A fabric software facility that supports multicast group management.

AL_PA Arbitrated loop physical address. A unique 8-bit value assigned during loop initialization to a port in an arbitrated loop.

ANSI American National Standards Institute. The governing body for Fibre Channel standards in the U.S.A.

API Application programming interface. A defined protocol that allows applications to interface with a set of services.

Arbitrated Loop A shared Fibre Channel transport structured as a loop. Supports up to 126 devices and one fabric attachment. See also *Topology*.

Area Number A number assigned to each potential port location in the ED- 12000B. Used to distinguish ED- 12000B ports that have the same port number but are on different port cards.

ASIC Application-specific integrated circuit.

ATM Asynchronous transfer mode. A transport used for transmitting data over LANs or WANs that transmit fixed-length units of data. Provides any-to-any connectivity, and allows nodes to transmit simultaneously.

Auto-Negotiate Speed Process that allows two devices at either end of a link segment to negotiate common features, speed (e.g., 1 or 2 Gb/s) and functions.

Autosense Process during which a network device automatically senses the speed of another device.

B

Backup FCS Switch Backup fabric configuration server switch. The switch or switches assigned as backup in case the primary FCS switch fails. See also *FCS Switch* and *Primary FCS Switch*.

Bandwidth The total transmission capacity of a cable, link, or system. Usually measured in bps (bits per second). May also refer to the range of transmission frequencies available to a network. See also *Throughput*.

BB_Credit Buffer-to-buffer credit. The number of frames that can be transmitted to a directly connected recipient or within an arbitrated loop. Determined by the number of receive buffers available. See also *Buffer to Buffer Flow Control* and *EE_Credit*.

Beacon When all the port LEDs on a switch are set to flash from one side of the switch to the other, to enable identification of an individual switch in a large fabric. A switch can be set to beacon by tTlnet command or through Web Tools.

Beginning Running Disparity The disparity at the transmitter or receiver when the special character associated with an ordered set is encoded or decoded. See also *Disparity*.

BER Bit error rate. Tthe rate at which bits are expected to be received in error. Expressed as the ratio of error bits to total bits transmitted. See also *Error*.

Blade See *16-Port Card*.

Block As applies to Fibre Channel, upper-level application data that is transferred in a single sequence.

Blower Assembly A fan that prevents a switch (or individual elements within a switch) from over heating.

Boot Flash Flash memory that stores the boot code and boot parameters. The processor executes its first instructions from boot flash. Data is cached in RAM.

Boot Monitor Code used to initialize the CP (control processor) environment after powering on. Identifies the amount of memory available and how to access it, and retrieves information about system buses.

Broadcast The transmission of data from a single source to all devices in the fabric, regardless of zoning. See also *Multicast* and *Unicast*.

Buffer to Buffer Flow Control Management of the frame transmission rate in either a point-to-point topology or in an arbitrated loop. See also *BB_Credit*.

C

Cascade The interconnection means through which data flows from one switch to another in a fabric.

Chassis The metal frame in which the switch and switch components are mounted.

Circuit An established communication path between two ports. Consists of two virtual circuits capable of transmitting in opposite directions. See also *Link*.

Class 1 The class of frame-switching service that provides a dedicated connection between two communicating ports (also called connection- oriented service), with acknowledgment of delivery or nondelivery of frames.

Class 2 A connectionless class of frame switching service that includes acknowledgment of delivery or nondelivery of frames.

Class 3 A connectionless frame switching service that does not include acknowledgment of delivery or nondelivery of frames. Can be used to provide a multicast connection between the originator and recipients, with acknowledgment of delivery or nondelivery of frames.

Class F The class of frame switching service for a direct connection between two switches, allowing communication of control traffic between the E_Ports, with notification of delivery or nondelivery of data.

Class of Service A specified set of delivery characteristics and attributes for frame delivery.

CLI Command line interface. Interface that depends entirely on the use of commands, such as through Telnet or SNMP, and does not involve a graphical user interface.

Comma A unique pattern (either 1100000 or 0011111) used in 8b/10b encoding to specify character alignment within a data stream. See also *K28.5*.

Community (SNMP) A relationship between a group of SNMP managers and an SNMP agent, in which authentication, access control, and proxy characteristics are defined. See also *SNMP*.

Compact Flash Flash memory that stores the run time operating system and is used like hard disk storage. Not visible within the processor's memory space. Data is stored in file system format.

Configuration How a system is set up. May refer to hardware or software.

Hardware: The number, type, and arrangement of components that make up a system or network.

Software: The set of parameters that guide switch operation. May include general system parameters, IP address information, domain ID, and other information. Modifiable by any login with administrative privileges.

Connection Initiator A port that has originated a Class 1 dedicated connection and received a response from the recipient.

Connection Recipient A port that has received a Class 1 dedicated connection request and transmitted a response to the originator.

Control Panel Refers to the left-side panel of Web Tools, which accesses fabric-wide functions such as zoning and events.

Core Switch A switch whose main task is to interconnect other switches. See also *Edge Switch*.

CP Card Control processor card. The central processing unit of the ED-12000B switches contains two CP card slots to provide redundancy. Provides ethernet, serial, and modem ports with the corresponding LEDs.

CRC Cyclic redundancy check. A check for transmission errors included in every data frame.

Credit As applies to Fibre Channel, the number of receive buffers available for transmission of frames between ports. See also *BB_Credit* and *EE_Credit*.

Cut-through A switching technique that allows the route for a frame to be selected as soon as the destination address is received. See also *Route*.

D

Data Word Type of transmission word that occurs within frames. The frame header, data field, and CRC all consist of data words. See also *Frame*, *Ordered Set*, and *Transmission Word*.

DB-9 Connector A 9-pin version of the RS-232C port interface. May be either the male or female interface. See also *RS-232 Port*.

dBm, dBW Logarithmic units of power used in electronics. Indicates signal strength in decibels above the reference level, which is 1 milliwatt for dBm, and 1 watt for dBW. An increase of 10 dBm or 10 dBW represents a 10-fold increase in power.

DCE Port A data communications equipment port capable of interfacing between a DTE (data terminal equipment) port and a transmission circuit. DTE devices with an RS-232 (or EIA-232) port interface transmit on pin 3, and receive on pin 2. See also *DTE Port* and *RS-232 Port*.

Defined Zone Configuration The set of all zone objects defined in the fabric. May include multiple zone configurations. See also *Zone Configuration*.

Device A disk, a RAID, or an HBA.

Device Connection Controls Enables organizations to bind an individual device port to a set of one or more switch ports. Device ports are specified by a WWN and typically represent HBAs (servers). See also *Access Control List*.

Disparity The relationship of ones and zeros in an encoded character. Neutral disparity means an equal number of each, positive disparity means a majority of ones, and negative disparity means a majority of zeros.

DLS Dynamic load sharing. Dynamic distribution of traffic over available paths. Allows for recomputing of routes when an Fx_Port or E_Port changes status.

Domain ID As applies to Departmental Switches, a unique number between 1 and 239 that identifies the switch to the fabric and is used in routing frames. Usually automatically assigned by the switch, but can be manually assigned.

DTE Port A data terminal equipment port capable of interfacing to a transmission circuit through a connection to a DCE (data communications equipment) port. DTE devices with an RS-232 (or (EIA-232) port interface transmit on pin 3, and receive on pin 2 in a 9-pin connection (reversed in 25-pin connectors). See also *DCE Port* and *RS-232 Port*.

DWDM Dense wavelength multiplexing. A means to concurrently transmit more than one stream of data through a single fiber by modulating each stream of data on to a different wavelength of light.

E

Edge Switch A switch whose main task is to connect nodes to the fabric. See also *Core Switch*.

E_D_TOV Error detect time-out value. The minimum amount of time a target waits for a sequence to complete before initiating recovery. Can also be defined as the maximum time allowed for a round-trip transmission before an error condition is declared. See also *R_A_TOV*.

E_Port Expansion port. A type of switch port that can be connected to an E_Port on another switch to create an ISL. See also *ISL*.

EE_Credit End-to-end credit. The number of receive buffers allocated by a recipient port to an originating port. Used by Class 1 and 2 services to manage the exchange of frames across the fabric between source and destination. See also *End-to-End Flow Control* and *BB_Credit*.

Effective Zone Configuration The currently enabled configuration of zones. Only one configuration can be enabled at a time. See also *Defined Zone Configuration* and *Zone Configuration*.

EIA Rack A storage rack that meets the standards set by the Electronics Industry Association.

End-to-End Flow Control Governs flow of Class 1 and 2 frames between N_Ports. See also *EE_Credit*.

Error As applies to Fibre Channel, a missing or corrupted frame, time-out, loss of synchronization, or loss of signal (link errors).

ESN Enterprise Storage Network. A storage network implementation that integrates products, technology, and services offering universal data access for every major computing platform, operating system, and application across any combination of SCSI, Ultra SCSI, Fibre Channel, and ESCON technologies.

Exchange The highest level Fibre Channel mechanism used for communication between N_Ports. Composed of one or more related sequences, and can work in one or both directions.

Extended Fabrics A product that runs on Fabric OS and allows creation of a Fibre Channel fabric interconnected over distances of up to 100 kilometers.

F

F_Port Fabric port. A port that is able to transmit under fabric protocol and interface over links. Can be used to connect an N_Port to a switch. See also *FL_Port* and *Fx_Port*.

Fabric A Fibre Channel network containing two or more switches in addition to hosts and devices. May also be referred to as a switched fabric. See also *Topology*, *ESN*, and *Cascade*.

Fabric Access Allows the application to control the fabric directly for functions such as discovery, access (zoning) management, performance, and switch control. Consists of a host-based library that interfaces the application to switches in the fabric over an out-of-band TCP/IP connection or in-band using an IP-capable host bus adapter (HBA).

Fabric Name The unique identifier assigned to a fabric and communicated during login and port discovery.

Failover The act that causes control to pass from one redundant unit to another.

FC-AL-3 The Fibre Channel Arbitrated Loop standard defined by ANSI. Defined on top of the FC-PH standards.

FCIA Fibre Channel Industry Association. An international organization of Fibre Channel industry professionals. Provides oversight of ANSI and industry-developed standards, among other tasks.

FC-FLA The Fibre Channel Fabric Loop Attach standard defined by ANSI.

FCP Fibre Channel Protocol. Mapping of protocols onto the Fibre Channel standard protocols. For example, SCSI FCP maps SCSI-3 onto Fibre Channel.

FC-PH-1, 2, 3 The Fibre Channel Physical and Signalling Interface standards defined by ANSI.

FC-PI The Fibre Channel Physical Interface standard defined by ANSI.

FC-PLDA The Fibre Channel Private Loop Direct Attach standard defined by ANSI. Applies to the operation of peripheral devices on a private loop.

FCS Switch Fabric configuration server switch. One or more designated switches that store and manage the configuration and security parameters for all switches in the fabric. FCS switches are designated by WWN, and the list of designated switches is communicated fabric-wide. See also *Backup FCS Switch* and *Primary FCS Switch*.

FC-SW-2 The second generation of the Fibre Channel Switch Fabric standard defined by ANSI. Specifies tools and algorithms for the interconnection and initialization of Fibre Channel switches in order to create a multiswitch Fibre Channel fabric.

Fibre Channel Transport A protocol service that supports communication between Fibre Channel service providers. See also *FSP*.

FIFO First in, First out. May also refer to a data buffer that follows the first in, first out rule.

Fill Word An IDLE or ARB ordered set that is transmitted during breaks between data frames to keep the Fibre Channel link active.

Firmware The basic operating system provided with the hardware.

Firmware Download The process of loading firmware down from a server into the switch.

Flash Programmable NVRAM memory that maintains its contents.

Flash Partition Two redundant usable areas, called partitions, into which firmware can be downloaded.

FLOGI Fabric Login. The process by which an N_Port determines whether a fabric is present, and if so, exchanges service parameters with it. See also *PLOGI*.

FL_Port Fabric loop port. A port that is able to transmit under fabric protocol and also has arbitrated loop capabilities. Can be used to connect an NL_Port to a switch. See also *F_Port* and *Fx_Port*.

Frame The Fibre Channel structure used to transmit data between ports. Consists of a start-of-frame delimiter, header, any optional headers, the data payload, a cyclic redundancy check (CRC), and an end-of-frame delimiter. There are two types of frames: link control frames (transmission acknowledgements, etc.) and data frames.

FRU Field replaceable unit. A component that can be replaced on site.

FS Fibre Channel Service. A service that is defined by Fibre Channel standards and exists at a well-known address. For example, the Simple Name Server is a Fibre Channel service. See also *FSP*.

FSP Fibre Channel Service Protocol. The common protocol for all fabric services, transparent to the fabric type or topology. See also *FS*.

FSPF Fabric Shortest Path First. A routing protocol for Fibre Channel switches.

Full Duplex A mode of communication that allows the same port to simultaneously transmit and receive frames. See also *Half Duplex*.

Full Fabric The EMC software license that allows multiple E_Ports on a switch, making it possible to create multiple ISLs.

Fx_Port A fabric port that can operate as either an F_Port or FL_Port. See also *F_Port* and *FL_Port*.

G

G_Port Generic port. A port that can operate as either an E_Port or F_Port. A port is defined as a G_Port when it is not yet connected or has not yet assumed a specific function in the fabric.

Gateway Hardware that connects incompatible networks by providing translation for both hardware and software. For example, an ATM gateway can be used to connect a Fibre Channel link to an ATM connection.

GBIC Gigabit interface converter. A removable serial transceiver module that allows gigabaud physical level transport for Fibre Channel and Gigabit Ethernet. GBIC and SFP terms are used interchangeably throughout the documentation, although they are different types of optics and the hardware is not interchangeable. See also *SFP*.

Gb/s Gigabits per second (1,062,500,000 bits/second).

GB/s GigaBytes per second (1,062,500,000 bytes/second).

H

Half Duplex A mode of communication that allows a port to either transmit or receive frames at any time, but not simultaneously (with the exception of link control frames, which can be transmitted at any time). See also *Full Duplex*.

HBA Host bus adapter. The interface card between a server or workstation bus and the Fibre Channel network.

High Availability An attribute of equipment that identifies it as being capable of conducting customer operations well in excess of 99% of the time. Typically, high availability is identified by the number of nines in that percentage. Five nines means the equipment is rated as being capable of conducting customer operations 99.999% of the time without failure.

Host A computer that accesses storage devices over the fabric. May also be referred to as a server. See also *Workstation*.

Hot Pluggable A FRU capability that indicates it may be extracted or installed while customer data is otherwise flowing in the chassis.

Hub A Fibre Channel wiring concentrator that collapses a loop topology into a physical star topology. Nodes are automatically added to the loop when active and removed when inactive.

I

Idle Continuous transmission of an ordered set over a Fibre Channel link when no data is being transmitted, to keep the link active and maintain bit, byte, and word synchronization.

Initiator A server or workstation on a Fibre Channel network that initiates communications with storage devices. See also *Target*.

Integrated Fabric The fabric created by connecting multiple switches with multiple ISL cables, and configuring the switches to handle traffic as a seamless group.

IOD In-order delivery. A parameter that, when set, guarantees that frames are either delivered in order or dropped.

ISL Interswitch link. A Fibre Channel link from the E_Port of one switch to the E_Port of another. See also *E_Port* and *Cascade.*

Isolated E_Port An E_Port that is online but not operational due to overlapping domain IDs or nonidentical parameters (such as E_D_TOVs). See also *E_Port*.

IU Information unit. A set of information as defined by either upper-level process protocol definition or upper-level protocol mapping.

J

JBOD Just a bunch of disks. A number of disks connected in a single chassis to one or more controllers. See also *RAID*.

K

K28.5 A special 10-bit character used to indicate the beginning of a transmission word that performs Fibre Channel control and signaling functions. The first seven bits of the character are the comma pattern. See also *Comma*.

Kernel Flash Flash memory that stores the bootable kernel code and is visible within the processor's memory space. Data is stored as raw bits.

L

L_Port Loop port. A node port (NL_Port) or fabric port (FL_Port) that has arbitrated loop capabilities. An L_Port can be in one of two modes:

- Fabric mode: Connected to a port that is not loop capable, and using fabric protocol.
- Loop mode: In an arbitrated loop and using loop protocol. An L_Port in loop mode can also be in participating mode or nonparticipating mode .

See also *Nonparticipating Mode* and *Participating Mode.*

Latency The period of time required to transmit a frame, from the time it is sent until it arrives.

LED Light-emitting diode. Used to indicate status of elements on switch.

Link As applies to Fibre Channel, a physical connection between two ports, consisting of both transmit and receive fibres. See also *Circuit*.

Link Services A protocol for link-related actions.

LWL Long wavelength. A type of fiber-optic cabling that is based on 1300mm lasers and supports link speeds of 1.0625 Gb/s and 2.125 Gb/s. May also refer to the type of GBIC or SFP. See also *SWL*.

M

Media See *Transceiver*.

MIB Management Information Base. An SNMP structure to help with device management, providing configuration and device information.

Modem Serial Port The upper serial port on the CP card. Can be used to connect the CP card to a country-specific modem. Has a DB-9 connector wired as a ttyS1 DTE device, and can be connected by serial cable to a DCE device. Can be connected to a modem using a standard 9-pin modem cable. A Hayes-compatible modem or Hayes-emulation is required. See also *DCE Port* and *Terminal Serial Port*.

Multicast The transmission of data from a single source to multiple specified N_Ports (as opposed to all the ports on the network). See also *Broadcast* and *Unicast*.

Multimode A fiber-optic cabling specification that allows up to 500 meters for 1 GB Fibre Channel and 300 meters for 2 GB Fibre Channel between devices.

N

N_Port Node port. A port on a node that can connect to a Fibre Channel port or to another N_Port in a point-to-point connection. See also *NL_Port* and *Nx_Port*.

Name Server The term frequently used to indicate Simple Name Server. See also *SNS*.

Node A Fibre Channel device that contains an N_Port or NL_Port.

Negotiate See *Auto-Negotiate Speed* and *Autosense*.

NL_Port Node loop port. A node port that has arbitrated loop capabilities. Used to connect an equipment port to the fabric in a loop configuration through an FL_Port. See also *N_Port* and *Nx_Port*.

Nonparticipating Mode A mode in which an L_Port in a loop is inactive and cannot arbitrate or send frames, but can retransmit any received transmissions. This mode is entered if there are more than 127 devices in a loop and an AL_PA cannot be acquired. See also *L_Port* and *Participating Mode*.

Nx_Port A node port that can operate as either an N_Port or NL_Port.

O

Ordered Set A transmission word that uses 8b/10b mapping and begins with the K28.5 character. Ordered sets occur outside of frames, and include the following items:

- Frame delimiters mark frame boundaries and describe frame contents.
- Primitive signals indicate events.
- Primitive sequences indicate or initiate port states.

Ordered sets are used to differentiate Fibre Channel control information from data frames and to manage the transport of frames.

P

Packet A set of information transmitted across a network. See also *Frame*.

Participating Mode A mode in which an L_Port in a loop has a valid AL_PA and can arbitrate, send frames, and retransmit received transmissions. See also *L_Port* and *Nonparticipating Mode*.

Path Selection The selection of a transmission path through the fabric. EMC switches use the FSPF protocol.

PLOGI Port Login. The port-to-port login process by which initiators establish sessions with targets. See also *FLOGI*.

Point-to-Point A Fibre Channel topology that employs direct links between each pair of communicating entities. See also *Topology*.

Port_Name The unique identifier assigned to a Fibre Channel port. Communicated during login and port discovery.

Port Cage The metal casing extending out of the optical port on the switch, and in which the GBIC or SFP can be inserted.

Port Card A Fibre Channel card that contains optical port interfaces. See also *16-Port Card*.

Port Module A collection of ports in a switch.

POST Power-on self test. A series of tests run by a switch after it is turned on.

Principal Switch The switch that assumes the responsibility to assign Domain IDs. The role of Principle Switch is negotiated after a Build Fabric event.

Primary FCS Switch Primary fabric configuration server switch. The switch that actively manages the configuration and security parameters for all switches in the fabric. See also *Backup FCS Switch* and *FCS Switch*.

Private Device A device that supports arbitrated loop protocol and can interpret 8-bit addresses, but cannot log in to the fabric.

Private Loop An arbitrated loop that does not include a participating FL_Port.

Private NL_Port An NL_Port that communicates only with other private NL_Ports in the same loop and does not log in to the fabric.

Protocol A defined method and a set of standards for communication.

Public Device A device that supports arbitrated loop protocol, can interpret 8-bit addresses, and can log in to the fabric.

Public Loop An arbitrated loop that includes a participating FL_Port, and may contain both public and private NL_Ports.

Public NL_Port An NL_Port that logs into the fabric, can function within either a public or a private loop, and can communicate with either private or public NL_Ports.

Q

Quad A group of four adjacent ports that share a common pool of frame buffers.

R

R_A_TOV Resource allocation time-out value. The maximum time a frame can be delayed in the fabric and still be delivered. See also *E_D_TOV*.

R_RDY Receiver ready. A primitive signal indicating that the port is ready to receive a frame.

RAID Redundant array of independent disks. A collection of disk drives that appear as a single volume to the server and are fault tolerant through mirroring or parity checking. See also *JBOD*.

Remote Fabric A fabric that spans across WANs by using protocol translation (a process also known as tunneling) such as Fibre Channel over ATM or Fiber Channel over IP.

Request Rate The rate at which requests arrive at a servicing entity. See also *Service Rate*.

Root Account A login used for debugging purposes and is not intended for customer use.

Route As applies to a fabric, the communication path between two switches. May also apply to the specific path taken by an individual frame, from source to destination. See also *SFP*.

Routing The assignment of frames to specific switch ports, according to frame destination.

RS-232 Port A port that conforms to a set of EIA (Electrical Industries Association) standards. Used to connect DTE and DCE devices for communication between computers, terminals, and modems. See also *DCE Port* and *DTE Port*.

RSCN Registered state change notification. A switch function that allows notification of fabric changes to be sent from the switch to specified nodes.

S

SAN Storage area network. A network of systems and storage devices that communicate using Fibre Channel protocols. See also *Fabric*.

SCSI Small computer systems interface. A parallel bus architecture and protocol for transmitting large data blocks to a distance of 15-25 meters.

SDRAM Synchronous dynamic random access memory. The main memory for the switch. Used for volatile storage during switch operation. See also *Flash*.

Sequence A group of related frames transmitted in the same direction between two N_Ports.

Service Rate The rate at which an entity can service requests. See also *Request Rate*.

SES A Brocade product that runs on Fabric OS and allows monitoring, configuring, and maintenance of the Departmental Switch family using SCSI 3 Enclosure Services.

SFP Small form factor pluggable. Optical transceiver used to convert signals between optical fiber cables and switches. GBIC and SFP terms are used interchangeably throughout the documentation, although they are different types of optics and the hardware is not interchangeable. See also *GBIC*.

SI Sequence initiative.

SID/DID Source identifier/destination identifier. S_ID is a 3-byte field in the frame header that is used to indicate the address identifier of the N_Port from which the frame was sent.

Single Mode A Fibre Channel optic cabling standard for use with long-wavelength lasers operating in the infrared portion of the spectrum at 1300 nonmeters (nm).

SNMP Simple Network Management Protocol. An Internet management protocol that uses either IP for network-level functions and UDP for transport-level functions, or TCP/IP for both. Can be made available over other protocols, such as UDP/IP, because it does not rely on the underlying communication protocols. See also *Community (SNMP)*.

SNS Simple Name Server. A switch service that stores names, addresses, and attributes for up to 15 minutes, and provides them as required to other devices in the fabric. SNS is defined by Fibre Channel standards and exists at a well-known address. May also be referred to as directory service. See also *FS*.

Subordinate Switch All switches in the fabric other than the principal switch. See also *Principal Switch*.

Switch Hardware that routes frames according to Fibre Channel protocol and is controlled by software.

Switch Name The arbitrary name assigned to a switch.

Switch Port A port on a switch. Switch ports can be E_Ports, F_Ports, or FL_Ports.

SWL Short wavelength. A type of fiber-optic cabling that is based on 850mm lasers and supports link speeds of 1.0625 Gb/s and 2.125 Gb/s. May also refer to the type of GBIC or SFP. See also *LWL*.

T

Target A storage device on a Fibre Channel network. See also *Initiator*.

Terminal Serial Port The lower serial port on the CP card. Receives error messages. Can be used to connect the CP card to a computer terminal. Has a DB-9 connector wires as a ttyS0 DTE device, and can be connected by serial cable to a DCE device. The connector has pins two and three swapped so that a straight-through cable can be used to connected to a terminal. See also *DB-9 Connector*, *DCE Port*, and *Modem Serial Port*.

Throughput The rate of data flow achieved within a cable, link, or system. Usually measured in bps (bits per second). See also *Bandwidth*.

Topology As applies to Fibre Channel, the configuration of the Fibre Channel network and the resulting communication paths allowed. There are three possible topologies:

- Point-to-point — A direct link between two communication ports.
- Switched fabric — Multiple N_Ports linked to a switch by F_Ports.
- Arbitrated loop — Multiple NL_Ports connected in a loop.

Transceiver Device that converts one form of signaling to another for transmission and reception. In fiber optics, it refers to optical and electrical.

Transmission Character A 10-bit character encoded according to the rules of the 8b/10b algorithm.

Transmission Word A group of four transmission characters.

Trap (SNMP) The message sent by an SNMP agent to inform the SNMP management station of a critical error. See also *SNMP*.

Tunneling A technique for enabling two networks to communicate when the source and destination hosts are both on the same type of network, but are connected by a different type of network.

U

U_Port Universal port. A switch port that can operate as a G_Port, E_Port, F_Port, or FL_Port. A port is defined as a U_Port when it is not connected or has not yet assumed a specific function in the fabric.

UDP User Datagram Protocol. A protocol that runs on top of IP and provides port multiplexing for upper-level protocols.

ULP Upper-level Protocol. The protocol that runs on top of Fibre Channel. Typical upper-level protocols are SCSI, IP, HIPPI, and IPI.

ULP_TOV Upper-level time-out value. The minimum time that a SCSI ULP process waits for SCSI status before initiating ULP recovery.

Unicast The transmission of data from a single source to a single destination. See also *Broadcast* and *Multicast*.

User Account A login intended for use by the customer to monitor, but not control, switch operation.

V

VC Virtual circuit. A one-way path between N_Ports that allows fractional bandwidth.

W

Well-Known Address — As pertaining to Fibre Channel, a logical address defined by the Fibre Channel standards as assigned to a specific function, and stored on the switch.

Workstation — A computer used to access and manage the fabric. May also be referred to as a management station or host.

WWN — World Wide Name. An identifier that is unique worldwide. Each entity in a fabric has a separate WWN.

Z

Zone — A set of devices and hosts attached to the same fabric and configured as being in the same zone. Devices and hosts within the same zone have access permission to others in the zone, but are not visible to any outside the zone.

Zone Alias — A name assigned to a device or group of devices in a zone. Aliases can greatly simplify the zone administrative process.

Zone Configuration — A specified set of zones. Enabling a configuration enables all zones in that configuration. See also *Defined Zone Configuration*.

Zone Member — A port, node, WWN, or alias, which is part of a zone.

Zone Schemes — The level of zoning granularity selected. For example, zoning may be done by switch/port, WWN, or a mixture. See also *Zone Configuration*.

Zone Set — See *Zone Configuration*.

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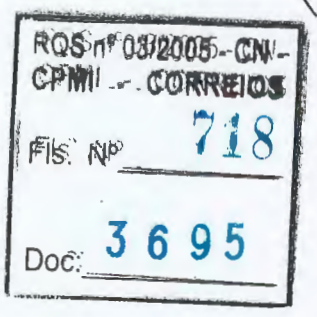

EMC's Policies and Requirements for EMC Support Matrix

EMC's Support Matrix Policies and Requirements

This section describes EMC's policies and requirements for the EMC Support Matrix document.

Purpose and Limitations of this Document

This document is being provided for informational purposes only and may change at any time. This version supercedes and replaces all previous versions. The information is to serve only as a guide for those configurations/products which EMC has qualified. This document identifies and lists various vendor host systems and integral components that have been tested and qualified by EMC for use with EMC products. Vendor components include, but are not limited to, host operating systems, HBAs (host bus adapters) and associated drivers, firmware and BIOS; Fibre Channel switches, hubs and bridges. This document also lists various vendors, cluster software, tape hardware, storage system boot procedures, heterogeneous information storage, and configurations that EMC has tested and/or qualified for use with EMC products.

The information included in this document is intended as a guide in the configuration of systems for EMC's products. It is not intended to be the sole resource for system configuration. For more information or answers to questions not found in this document, please see EMC's website, other EMC documentation, such as EMC's Host Connectivity Guides, EMC Networked Storage Topology Guide, EMC CLARiiON Open Systems Configuration Guide, relevant vendor documentation, or contact your EMC Sales or EMC Customer Service representative. For Symmetrix 4.x support, please look at the Symmetrix 8000 Series section and check the footnotes for model/microcode compatibility. EMC employees can obtain additional Symmetrix 4.x information from the C4 support group.

Policies for Qualifying Systems

Policies and procedures for support of EMC products are set forth in the customer's applicable agreements. EMC's publication of information relating to system configurations covers only those outlined in this document or by approval from EMC Engineering. Other system configurations not found in this document are not qualified without EMC Engineering approval. EMC has qualified hardware and software provided only by the vendors listed in this document, and host systems, hardware and software from other vendors are not qualified, and may never be. Please contact your EMC Sales or EMC Customer Service representative for updates or information not included in this document.

EMC maintains a large collection of the products listed above as well as third-party application software for qualification with EMC's storage systems and to simulate customer environments, but you must consult the vendors for information about their system internals, such as hardware and associated drivers.

Policy for Future Qualification of Operating System Software Releases

The information in this document is maintained by EMC and EMC strives to update this document with new releases of hardware, operating systems, firmware, BIOS, switch software, etc., as they become available from the vendors. EMC works with the vendors during their development and release processes in order to be fully informed at the time the vendors release new versions. EMC does not announce qualification prior to vendors' General Availability. In some cases, EMC may choose to perform regression testing following the vendors' GA; in these cases and in cases where advance preparation is not possible, EMC may test and qualify vendors' products as appropriate after they have been released. For early support of such products, including vendor beta participation, contact your EMC Sales or EMC Customer Service representative.

Policy for End-of-Life Support

EMC strives to continue support for any installed platforms, but may remove support from this host matrix for new installations within three months after the vendor has announced that this platform has reached the end of life. EMC will continue support for existing installations of hardware, operating systems, and components that the vendor has officially declared to have reached end of life as long as support is available from the vendor.

Symmetrix 5000 and 3000 Series

For Symmetrix 4.x support, please look at the Symmetrix 8000 Series section and check the footnotes for model/microcode compatibility. EMC Employees can obtain additional Symmetrix 4.x information from the C4 support group.

Symmetrix 8000 Series

Base Connectivity

Do not use a LUN in the CLARiiON DAE2-ATA as a host OS boot device.EMC has qualified the following hosts. No other hosts are supported at this time. Symmetrix models and minimum Enginuity revisions are listed in the footnotes on most tables.EMC supports Symmetrix configured as a boot device for the servers listed below, provided that these requirements are followed. The purpose of these requirements is primarily to ensure the best possible response times for boot/root/swap volumes. For qualified configurations, Where possible, EMC recommends an alternate mirrored boot volume be configured.1. Spindles can be shared on Symm4 or later units only.Do not use a LUN in the CLARiiON DAE2-ATA as a host OS boot device.2. Spindles can be shared if they are larger than 9GB in size.3. For Symmetrix 3000 and 5000 systems, the maximum number of Symmetrix logical volumes per Symmetrix boot port is 32. For Symmetrix 8000 and DMX systems, the following guidelines and recommendations must be adhered to. When using a SAN for boot/swap/page device the operation and performance of the server might be affected by external events that might cause the storage device not to be immediately accessible for periods of time. These events might result in slow response times as observed by the operating system and longer boot times. In some cases it can cause the server to crash (please see comments below for W2K/NT).
EMC recommends designing the distribution and mapping of the boot devices on the SAN in a way that will:
-- Minimize the number of components between the server and the boot storage device.
-- Will not present a load that will exceed the limits of the SAN. Below are some issues that must be considered when designing your SAN. Please refer to EMC Networked Storage Topology Guide ("Networked Storage Design Considerations/Fabric Design Practices" section) for a complete discussion on the topic.
- Sufficient bandwidth on the link between the switch and the storage port
- Sufficient ISLs in case where boot device and server are more than one hop apart
- ISL utilization
Events that could affect the availability of an external storage device:
Fibre Channel and SCSI environments:
-- Lost connection to external storage (pulled or damaged external Fibre/SCSI cable connection).
-- External storage service/upgrade procedures such as in some cases, online microcode upgrades and/or configuration changes.
-- External storage director failures including failed lasers on Fibre Channel directors.
-- External storage power failure.
-- HBA failures.
Fibre Channel environment only:
-- Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
-- Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.4. Boot/root and swap from a single host can be on the same channel.5. The boot disk should be high SCSI priority, e.g. SCSI TID 6 (0-7, 8-15: higher priority TID is 7, lowest is 8).6. A dedicated SA or FA is not required for boot devices.7. The Internal Host Boot Device may be mirrored with the External Symmetrix Boot Device to allow redundant pathing. Does not apply to Microsoft Windows.8. The Boot path must not include a hub in the topology.9. The maximum number of boot devices per port is equal to Fanout values listed in Fibre Channel Connectivity table.Note: All of the requirements below are necessary for Symmetrix 3/5000 Series. It is recommended, however, that they be considered for Symmetrix 8000 Series also.1. The Boot Device may not be a striped Meta Device on a Symmetrix 4.x.2. One spindle cannot house both boot/root and swap for any single host (does not apply to Microsoft Windows).3. One spindle cannot house boot/root for a given host and either boot/root or swap from another host.4. One spindle should not house swap from more than one host, nor should there be excessive swapping.5. The maximum number of hypers per Symmetrix spindle is 8.6. A spindle housing boot/root for a given host should be behind a different Director than the spindle housing swap for that host.7. Remaining hyper volumes on boot/root or swap spindle should be low-utilization and not high write content.Windows NT/Windows 2000/2003 Servers (Fibre Channel/SCSI) Boot CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN. EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.

Amdahl UTS

Amdahl

Amdahl – Amdahl UTS						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	Amdahl UTS: 2.1.5, 2.1.7, 4.3.2, 4.3.3, 4.4.0	IBM BMC-Parallel[1]	BMC-Parallel	N
2	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	Amdahl UTS: 2.1.5, 2.1.7, 4.3.2, 4.3.3, 4.4.0	IBM ESCON	ESCON	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series.

Bull GCOS

Bull

Bull – Bull GCOS						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	DPS9000/500; DPS9000/800	Mainframe Bus	Bull GCOS 8 SR4500	Bull BMC-Parallel	BMC-Parallel	N
3	DPS9000/TA	Mainframe Bus	Bull GCOS 8 SR5	Bull BMC-Parallel	BMC-Parallel	N
3	DPS9000/700(-2); DPS9000/900	Mainframe Bus	Bull GCOS 8: SR4500, SR5	Bull BMC-Parallel	BMC-Parallel	N
4	DPS9000/800	Mainframe Bus	Bull GCOS 8 SR4500	Bull ESCON	ESCON	N
5	DPS9000/TA	Mainframe Bus	Bull GCOS 8 SR5	Bull ESCON	ESCON	N
6	DPS9000/700(-2); DPS9000/900	Mainframe Bus	Bull GCOS 8: SR4500, SR5	Bull ESCON	ESCON	N
7	DPS7000/XTA	Mainframe Bus	Bull GCOS 7 V10	Emulex LP8000-F1	FC-AL	N
8	DPS9000/700(-2); DPS9000/TA	Mainframe Bus	Bull GCOS 8 SR5	Bull DCCG148-0000[1]	FC-AL, FC-SW	N
9	DPS7000/XTA	Mainframe Bus	Bull GCOS 7 V10	Adaptec AHA-2944UW[2]	FWD	N
10	DPS7000/8xx; DPS7000/Dx0 DPS7000/MT DPS7000/Mx0; DPS7000/TA	Mainframe Bus	Bull GCOS 7 V9	Bull WSB	FWD	N

1 Fibre Channel device driver distributed and supported by Bull
2 Requires Legacy PCI slot (not available on new servers)

Caldera UNIXWare

Fuji Serv (ICL)

Fuji Serv (ICL) – Caldera UNIXWare						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	DL	PCI	Caldera UNIXWare 2.1.3[2, 3, 4]	QLogic QLA2100F[1]	FC-AL[5]	

1 BIOS 1.37 firmware level 1.19.21
2 Requires RPQ
3 For Windows support,see appropriate tables in this section
4 Symmetrix 8000 Series, 66/67 support via RPQ (5x67), 5568 support via RPQ

5. Direct Connect only

Unisys

Unisys – Caldera UNIXWare						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	ES2023[2]; ES2045[2]	PCI	Caldera UNIXWare 2.1.3[3, 4, 5]	Unisys PCI 1100-FC (QLA2100)[8]	FC-AL	N
2	ES2023[2]; ES2045[2]	PCI	Caldera UNIXWare 2.1.3[5]	Unisys PCI 1120-FC (QLA2100-EMC, QLA2100F)	FC-AL	N
3	ES2043[2]	PCI	Caldera UNIXWare 2.1.3[5]	Unisys PCI: 1100-FC (QLA2100), 1120-FC (QLA2100-EMC, QLA2100F)	FC-AL	N
4	DR/2; DS/2	PCI	Caldera UNIXWare 7.1.1[2, 4, 5]	Unisys PCI: 1100-FC (QLA2100)[8], 1120-FC (QLA2100-EMC, QLA2100F)	FC-AL	N
5	QR/2[2]	PCI	Caldera UNIXWare 7.1.1[3, 4, 5]	Unisys PCI 1120-FC (QLA2100-EMC, QLA2100F)	FC-AL	N
6	QS/2[2]	PCI	Caldera UNIXWare 7.1.1[3, 4, 5]	Unisys: FCH30211-P64[9], FCH30213-P64[9], PCI 1120-FC (QLA2100-EMC, QLA2100F)	FC-AL	N
7	QR/2[2]	PCI	Caldera UNIXWare 7.1.1[4, 5]	Unisys: FCH30211-P64[9], FCH30213-P64[9]	FC-AL	N
8	ES2025; ES2044	PCI	Caldera UNIXWare 7.1.1[5, 9, 10]	Unisys: FCH30211-P64[9], FCH30213-P64[9]	FC-AL	N
9	ES2023; ES2043; ES2045; ES2085; ES7000/100; ES7000/200; ES7000/230	PCI	Caldera UNIXWare 7.1.1[5, 9, 10]	Unisys: FCH30211-P64[9], FCH30213-P64[9], PCI 1100-FC (QLA2100), PCI 1120-FC (QLA2100-EMC, QLA2100F)	FC-AL	N
10	QS/2[2]	PCI	Caldera UNIXWare: 2.1.3[3, 4, 5], 7.1.1[3, 4, 5]	Unisys PCI 1100-FC (QLA2100)[8]	FC-AL	N
11	QR/2[2]	PCI	Caldera UNIXWare: 2.1.3[3, 4, 5], 7.1.1[4, 5]	Unisys PCI 1100-FC (QLA2100)[8]	FC-AL	N
12	ES2025	PCI	Caldera UNIXWare: 2.1.3[5], 7.1.1[5, 9, 10]	Unisys PCI: 1100-FC (QLA2100), 1120-FC (QLA2100-EMC, QLA2100F)	FC-AL	N
13	SMP61000 10X	EISA, PCI	Caldera UNIXWare 2.1.3[2, 3, 4, 5]	Unisys PCI 400-1UD (AHA2944UW)	UWD	N
14	SMP6400; QR/6, QS/6	EISA, PCI	Caldera UNIXWare 2.1.3[2, 3, 4, 5]	Unisys SFA 1001-QDW (Adaptec AHA4944)[1]	UWD	N
15	U6000: 550, 580	EISA, PCI	Caldera UNIXWare 2.1.3[2, 3, 4, 5]	Unisys: UN6000-EWD[1], UN6500-SSB (Unisys)[1]	UWD	N
16	SMP6400; QR/6, QS/6	EISA, PCI	Caldera UNIXWare 7.1.1[2, 4, 5]	Unisys OSR2944-HBA (AHA-2944DW)[1]	UWD	N
17	SMP61000 10X	EISA, PCI	Caldera UNIXWare 7.1.1[2, 4, 5]	Unisys PCI: 400-1UD (AHA2944UW)[1], 400-2UD[1]	UWD	N
18	SMP61000 10X	EISA, PCI	Caldera UNIXWare: 2.1.3[2, 3, 4, 5], 7.1.1[2, 4, 5]	Unisys SFA: 1001-QDW (Adaptec AHA4944)[1], 10201-SDW (Symbios 8751D)[1]	UWD	N
19	SMP6400; QR/6, QS/6	EISA, PCI	Caldera UNIXWare: 2.1.3[2, 3, 4, 5], 7.1.1[2, 4, 5]	Unisys: PCI 400-1UD (AHA2944UW), SFA 10201-SDW (Symbios 8751D)[1]	UWD	N
20	XS/6 Unisys 10X[7]	PCI	Caldera UNIXWare 2.1.3[2, 3, 4, 5]	Unisys. OSR2944-HBA (AHA-2944DW)[1], SFA 1001-QDW (Adaptec AHA4944)[1]	UWD	N
21	XR/6 Unisys 10X[7]	PCI	Caldera UNIXWare 2.1.3[2, 3, 4, 5]	Unisys: OSR2944-HBA (AHA-2944DW)[1], SFA 1001-QDW (Adaptec AHA4944)[1], SFA 10201-SDW (Symbios 8751D)[1]	UWD	N
22	ES2023[2]; ES2045[2]	PCI	Caldera UNIXWare 2.1.3[3, 4, 5]	Unisys PCI 400-1UD (AHA2944UW)	UWD	N
23	XR/6 Unisys 10X[7]	PCI	Caldera UNIXWare 7.1.1[2, 4, 5]	Unisys SFA 10201-SDW (Symbios 8751D)	UWD	N
24	ES2023; ES2024; ES2025; ES2043; ES2044; ES2045; ES2085; ES7000/100; ES7000/200; ES7000/230	PCI	Caldera UNIXWare 7.1.1[5, 9, 10]	Unisys PCI 400-1UD (AHA2944UW)	UWD	N
25	DR/2; DS/2; XR/6 Unisys 10X[7]	PCI	Caldera UNIXWare: 2.1.3[2, 3, 4, 5], 7.1.1[2, 4, 5]	Unisys PCI 400-1UD (AHA2944UW)	UWD	N
26	HR/6 ALR 6X; HS/6 ALR 6X; QR/6 ALR 4X; QS/6 ALR 4X[6]	PCI	Caldera UNIXWare 2.1.3[2, 3, 4, 5] 7.1.1[2, 4, 5]	Unisys: PCI 400-1UD (AHA2944UW), SFA 1001-QDW (Adaptec AHA4944)[1], SFA 10201-SDW (Symbios 8751D)[1]	UWD	N
27	XS/6 Unisys 10X[7]	PCI	Caldera UNIXWare: 2.1.3[2, 3, 4, 5], 7.1.1[2, 4, 5]	Unisys. PCI 400-1UD (AHA2944UW), SFA 10201-SDW (Symbios 8751D)[1]	UWD	N
28	QR/2[2]; QS/2[2]	PCI	Caldera UNIXWare: 2.1.3[3, 4, 5], 7.1.1[4, 5]	Unisys PCI 400-1UD (AHA2944UW)	UWD	N

1 EMC does not support this HBA, supported by Unisys ONLY
2 Not supported on a Symmetrix 8000 Series, no plans for support.
3. Supported by Unisys RPQ only
4. Supported by Unisys only.
5. Symm5 & 66/67 support via RPQ(5x67)(UnixWare)
6 Also ClearPath VX14xx Styles
7 Also ClearPath VX13xx Styles
8 Use with Copper Hub
9 For ES7000-100, ES7000-200 Plateau below 8.1.1 use BIOS 1.63 For ES7000-100, ES7000-200 Plateau 8.1.1 must use BIOS 1.71 Use driver 3.13c
10 For ES7000 and QLA 2200 use driver 3.10 and 3.10a and BIOS 1.63

DG DG/UX
DG

DG – DG DG/UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON AV20000	PCI	DG DG/UX R4.20MU06[2, 3]	Emulex LP8000-EMC[10]	FC-AL, FC-SW	Y[4, 5, 6]	See[1]
2	AViiON AV20000	PCI	DG DG/UX R4.20MU07[2, 3]	Emulex LP8000-EMC[10]	FC-AL, FC-SW	N	See[1]
3	AViiON: AV35000, AV3700, AV3750	PCI	DG DG/UX: R4.20MU06[2, 3], R4.20MU07[2, 3]	Emulex LP8000-EMC[10]	FC-AL, FC-SW	Y[4, 5, 6]	See[1]
4	AViiON: AV20000, AV35000, AV3750	PCI	DG DG/UX: R4.20MU06[2, 3], R4.20MU07[2, 3]	Emulex LP8000-F1[4, 5, 6]	FC-AL, FC-SW	N	See[1]
5	AViiON: AV1400, AV3704, AV3800, AV8900, AV8950	PCI	DG DG/UX: R4.20MU06[2, 3], R4.20MU07[2, 3]	Emulex: LP8000-EMC[10], LP8000-F1[4, 5, 6]	FC-AL, FC-SW	N	See[1]
6	AViiON AV25000	PCI	DG DG/UX: R4.20MU06[2], R4.20MU07[2, 3]	Emulex LP8000-EMC[10]	FC-AL, FC-SW	Y[4, 5, 6]	See[1]
7	AViiON AV25000	PCI	DG DG/UX: R4.20MU06[2], R4.20MU07[2, 3]	Emulex LP8000-F1[4, 5, 6]	FC-AL, FC-SW	N	See[1]
8	AViiON AV3704R	PCI	DG DG/UX: R4.20MU06[2], R4.20MU07[2, 3]	Emulex: LP8000-EMC[10], LP8000-F1[4, 5, 6]	FC-AL, FC-SW	N	See[1]
9	AViiON AV5500 88k based	PCI	DG DG/UX R4.11MU03[2]	DG 7435	FWD	N	See[1]
10	AViiON: AV4900, AV5900, AV8600	PCI	DG DG/UX R4.11MU03[2]	DG 7444 (Symbios C825)	FWD	N	See[1]
11	AViiON: AV1400[9], AV25000, AV2700[9], AV35000, AV3700, AV3750	PCI	DG DG/UX R4.20MU06[2]	Adaptec AHA-2944UW[7, 8]	UWD	N	See[1]

1. For more information see http://athena.europe.dg.com
2. Symmetrix 8000 Series: 66/67 support at DG/UX 4.11. 5568 support at DG/UX 4.20.
3. The release notice for DG/UX (included with the software release at path. "/usr/release/dgux" rn) lists supported platforms.
4. Only the Brocade FC switch connection is supported. Connectrix FC switch is not supported.
5. DG/UX automatically loads the firmware and BIOS onto the Emulex HBA during boot-up as needed. Current DG/UX R4.20MU06 OS supported firmware is V3.20x1 and BIOS V1.4.
6. FC-AL support requires LP8000 BIOS version DB1.60A7 and firmware version DS3.20x4.
7. Requires Legacy PCI slot (not available on new servers.)
8. The driver is available at http://www.adaptec.com/worldwide/support/suppbyproduct.html?cal=/Technology/SCSI+Host+Adapters&fromPage=driverindex
9. Supported with Magic OS.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

EMC NAS
EMC

EMC – EMC NAS						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Celerra File Server Data Mover DM7 Series	PCI	EMC NAS: 2.2.15, 2.2.24, 2.2.25, 2.2.39, 2.2.49, 2.2.53, 2.2.57, 2.2.60, 4.1.12, 4.1.8, 4.2.11, **4.2.18**, 4.2 5, 5.0.11, 5.0.9, **5.1.15**, 5.1.9	EMC 250-736-900[1]	FC-SW	N
2	Celerra File Server Control Station CS-507 Series[2]	PCI	EMC NAS: 2.2.25, 2.2.39, 2.2.49, 2.2.53, 2.2.57, 2.2.60, 4.1.12, 4.1.4, 4.1.8, 4.2.11, **4.2.18**, 4.2.5, 5.0.11, 5.0.9, **5.1.15**, 5.1.9	EMC 201-712-900[1]	FC-SW	N
3	Celerra File Server Data Mover DM 510 Series	PCI	EMC NAS: 4.1.12, 4.1.8, 4.2.11, **4.2.18**, 4.2.5, 5.0.11, 5.0.9, **5.1.15**, 5.1.9	EMC: 250-734-902[4], 250-735-900[1, 3]	FC-SW	N
4	Celerra File Server Data Mover DM7 Series	PCI	EMC NAS: 2.2.15, 2.2.25, 2.2.49, 2.2.53, 2.2.57, 2.2.60, 4.1.12, 4.1.4, 4.1.8, 4.2.11, **4.2.18**, 4.2.5, 5.0.11, 5.0.9, **5.1.15**, 5.1.9	EMC 201-527-903[1]	UWD	N
5	Celerra File Server Control Station: CS-507 Series[2], CS-516 Series[2]	PCI	EMC NAS: 2.2.53, 2.2.60, 4.1.12, 4.2.11, 5.0.11, **5.1.15**, 5.1.9	EMC 201-527-903[1]	UWD	N
6	Celerra File Server Control Station, CS-507 Series, CS-516 Series[2]	PCI	EMC NAS: 2.2.25, 2.2.49, 2.2.57, 4.1.4, 4 1.8. **4.2.18**, 4.2.5, 5.0.9	EMC 201-527-903	UWD[1]	N

1. Host Adapter Card is not field-replaceable
2. A SCSI-based Control Station cannot be mixed with a Fibre Channel-based Control Station in a Celerra Cabinet.A SCSI Contol Station-based Celerra cannot be upgraded to a Fibre Channel Control Station-based Celerra.
3. This HBA is for connecting to a disk array.
4. This HBA is for connecting to a Tape Library unit.

Egenera BladeFrame
Egenera

Egenera – Egenera BladeFrame						
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**BladeFrame cBlade-EP[4]**	PCI-X	**Egenera BladeFrame 3.0[2, 3]**	**QLogic QLA2342-E-SP[1]**	FC-AL, FC-SW	Y

1. **Supported with v4.47.18e QLogic driver included cBlade OS, BladeFrame 3.0, and BIOS v1.34.**
2. **pBlades are qualified with RedHat 2.1 Advanced Server v2.4.9-e.12.**
3. **Maximum of 423 LUNs are supported per BladeFrame.**
4. **PowerPath is not supported on Egenera. Egenera path failover is supported on Symmetrix 8000 and DMX.**

Fuji Serv (ICL) Open VME
Fuji Serv (ICL)

Fuji Serv (ICL) – Fuji Serv (ICL) Open VME							
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	DL	PCI	Fuji Serv (ICL) Open VME 3[2, 3]	QLogic QLA2100F[1]	FC-AL	N	
2	Trimetra Nova	PCI	Fuji Serv (ICL) Open VME 4[2, 3, 5]	QLogic QLA2200F[6]	FC-AL, FC-SW	Y	
3	**Trimetra Nova 3**	**PCI**	**Fuji Serv (ICL) Open VME 4.2 5**	**QLogic QLA2200F[6]**	**FC-AL, FC-SW**	**Y**	
4	Trimetra Nova	PCI	Fuji Serv (ICL) Open VME 4[2, 3, 5]	Fuji Serv (ICL) Mark. 1 H570, 2 H570	FWD	N	
5	SY	PCI	Fuji Serv (ICL) Open VME 2[2, 3] 3[2, 3]	Fuji Serv (ICL) Mark. 1 H570 2 H570 3 H593	FWD	N	See[4]
6	LY 5X	Smart-Fibre	Fuji Serv (ICL) Open VME 2[2, 3] 3[2, 3]	Fuji Serv (ICL) Mark. 1 H570 2 H570 3 H593	FWD	N	See[4]

1. BIOS 1.37, firmware level 1 19 21.
2. For Windows support see appropriate tables in this section
3. Symmetrix 8000 Series: 66/67 support via RPQ (5x67). 5568 support via RPQ.
4. Requires SDS Controller Pair Software Package shipped with Controllers from Fujitsu Services (ICL).
5. Requires OVPK/0041 3

6. Fujitsu Services (ICL) part number FC0310406-05C, BIOS 1.72, firmware level 2.01.38.

Fujitsu OS IV/F4
Fujitsu

Fujitsu – Fujitsu OS IV/F4						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	GS8000 Series; M1000 Series; M700 Series; PRIMEFORCE 80000 Series	Mainframe Bus	Fujitsu OS IV/F4 MSP (MSP E20)	Fujitsu BMC-Parallel[1]	BMC-Parallel	N
2	GS8000 Series; M1000 Series; M700 Series; PRIMEFORCE 80000 Series	Mainframe Bus	Fujitsu OS IV/F4 MSP (MSP E20)	Fujitsu OCLINK[1]	Parallel	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series.

Fujitsu OS IV/MSP
Fujitsu

Fujitsu – Fujitsu OS IV/MSP						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	GS8000 Series; M1000 Series; M700 Series; PRIMEFORCE 80000 Series	Mainframe Bus	Fujitsu OS IV/MSP AFII (MSP-EX) V10L10 PTF C94091	Fujitsu BMC-Parallel[1]	BMC-Parallel	N
2	GS8000 Series; M1000 Series; M700 Series; PRIMEFORCE 80000 Series	Mainframe Bus	Fujitsu OS IV/MSP AFII (MSP-EX) V10L10 PTF C94091	Fujitsu OCLINK[1]	Parallel	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series.

Fujitsu OS IV/XSP
Fujitsu

Fujitsu – Fujitsu OS IV/XSP						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	GS8000 Series; M1000 Series; M700 Series; PRIMEFORCE 80000 Series	Mainframe Bus	Fujitsu OS IV/XSP AFII V10L10 PTF V94121	Fujitsu BMC-Parallel[1]	BMC-Parallel	N
2	GS8000 Series; M1000 Series; M700 Series; PRIMEFORCE 80000 Series	Mainframe Bus	Fujitsu OS IV/XSP AFII V10L10 PTF V94121	Fujitsu OCLINK[1]	Parallel	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series.

Fujitsu SVR4
Fujitsu

Fujitsu – Fujitsu SVR4							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	DS90 Japan only	SBUS	Fujitsu SVR4 V4.20[2]	Fujitsu F7958HS1	FWD	N	See[1]

1 Requires Fujitsu patch V20L20
2. Symm5 & 66/67 support: Solaris 2.6,7 or 8

Fujitsu Solaris
Fujitsu

Fujitsu – Fujitsu Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PRIMEPOWER GP7000F: 1000[6], 200[6], 2000[6], 400[6], 600[6], 800[6]	PCI	Fujitsu Solaris: 2.6[4, 5], 9 09/02[14]	Fujitsu GP7B8FC1[8, 9]	FC-AL	N	See[1]
2	**PRIMEPOWER 1500Z**	PCI	Fujitsu Solans 8 02/02[4, 10]	**Fujitsu PW008FC2[13]**	FC-AL, FC-SW	N	**See[1]**
3	PRIMEPOWER GP7000F 2000[6]	PCI	Fujitsu Solaris 7[4, 7] 8[4, 10]	Fujitsu GP7B8FC1[8]	FC-AL FC-SW	N	See[1]
4	PRIMEPOWER GP7000F: 1000[6], 200[6], 400[6], 600[6], 800[6]	PCI	Fujitsu Solaris. 7[4, 7], 8[4, 10], 9 09/02[14]	Fujitsu GP7B8FC1[8]	FC-AL, FC-SW	N	See[1]
5	PRIMEPOWER GP7000F: 1000, 200[6], 2000, 400, 600, 800	PCI	Fujitsu Solaris: 7[7], 8[10], 9 09/02[14]	Fujitsu PW008FC2[13]	FC-AL FC-SW	N	See[1]
6	PRIMEPOWER: 1500, **250** 2500, **450**, 900	PCI	Fujitsu Solaris 8 02/02[4, 10], 9 04/03[14]	Fujitsu PW008FC2[13]	FC-AL, FC-SW	N	See[1]
7	PRIMEPOWER, 650, 850	PCI	Fujitsu Solaris: 8 850/650[4, 10] 9 12/02[14]	Fujitsu: GP7B8FC1[8, 9, 12], PW008FC2[13]	FC-AL FC-SW	N	See[1]
8	PRIMEPOWER GP7000F 2000[6]	PCI	Fujitsu Solaris 9 09/02[14]	Fujitsu GP7B8FC1[8]	FC-SW	N	See[1]
9	GP-S Family / S-Series S-7/400 Ui 300T[11]. PRIMEPOWER GP7000F: 1000[6], 200[6], 2000[6], 400[6], 600[6], 800[6]	PCI	Fujitsu Solaris: 2.6[4, 5] 7[4, 7], 8[4, 10]	Fujitsu: GP70F-CS02, X6541A-A[2, 3], Sun X6541A-X[2, 3]	UWD	N	See[1]

1 For use in Asia Pacific Japan only Refer to Fujitsu Siemens Base Connectivity information for US/Europe
2 Requires N-bit for PCI SCSI interface to support PowerPath
3 Disconnecting and reconnecting the SCSI cable on an active system will reduce I/O transfer rate due to negotiation issues Host is not capable of WDTR after recovery from SCSI
4. Symm5 & 66/67 support Solaris 2.6,7 or 8
5 EMC required Solaris patches for Fujitsu PCI Bus servers running Solaris 2.6 (must be obtained from Fujitsu): 105181-33 SunOS 5.6 kernel update patch 105357-16 SunOS 5.6 /kernel/drv/ssd and /kernel/drv/sd patch 105590-19 SunOS 5.6 /kernel/drv/glm patch
6 Additional Fujitsu Sate Series software qualified in the single host environment and associated patch requirement (must be obtained from Fujitsu) Fujitsu SafeFile 1.1 910232-18 Fujitsu SafeFile 1.2 910738-05 Fujitsu SafeFile 1.3 910879-04 Fujitsu SafeFile,Global 1.2 910937-06 Fujitsu SafeDisk 1.1 910315-08 910432-01 Fujitsu SafeDisk 1.2.1 910721-06 Fujitsu SafeDisk/Global 2.0 910920-05 Fujitsu SafeDisk 2.0 910926-05 Fujitsu SafeLink 2.0 910743-07 910766-03
7

EMC required Solaris patches for Fujitsu PCI Bus servers running Solaris 7 (must be obtained from Fujitsu): 106541-23 SunOS 5.7: kernel update patch, 106925-09 SunOS 5.7: GLM driver patch, Fujitsu requires all patches for Solaris 7 be obtained through Fujitsu in the form of a Solaris 7 PTF patch CD. The current patch CD is Solaris 7 PTF R03051.

8. Fujitsu GP7B8FC1 HBA requires Fujitsu PCI Fibre Channel driver v2.2 and Fujitsu patch 910936-11.
9. EMC DP3-FCD8 may not be used with Fujitsu GP7B8FC1 FC-AL.
10. **EMC required Solaris patches for Fujitsu PCI Bus servers running Solaris 8: 108528-19: SunOS 5.8: Kernel update patch, 108974-27: data,uata,dad,sd and SCSI patch, 109885-09 SunOS 5.8: GLM driver patch, 108901-06 SunOS 5.8: /Kernel/sys/rpcmod and /kernel/strmod/rpcmod(for PowerPath 2.x), 110918-04 SunOS 5.8: openeepr patch. Fujitsu requires all patches for Solaris 8 be obtained through Fujitsu in the form of a Solaris 8 PTF patch CD. The current patch CD is Solaris 8 PTF R03051.**
11. Same machine as Sun Ultra 10 Model 300, and Fujitsu Ltd. GP400S Model 10
12. Fabric topology(FC-SW) supported with Solaris 7 and 8 only.
13. Requires Fujitsu PFCA 2.2.1 and patch 912069-07
14. EMC requires Solaris patches for Fujitsu servers running Solaris 9

112233-05 SunOS 5.9: kernel update patch,
113277-08 SunOS 5.9: sd,ssd patch
112834-02
Fujitsu requires that all patches for Solaris 9 be obtained through Fujitsu in the form of a Solaris 9 PTF patch CD. The current patch CD is Solaris 9 PTF R03051

Fujitsu UXP/DS
Fujitsu

Fujitsu – Fujitsu UXP/DS							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PRIMEPOWER GP7000D	SBUS	Fujitsu UXP/DS V20L10[2] V20L40[2]	Fujitsu F7958HS1	FWD	N	See[1]

1. Requires Fujitsu patch V20L30 or higher
2. Symm5 & 66/67 support: Solaris 2 6 7 or 8

Fujitsu Siemens BS2000/OSD
Fujitsu Siemens

Fujitsu Siemens – Fujitsu Siemens BS2000/OSD						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
	C80[2]; C80-2[2]	Mainframe Bus	**Fujitsu Siemens BS2000/OSD. V3.0. V4.0**	**Fujitsu Siemens ESCON**	ESCON[1]	Y
2	**S110[2]; S115[2]; S120[2]; S130[2]; S135[2]; S140[2]; S145[2]; S150[2]; S160[2]; S170[2]; S180[2]**	Mainframe Bus	**Fujitsu Siemens BS2000/OSD V3.0 V4.0, V5.0**	**Fujitsu Siemens ESCON**	ESCON[1]	Y
3	**S145[2]**	Mainframe Bus	**Fujitsu Siemens BS2000/OSD V5.0**	**Fujitsu Siemens GS214FC05**	FC-SW[3]	Y
4	**S180[2]**	Mainframe Bus	**Fujitsu Siemens BS2000/OSD V5.0**	**Fujitsu Siemens GS216FC05**	FC-SW[3]	Y
5	**S120[2]; S140[2]**	Mainframe Bus	**Fujitsu Siemens BS2000/OSD V5.0**	**Fujitsu Siemens GS8551C05**	FC-SW[3]	Y
6	**S170[2]**	Mainframe Bus	**Fujitsu Siemens BS2000/OSD V5.0**	**Fujitsu Siemens GS8951C05**	FC-SW[3]	Y

1. Symmetrix 8000 Series 5566/5567/5568; Symmetrix 3/5000 Series 5266/5267 support. No online out-of-family upgrades supported.
2. **SHC-OSD (Symmetrix Host Component for BS2000/OSD) is the only external software for TimeFinder/SRDF features. Further restrictions apply. Contact C4 Group or reference http://www.fujitsu-siemens.com/rl/products/bs2000/symmetrix_bs2000.html.**
3. Symmetrix 8000 Series 5567/5568 support No online out-of-family upgrades supported.

Fujitsu Siemens OSD-SVP
Fujitsu Siemens

Fujitsu Siemens – Fujitsu Siemens OSD-SVP						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**SR2000 C[2]**	Mainframe Bus	**Fujitsu Siemens OSD-SVP V4.0**	**Fujitsu Siemens ESCON**	ESCON[1]	Y
2	**SR2000 B[2]**	Mainframe Bus	**Fujitsu Siemens OSD-SVP V2.0, V3.0, V4.0**	**Fujitsu Siemens ESCON**	ESCON[1]	Y
	SR2000 C[2]	PCI	**Fujitsu Siemens OSD-SVP V4.0**	**Fujitsu Siemens RM6T5-CF10[1]**	FC-AL, FC-SW	Y
	SR2000 B[2]	PCI	**Fujitsu Siemens OSD-SVP V2.0, V3.0, V4.0**	**Fujitsu Siemens RM6T5-CF10[1]**	FC-AL, FC-SW	Y
5	**SR2000 B[2]**	PCI	**Fujitsu Siemens OSD-SVP V2.0, V3.0, V4.0**	**Fujitsu Siemens RM6T5-CS05[1]**	FWD, UWD	Y

1. Symmetrix 8000 Series 5566/5567/5568; Symmetrix 3/5000 Series 5266/5267 support No online out-of-family upgrades supported.
2. **SHC-OSD (Symmetrix Host Component for BS2000/OSD) is the only external software for TimeFinder/SRDF features. Further restrictions apply. Contact C4 Group or reference http://www.fujitsu-siemens.com/rl/products/bs2000/symmetrix bs2000.html.**

Fujitsu Siemens OSD/XC
Fujitsu Siemens

Fujitsu Siemens – Fujitsu Siemens OSD/XC						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**SX130 (PRIMEPOWER 800)[2]**	**Mainframe Bus**	**Fujitsu Siemens OSD/XC V1.0**	**Fujitsu Siemens ESCON**	**ESCON[1]**	Y
2	**SX100-A (PRIMEPOWER 650)[2]**	PCI	**Fujitsu Siemens OSD/XC V1.0**	**Fujitsu Siemens GP70F-CF30 (Emulex LP9002L-F2)[1, 3, 4]**	**FC-AL FC-SW**	Y
3	**SX130 (PRIMEPOWER 800)[2]**	PCI	**Fujitsu Siemens OSD/XC V1.0**	**Fujitsu Siemens GP70F-CF10 (Emulex LP8000-F1)[1, 3, 4], GP70F-CF30 (Emulex LP9002L-F2)[1, 3, 4]**	FC-AL, FC-SW	Y

1 **Symmetrix 8000 Series 5566/5567/5568; Symmetrix 3/5000 Series 5266/5267 support. No online out-of-family upgrades supported.**
2 SHC-OSD (Symmetrix Host Component for BS2000/OSD) is the only external software for TimeFinder/SRDF features. Further restrictions apply. Contact C4 Group or reference http://www.fujitsu-siemens.com/rl/products/bs2000/symmetrix bs2000.html
3 Supports PowerPath 3.0 or greater.
4 Requires firmware 3.90.a7 and driver 5.01e. Supports FC-AL and FC-SW.

Fujitsu Siemens Reliant UNIX
Fujitsu Siemens

EMC Support Matrix

Fujitsu Siemens – Fujitsu Siemens Reliant UNIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	DS2000[10]	PCI	Fujitsu Siemens Reliant UNIX 2000-Y V8.0 (5.44B)[2]	Fujitsu Siemens RM6T5-CF10[5]	FC-AL	N	
2	RM600E30; RM600E70; **SR2000**[9]	PCI	Fujitsu Siemens Reliant UNIX 2000-Y: V8.0 (5.44B)[2], V8.5 (5.45B)[2]	Fujitsu Siemens RM6T5-CF10[5]	FC-AL	N	
3	RM600E30; RM600E70	PCI	Fujitsu Siemens Reliant UNIX: V5.43C50[2], V5.44C10[2], V5.44C40[2], V5.45A10[2], V5.45A30[2], V5.45B00[2]	Fujitsu Siemens RM6T5-CF10[5]	FC-AL	N	See[4]
4	RM300E[3]; RM400C[3]	PCI	Fujitsu Siemens Reliant UNIX: V5.44B10[2], V5.44C40[2]	Fujitsu Siemens: RM300-CF02, RM400-CF02	FC-AL	N	See[1]
5	RM400E[3]	PCI	Fujitsu Siemens Reliant UNIX: V5.44B10[2], V5.45A40[2]	Fujitsu Siemens: RM300-CF02, RM400-CF02	FC-AL	N	See[1]
6	RM Server Node Model: SN85, SN86; RM600CS42; RM600E40; RM600E45; RM600E80; RM600E85	PCI	Fujitsu Siemens Reliant UNIX: V5.45A10[2], V5.45B00[2]	Fujitsu Siemens RM6T5-CF10[5, 6]	FC-AL	N	See[4]
7	RM600CS42; RM600E40; RM600E45; RM600E80; RM600E85	PCI	Fujitsu Siemens Reliant UNIX: V5.45B10[2], V5.45B20	Fujitsu Siemens RM6T5-CF10[5, 6]	FC-AL	N	See[4, 12]
8	RM400C[3]	PCI	Fujitsu Siemens Reliant UNIX: V5.44C40[2], V5.45A30	Fujitsu Siemens RM6T5-CF10	FC-AL, FC-SW	N	See[1]
9	RM600CS42, RM600E40; RM600E45; RM600E80; RM600E85	PCI	Fujitsu Siemens Reliant UNIX: V5.45A10, V5.45B00[2]	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[5, 13, 14, 15]	FC-AL, FC-SW	N	See[4, 12]
10	RM Server Node Model: SN85, SN86	PCI	Fujitsu Siemens Reliant UNIX: V5.45B00[2], V5.45B10, V5.45B20	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[14, 15]	FC-AL, FC-SW	N	See[4, 12]
11	RM600E30; RM600E70	PCI	Fujitsu Siemens Reliant UNIX: V5.45B10[2], V5.45B20[2]	Fujitsu Siemens RM6T5-CF10[5]	FC-AL, FC-SW	N	See[4]
12	DS2000[10]	PCI	Fujitsu Siemens Reliant UNIX 2000-Y V8.5 (5.45B)[2]	Fujitsu Siemens RM6T5-CF10[5]	FC-SW	N	
13	RM400E[3]	PCI	Fujitsu Siemens Reliant UNIX V5.44C40[2]	Fujitsu Siemens: RM300-CF02, RM400-CF02	FC-SW	N	See[1]
14	RM Server Node Model: SN85, SN86	PCI	Fujitsu Siemens Reliant UNIX: V5.45B10, V5.45B20	Fujitsu Siemens RM6T5-CF10[5, 6]	FC-SW	N	See[4, 12]
15	RM600CS42; RM600E30, RM600E40, RM600E45, RM600E70; RM600E80; RM600E85	PCI	Fujitsu Siemens Reliant UNIX V5.43C30[2]	Fujitsu Siemens RM610-CS9	FWD	N	See[16]
16	RM Server Node Model: SN85, SN86	PCI	Fujitsu Siemens Reliant UNIX V5.45B00[2]	Fujitsu Siemens RM6T5-CS05	FWD	N	See[7]
17	RM600E30; RM600E70	PCI	Fujitsu Siemens Reliant UNIX: V5.43C10[2], V5.43C50[2], V5.44C40[2], V5.45A30[2], V5.45B00[2]	Fujitsu Siemens RM6T5-CS05	FWD	N	See[7]
18	RM600CS42; RM600E40; RM600E45; RM600E80; RM600E85	PCI	Fujitsu Siemens Reliant UNIX: V5.45A10[2], V5.45A30[2], V5.45B00[2]	Fujitsu Siemens RM6T5-CS05	FWD	N	See[7]
19	RM600E20; RM600E60	SPBus	Fujitsu Siemens Reliant UNIX 2000-Y: V7.5 (5.43C20)[2], V8.0 (5.44B)[2], V8.5 (5.45B)[2]	Fujitsu Siemens RM6T5-CS05	FWD	N	
20	RM600E20; RM600E60	SPBus	Fujitsu Siemens Reliant UNIX V5.43C30[2]	Fujitsu Siemens RM610-CS9	FWD	N	See[16]
21	RM600E20; RM600E60	SPBus	Fujitsu Siemens Reliant UNIX: V5.43C10[2], V5.44C40[2]	Fujitsu Siemens RM6T5-CU13	FWD	N	See[7]
22	RM Server Node Model: SN85, SN86; RM600CS42; RM600E30, RM600E40, RM600E45, RM600E70, RM600E80, RM600E85	PCI	Fujitsu Siemens Reliant UNIX: V5.45B10[2], V5.45B20[2]	Fujitsu Siemens RM6T5-CS05	FWD, UWD[11]	N	See[7]
23	**SR2000**[9]	PCI	**Fujitsu Siemens Reliant UNIX 2000-Y: V7.5 (5.43C20)[2], V8.0 (5.44B)[2], V8.5 (5.45B)[2]**	**Fujitsu Siemens RM6T5-CS05**	UWD	N	**See[8]**
24	RM400C[3]	PCI	Fujitsu Siemens Reliant UNIX: V5.43C20XX[2], V5.43C50[2]	Fujitsu Siemens RM400-CS20[11]	UWD	N	See[7]

1. 128 LUNs supported only with Reliant UNIX V5.44C1014 and higher
2. Symmetrix 8000 Series: 66/67 support: Reliant UNIX 5.44,5.45 Solaris 2.6, 7, 8 or 9. Symmetrix 8000 Series:5568 support: Solaris 8.9
3. PowerPath is not supported on any RM400C or RM400E model. DRAID is supported on Reliant UNIX 5.43.C20 and above
4. V5 45A30 OS and higher supports upto 4096 LUNs. FC switch support starts with Reliant UNIX V5 45A20 and higher.
5. Adapter can either be Emulex LP6502 (FW 2 12) or LP8000 (FW 3 82a1) LP6502 not supported with Symmetrix DP3-FCD4, DP3-FCD42G(S) (900-563-xxx) adapter.
6. PowerPath support requires version 1.5.0 with patch 1.5.0 1 Patch.b07 PowerPath is supported only on RM600E platforms.
7. Minimum Symmetrix microcode level 5264.19 17 No DRAID support until Reliant UNIX 5.43C20. V5 45A30 OS supports up to 4096 LUNs. SYMCLI/API v4.1 does not support DRAID on Reliant UNIX 5.44C OS
8. Fast-Wide SCSI is a default setting.Ultra-Wide can be enabled through software Refer to the latest Symmetrix Open Systems Environment Product Guide, P/N 200-999-563 PowerPath support requires version 1 5 0 with patch 1 5 0 1.patch.b.07 Powerpath is supported only on RM600E platforms.
9. **SHC-OSD (Symmetrix Host Component for BS2000/OSD) is the only external software for TimeFinder/SRDF features. Further restrictions apply. Contact C4 Group or reference http://www.fujitsu-siemens.com/rl/products/bs2000/symmetrix_bs2000.html.**
10. DS2000 contains one Open Systems host SR2000 and one mainframe host BS2000
11. Fast-Wide SCSI is a default setting Ultra-Wide can be enabled through software. Refer to the latest Symmetrix Open Systems Environment Product Guide P/N 200-999-563
12. FC switch support starts with Reliant UNIX V5.45A20 and higher
13. PowerPath support requires version 1.5.0 with patch 1.5.0 1 Patch.b07 PowerPath is supported only on RM600E platforms
14. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
15. EMC strongly recommends that HBAs of different vendors not be used in the same host server
16. Minimum Symmetrix microcode level 5062.61.40 with fba_impl flag set to A004 No DRAID support

Fujitsu Siemens SINIX
Fujitsu Siemens

Fujitsu Siemens – Fujitsu Siemens SINIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	RM600CS42; RM600E30; RM600E40; RM600E45; RM600E70; RM600E80; RM600E85	PCI	Fujitsu Siemens SINIX V5.42[2]	Fujitsu Siemens RM610-CS9	FWD	N	See[1]
2	RM600E20; RM600E60	SPBus	Fujitsu Siemens SINIX V5.42[2]	Fujitsu Siemens RM610-CS9	FWD	N	See[1]

1. Minimum Symmetrix microcode level 5062.61.40 with fba_impl flag set to A004. No DRAID support.
2. Symmetrix 8000 Series: 66/67 support: Reliant UNIX 5.44,5.45 Solaris 2.6, 7, 8 or 9. Symmetrix 8000 Series:5568 support: Solaris 8,9.

Fujitsu Siemens Solaris
Fujitsu Siemens

Fujitsu Siemens – Fujitsu Siemens Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**SX130 (PRIMEPOWER 800)[13]**	Mainframe Bus, PCI	Fujitsu Siemens Solaris 8 02/02[7]	**Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[3]**	FC-AL, FC-SW	Y[8]	**See[1, 2]**
2	PRIMEPOWER GP7000F: 1000, 200, 2000, 400, 600, 800	PCI	Fujitsu Siemens Solaris 2.6 May 98[6, 7]	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X)[3, 4, 5], LP9002-E (LP9002L-E) GP70F-CF30[3, 12]	FC-AL, FC-SW	N	See[1, 2]
3	**PRIMEPOWER GP7000F: 1000, 200, 2000, 400, 600, 800**	PCI	Fujitsu Siemens Solaris 8 02/02[7]	**Fujitsu Siemens LP9802-E (GP70F-CF31)[16]**	FC-AL, FC-SW	Y[8]	**See[1, 2]**
4	**PRIMEPOWER: 1500, 250, 2500, 450, 900; SX130 (PRIMEPOWER 800)[13]**	PCI	Fujitsu Siemens Solaris 8 02/02[7]	**Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30[3, 12], LP9802-E (GP70F-CF31)[16]**	FC-AL, FC-SW	Y[8]	**See[1]**
5	**PRIMEPOWER: 1500, 250, 2500, 450, 900, GP7000F 1000, GP7000F 2000, GP7000F 400, GP7000F 600, GP7000F 800**	**PCI**	Fujitsu Siemens Solaris 9 04/03[6, 14]	**Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)**	**FC-AL, FC-SW**	Y[8]	**See[1, 2, 15]**
6	**PRIMEPOWER GP7000F 200**	**PCI**	Fujitsu Siemens Solaris 9 04/03[6, 14]	**Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X), LP9002-E (LP9002L-E) GP70F-CF30[3, 12], LP9802-E (GP70F-CF31)[16]**	**FC-AL, FC-SW**	Y[8]	
7	**PRIMEPOWER GP7000F: 1000, 2000, 400, 600, 800**	**PCI**	Fujitsu Siemens Solaris 9 04/03[6, 14]	**Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30[3, 12], LP9802-E (GP70F-CF31)[16]**	**FC-AL, FC-SW**	Y[8]	
8	**PRIMEPOWER: 1500, 250, 2500, 450, 900**	**PCI**	Fujitsu Siemens Solaris 9 04/03[6, 14]	**Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30[3, 12], LP9802-E (GP70F-CF31)[16]**	**FC-AL, FC-SW**	Y[8]	**See[1, 2]**
9	PRIMEPOWER GP7000F: 1000, 200, 2000, 400, 600, 800	PCI	Fujitsu Siemens Solaris: 7 Nov 99[6, 9], 8 02/02[7]	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X)[3, 4, 5], LP9002-E (LP9002L-E) GP70F-CF30[3, 12]	FC-AL, FC-SW	Y[8]	See[1, 2]
10	**PRIMEPOWER: 650, 850**	PCI	Fujitsu Siemens Solaris: 8 02/02[7], 9 04/03[6, 14]	**Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X)[3, 4, 5], LP9002-E (LP9002L-E) GP70F-CF30[3, 12], LP9802-E (GP70F-CF31)[16]**	FC-AL, FC-SW	Y[8]	**See[1, 2]**
11	**PRIMEPOWER GP7000F: 1000, 200, 2000, 400, 600, 800**	PCI	Fujitsu Siemens Solaris 8 02/02[7]	**Fujitsu Siemens GP70F-CS02; Sun X6541A-X[11]**	UWD	Y	**See[1, 2, 10]**
12	PRIMEPOWER GP7000F: 1000, 200, 2000, 400, 600, 800	PCI	Fujitsu Siemens Solaris: 2.6 May 98[6, 7], 7 Nov 99[6, 9]	Fujitsu Siemens GP70F-CS02; Sun X6541A-X[11]	UWD	N	See[1, 2, 10]

1. For use in US/Europe only. Refer to Fujitsu Base Connectivity information for Asia Pacific/Japan.
2. Also supports Fujitsu Technology Solutions Inc.
3. Requires Emulex driver 5.01e and firmware 3.90a7
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Symmetrix 8000 Series: 66/67 support: Reliant UNIX 5.44,5.45 Solaris 2.6, 7, 8 or 9. Symmetrix 8000 Series:5568 support: Solaris 8,9.
7. FSC requires all patches for Solaris 2.6 be obtained through FSC in the form of a Solaris 2.6 PTF patch CD. The current patch CD is Solaris 2.6 PTF R03051.
8. Requires Emulex Open Boot Version 1.33a1.
9. FSC requires all patches for Solaris 7 be obtained through FSC in the form of a Solaris 7 PTF patch CD. The current patch CD is Solaris 7 PTF R03051.
10. No dynamic partition support. Disconnecting and reconnecting SCSI cables on an active system may induce the system to crash.
11. PowerPath support for this controller is only with Solaris 2.6.
12. The LP9002-E now ships with the LP9002L-E low profile adapter.
13. **SHC-OSD (Symmetrix Host Component for BS2000/OSD) is the only external software for TimeFinder/SRDF features. Further restrictions apply. Contact C4 Group or reference http://www.fujitsu-siemens.com/rl/products/bs2000/symmetrix_bs2000.html.**
14. **FSC requires that all patches for Solaris 9 be obtained through FSC in the form of a Solaris 9 PTF patch CD. The current patch CD is Solaris 9 PTF R03051.**
15. Refer to Fujitsu Base Connectivity information for Asia Pacific/Japan.
16. **Requires Emulex driver 5.01e and firmware 1.00a4.**

HPQ HP-UX
HPQ

HPQ – HPQ HP-UX							
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	HP 9000 T600	HP-PB, HSC	HPQ HP-UX 11.0[4, 5], 11.0 ACE[4, 5]	HPQ A3636A[3]	FC-AL	N	
2	HP 9000 K-Class	HSC	HPQ HP-UX 11.0[4, 5]	HPQ A3404A[3]	FC-AL	N	
3	HP 9000 D-Class, R-Class	HSC	HPQ HP-UX 11.0[4, 5]	HPQ A3591B[3, 21]	FC-AL	N	
4	HP 9000 T600	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5]	HPQ A3636A	FC-AL	N	
5	HP 9000 K-Class	HSC	HPQ HP-UX 11.0 ACE[4, 5] 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A3404A[3]	FC-AL	Y	
6	HP 9000 D-Class, R-Class	HSC	HPQ HP-UX 11.0 ACE[4, 5] 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A3591B[3, 21]	FC-AL	Y	
7	HP 9000 A180, A180C	HSC	HPQ HP-UX 11.0[4, 5] 11.0 ACE[4, 5]	HPQ A3591B[3]	FC-AL	N	See[19]
8	HP 9000 D-Class, R-Class	HSC	HPQ HP-UX 11.0[4, 5] 11.0 ACE[4, 5] 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A3591A[3]	FC-AL	N	
9	HP 9000 R380, R390	HSC	HPQ HP-UX 11.0[5] 11i v1.0 (HP-UX 11.11)[5]	HPQ A3591A A3591B	FC-AL	Y	

HPQ – HPQ HP-UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
10	HP 9000: rp5405, rp5470 (L3000)[16]	PCI	HPQ HP-UX 11.0 ACE[4, 5]	HPQ A3740A[3]	FC-AL	N	
11	HP 9000: A180, A180C	PCI	HPQ HP-UX 11.0: 9906[4, 5], 990P[4, 5], ACE[4, 5]	HPQ A3740A[3]	FC-AL	N	See[19]
12	HP 9000 rp7400	PCI	HPQ HP-UX 11.0: 990P[4, 5, 55], ACE[4, 5, 55]	HPQ A3740A[3]	FC-AL	Y[32]	
13	HP 9000 rp7400[14, 62]	PCI	HPQ HP-UX 11.0: 990P[4, 5, 55], ACE[4, 5, 55]	HPQ A3740A[3]	FC-AL	Y[15, 32]	
14	HP 9000 N-Class (N4000)	PCI	HPQ HP-UX 11.0: 990P[4, 5], ACE[4, 5]	HPQ A3740A[3]	FC-AL	Y[31, 32]	
15	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11.0: 990P[4, 5], ACE[4, 5]	HPQ A3740A[3]	FC-AL	N	
16	**HP 9000 rp5430[73]**	PCI	HPQ HP-UX: 11.0 Sept 2001[4, 5, 61], 11i v1.0 (HP-UX 11.11) Sept 2001[4, 5, 61]	HPQ A3740A[3]	FC-AL	N	See[8, 72]
17	HP 9000: V2200, V2250, V2500[11], V2500 SCA, V2600[12], V2600 SCA	PCI	HPQ HP-UX, 11.0[4, 5], 11.0 ACE[4, 5]	HPQ A3740A[3]	FC-AL	N	
18	**HP 9000: K220, K250, K420, K450**	HSC	HPQ HP-UX 11.0 June 2001[5]	**HPQ A6685A[3, 6, 11, 28, 30, 50, 68]**	FC-AL, FC-SW	N	
19	HP 9000 K-Class	HSC	HPQ HP-UX 11.0[4, 5]	HPQ A6685A[3, 6, 28, 30, 50, 51, 52]	FC-AL, FC-SW	N	
20	**HP 9000 R390**	HSC	**HPQ HP-UX 11.0[4, 5, 55]**	**HPQ A6684A[3, 6, 28, 30, 50, 54, 57]**	FC-AL, FC-SW	Y[57]	See[54, 56]
21	**HP 9000 R380**	HSC	**HPQ HP-UX 11.0[4, 5, 55]**	**HPQ A6684A[3, 6, 28, 30, 50, 57]**	FC-AL, FC-SW	N	
22	**HP 9000: K260, K360, K460**	HSC	**HPQ HP-UX 11.0[4, 5, 55]**	**HPQ A6685A[3, 6, 28, 30, 50, 57]**	FC-AL, FC-SW	Y[57, 58]	
23	**HP 9000: K370, K380**	HSC	**HPQ HP-UX 11.0[4, 5, 55]**	**HPQ A6685A[6, 30, 50, 57]**	FC-AL, FC-SW	Y[57, 59]	
24	**HP 9000: K570, K580**	HSC	**HPQ HP-UX 11.0[4, 5, 55]**	**HPQ A6685A[6, 30, 50, 57, 60]**	FC-AL, FC-SW	Y[57, 59]	
25	HP 9000: K220, K250, K420, K450	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11) June 2001[5]	HPQ A6685A[3, 6, 11, 28, 30, 50, 52, 68]	FC-AL, FC-SW	N	
26	HP 9000 R390	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A6684A[3, 6, 28, 30, 50, 52, 54]	FC-AL, FC-SW	N	See[54, 56]
27	HP 9000 R380	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A6684A[3, 6, 28, 30, 50, 52, 56]	FC-AL, FC-SW	N	See[54]
28	HP 9000: K260, K360, K370, K380, K460	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A6685A[3, 6, 28, 30, 50, 52]	FC-AL, FC-SW	N	
29	HP 9000: K570, K580	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A6685A[3, 6, 28, 30, 50, 52, 60]	FC-AL, FC-SW	N	
30	HP 9000 K-Class	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6, 53]	HPQ A6685A[3, 28, 30, 50, 51, 52]	FC-AL, FC-SW	N	
31	HP 9000 K-Class	HSC	HPQ HP-UX: 11.0 June 2001[5], 11i v1.0 (HP-UX 11.11) June 2001[5]	HPQ A6685A[3, 6, 11, 28, 30, 50, 52, 68]	FC-AL, FC-SW	N	
32	HP 9000 D390	HSC	HPQ HP-UX: **11.0**[4, 5, 54, 55], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A6684A[3, 6, 28, 30, 50, 52, 54]	FC-AL, FC-SW	N	See[54, 56]
33	HP 9000: D270, D280, D370, D380	HSC	HPQ HP-UX: 11.0[4, 5, 55], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A6684A[3, 6, 28, 30, 50, 52]	FC-AL, FC-SW	N	See[54]
34	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11.0 ACE[4, 5]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	Y[24, 26, 27, 36, 38]	See[37]
35	HP 9000: rp5405, rp5470 (L3000)[16]	PCI	HPQ HP-UX 11.0 ACE[4, 5]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	Y[24, 26, 27, 36, 38]	
36	**HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)**	PCI	HPQ HP-UX 11.0 ACE[4, 5]	**HPQ A5158A[3, 28, 29, 30]**	FC-AL, FC-SW	Y	
37	**HP 9000: rp5405, rp5430**	PCI	HPQ HP-UX 11.0 ACE[4, 5]	**HPQ A6795A[3, 30, 49, 77, 79]**	FC-AL, FC-SW	N	See[4, 81]
38	HP 9000 rp2450 (A500/440MHz)	PCI	HPQ HP-UX 11.0 ACE[4, 5]	HPQ A6795A[3, 30, 49, 77, 79, 80]	FC-AL, FC-SW	Y[24, 26, 27, 36, 87]	See[86]
39	**HP 9000 rp5430[73]**	PCI	HPQ HP-UX 11.0 ACE[5]	**HPQ A6795A[3, 30, 49, 77, 79]**	FC-AL, FC-SW	Y[24, 26, 27, 36]	See[4, 81]
40	HP 9000 rp5470 (L3000)[16]	PCI	HPQ HP-UX 11.0 ACE[5]	HPQ A6795A[3, 30, 49, 77, 79]	FC-AL, FC-SW	Y[24, 26, 27, 36, 82]	See[4, 81]
41	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11.0 ACE[5]	HPQ A6795A[3, 30, 49, 77, 79]	FC-AL, FC-SW	Y[24, 26, 27, 36, 87]	See[4, 86]
42	HP 9000 rp5430	PCI	HPQ HP-UX 11.0 ACE[5, 102]	HPQ A5158A[23, 29, 30, 98]	FC-AL, FC-SW	Y[24, 26, 27, 36]	See[6]
43	**HP 9000 rp5430[73]**	PCI	HPQ HP-UX 11.0 ACE[5, 102]	**HPQ A5158A[23, 29, 30, 98]**	FC-AL, FC-SW	Y[24, 26, 27, 36, 38]	See[6]
44	**HP 9000 rp7400[14, 103]**	PCI	HPQ HP-UX 11.0 ACE[5, 102]	**HPQ A5158A[29, 30, 98]**	FC-AL, FC-SW	Y[23]	See[65]
45	**HP 9000: rp2430, rp2470**	PCI	HPQ HP-UX 11.0 March 2002[4, 5]	**HPQ A5158A[23, 28, 29, 30]**	FC-AL, FC-SW	Y[26, 27, 93]	See[4]
46	**HP 9000 rp2430**	PCI	HPQ HP-UX 11.0 March 2002[4, 5]	**HPQ A6795A[30, 49, 77, 79, 94]**	FC-AL, FC-SW	Y[26, 27, 93]	See[93]
47	**HP 9000 rp2470**	PCI	HPQ HP-UX 11.0 March 2002[4, 5]	**HPQ A6795A[30, 49, 77, 79, 94]**	FC-AL, FC-SW	Y[26, 27, 93]	See[4, 93]
48	**HP 9000 rp2405**	PCI	HPQ HP-UX 11.0 March 2002[5, 58]	**HPQ A6795A[30, 49, 77, 79, 94]**	FC-AL, FC-SW	N	See[93]
49	**HP 9000 rp5430[73]**	PCI	HPQ HP-UX 11.0 Sept 2001[4, 5, 61]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	Y[16, 24, 26, 27, 36]	See[8, 72]
50	**HP 9000 V2500 V2600**	PCI	HPQ HP-UX 11.0 990P[4, 5], ACE[4, 5]	**HPQ A5158A[3, 23, 28, 29, 30]**	FC-AL, FC-SW	Y[25, 26, 27]	
51	HP 9000 N-Class (N4000)	PCI	HPQ HP-UX 11.0 990P[4, 5] ACE[4, 5] HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	Y[24, 26, 27, 34, 35, 36]	See[93]
52	HP 9000 V2500 SCA, V2600 SCA	PCI	HPQ HP-UX 11.0 990P[4, 5], ACE[4, 5] HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	N	See[22]

HPQ – HPQ HP-UX

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
53	HP 9000 N-Class (N4000)	PCI	HPQ HP-UX 11.0: 990P[5], ACE[4, 5]	HPQ A6795A[3, 30, 49, 77, 79, 80]	FC-AL, FC-SW	Y[24, 26, 27, 36, 85]	See[65]
54	HP 9000 V2250	PCI	HPQ HP-UX 11.0: 990P[5], ACE[5]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	Y[25, 26, 27]	See[4]
55	HP 9000 rp7400[14, 62, 63]	PCI	HPQ HP-UX 11.0: 990P[5], ACE[5]	HPQ A5158A[3, 23, 28, 29, 30, 66]	FC-AL, FC-SW	Y[15, 24, 26, 27, 36]	See[63, 65]
56	**HP 9000 V2200**	PCI	HPQ HP-UX 11.0: 990P[5], ACE[5]	**HPQ A5158A[23, 28, 29, 30]**	FC-AL, FC-SW	**Y[23, 24, 25, 26, 27]**	**See[4, 22]**
57	HP 9000 rp7400[14, 62]	PCI	HPQ HP-UX 11.0: 990P[5], ACE[5]	HPQ A6795A[3, 30, 49, 77, 79]	FC-AL, FC-SW	Y[15, 24, 26, 27, 36, 85]	See[4, 63, 65]
58	HP 9000 N-Class (N4000)	PCI	HPQ HP-UX 11.0[4, 5]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	N	See[33]
59	HP 9000 rp7400[14, 62]	PCI	HPQ HP-UX 11.0[5]	HPQ A6795A[3, 30, 49, 77, 79]	FC-AL, FC-SW	N	See[4, 63, 65]
60	HP 9000 N-Class (N4000)	PCI	HPQ HP-UX 11.0[5]	HPQ A6795A[3, 30, 49, 77, 79, 80]	FC-AL, FC-SW	N	See[65]
61	**HP 9000 SUPERDOME[42, 48]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[4, 5, 6]	**HPQ A5158A[3, 29, 30, 43, 49]**	FC-AL, FC-SW	**Y[47]**	**See[45, 46]**
62	**HP 9000 SUPERDOME[42, 48]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[5, 6]	**HPQ A6795A[3, 30, 49, 75, 76, 77]**	FC-AL, FC-SW	Y[47]	
63	**HP 9000: rp7405[88, 89, 91, 96], rp7410[42, 88, 89, 91]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[5]	**HPQ A5158A[3, 29, 30, 43]**	FC-AL, FC-SW	**Y[90]**	
64	HP 9000: rp2430, rp2470	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[5]	HPQ A5158A[23, 29, 30, 98]	FC-AL, FC-SW	N	
65	HP 9000 rp2470	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[5]	HPQ A6795A[3, 30, 49, 66, 77, 94]	FC-AL, FC-SW	N	See[4, 93]
66	HP 9000: rp2405, rp2430	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[5]	HPQ A6795A[3, 30, 49, 66, 77, 94]	FC-AL, FC-SW	N	See[93]
67	**HP 9000 rp7405[42, 91, 96]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[5]	**HPQ A6795A[3, 30, 49, 75, 76, 77, 80]**	FC-AL, FC-SW	**Y[90]**	
68	**HP 9000 rp7410[42, 89, 91, 92]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[5]	**HPQ A6795A[3, 49, 75, 76, 77]**	FC-AL, FC-SW	**Y[90]**	
69	**HP 9000 rp7400[42, 101]**	**PCI**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[5, 14]	**HPQ A5158A[3, 28, 29, 30, 43]**	**FC-AL, FC-SW**	**Y[32]**	**See[63, 65]**
70	**HP 9000 rp5430[14, 40]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[5, 14]	**HPQ A5158A[3, 29, 30, 43]**	FC-AL, FC-SW	**Y[24, 39]**	**See[14]**
71	**HP 9000 rp5430[14, 16, 40]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[5, 14]	**HPQ A6795A[3, 30, 75, 76, 77, 80]**	FC-AL, FC-SW	**Y[24, 83]**	**See[14]**
72	**HP 9000 rp8400[42, 99, 100]**	**PCI**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[5, 6]	**HPQ A5158A[3, 29, 30, 43, 49]**	**FC-AL, FC-SW**	**Y[78]**	
73	**HP 9000 rp8400[64, 99, 100]**	**PCI**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[5, 6]	**HPQ A6795A[3, 30, 49, 75, 76, 77]**	**FC-AL, FC-SW**	**Y[78]**	**See[61]**
74	HP 9000 rp8400[64]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[5, 61]	HPQ A5158A[3, 29, 30, 67]	FC-AL, FC-SW	N	See[64]
75	HP 9000 rp8400	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[5, 61]	HPQ A6795A[3, 30, 49, 77, 79, 80]	FC-AL, FC-SW	Y[26, 27, 36, 78]	See[64]
76	**HP 9000 rp5430[73]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[5, 74]	**HPQ A5158A[3, 23, 28, 29, 30]**	FC-AL, FC-SW	Y[16, 24, 26, 27, 36, 61]	See[4]
77	HP 9000 rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	N	See[44]
78	HP 9000 rp5405	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	Y[16, 24, 26, 27, 36, 38]	
79	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	Y[18, 24, 26, 27, 36]	See[44]
80	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	Y[16, 24, 26, 27, 36, 38]	See[37]
81	HP 9000: V2500[11], V2600[12]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	N	See[22]
82	HP 9000 N-Class (N4000)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6, 14]	HPQ A6795A[3, 30, 49, 77, 79, 80]	FC-AL, FC-SW	Y[16, 24, 26, 27, 36, 85]	See[65]
83	HP 9000: rp2430, rp2470	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5]	HPQ A5158A[29, 30, 98]	FC-AL, FC-SW	N	
84	HP 9000 rp8400	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5]	HPQ A6795A[77, 104, 105, 106, 107]	FC-AL, FC-SW	N	See[61]
85	**HP 9000 rp5470 (L3000)[14, 16, 40, 41, 42]**	PCI	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 14]**	**HPQ A5158A[3, 29, 30, 43]**	FC-AL, FC-SW	**Y[24, 39]**	**See[14]**
86	**HP 9000 rp5430[40]**	PCI	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 14]**	**HPQ A5158A[29, 30, 43]**	FC-AL, FC-SW	**Y[24, 39]**	**See[14]**
87	**HP 9000: rp5430[14, 40], rp5470 (L3000)[14, 16, 40, 41, 42]**	PCI	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 14]**	**HPQ A6795A[3, 30, 75, 76, 77, 80]**	FC-AL, FC-SW	**Y[24, 83]**	**See[14]**
88	**HP 9000 rp7400[42, 101]**	PCI	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 14, 16]**	**HPQ A6795A[3, 30, 75, 76, 77, 80]**	FC-AL, FC-SW	**Y[32, 63]**	**See[65]**
89	HP 9000: V2200, V2250	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	N	See[4, 22]
90	HP 9000 rp2400 (A400/440MHz)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6]	HPQ A6795A[3, 30, 49, 77, 79]	FC-AL, FC-SW	Y[16, 24, 26, 27, 36, 87]	See[4]
91	HP 9000 rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6]	HPQ A6795A[3, 30, 49, 77, 79]	FC-AL, FC-SW	Y[16, 24, 26, 27, 36, 87]	See[4, 86]
92	HP 9000: rp5400 (L1000)[16], rp5450 (L2000)[16]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6]	HPQ A6795A[3, 30, 49, 77, 79]	FC-AL, FC-SW	Y[24, 26, 27, 36, 84]	See[4, 81]
93	HP 9000 rp2450 (A500/440MHz)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6]	HPQ A6795A[3, 30, 49, 77, 79, 80]	FC-AL, FC-SW	Y[16, 24, 26, 27, 36, 87]	See[4]
94	HP 9000 rp5405[16]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6, 14]	HPQ A6795A[3, 30, 49, 77, 79]	FC-AL, FC-SW	Y[24, 26, 27, 36, 82]	See[4]

HPQ – HPQ HP-UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
95	**HP 9000 rp5430[73]**	PCI	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6, 14]**	**HPQ A6795A[3, 30, 49, 77, 79]**	FC-AL, FC-SW	**Y[16, 24, 26, 27, 36]**	**See[4, 81]**
96	HP 9000 rp7400[14, 62]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6, 14]	HPQ A6795A[3, 30, 49, 77, 79]	FC-AL, FC-SW	Y[15, 16, 24, 26, 27, 36, 85]	See[4, 63, 65]
97	HP 9000 rp8400	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 61]	HPQ A5158A[30, 67, 98]	FC-AL, FC-SW	N	
98	**HP 9000 rp5430[73]**	PCI	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 74]**	**HPQ A5158A[23, 29, 30]**	FC-AL, FC-SW	Y[16, 24, 26, 27, 36, 38]	**See[4, 6]**
99	HP 9000 rx4610[70]	PCI	HPQ HP-UX 11i v1.5 (HP-UX 11.20)	HPQ A5158A[3, 30, 71]	FC-AL, FC-SW	N	See[69]
100	HP 9000 rp2405	PCI	HPQ HP-UX 11.0 March 2002[5], 11i v1.0 (HP-UX 11.11)[5]	HPQ A5158A[29, 30, 98]	FC-AL, FC-SW	N	
101	**HP 9000 rp7400**	PCI	HPQ HP-UX **11.0**[4, 5, 48, 89, 100, 101, 109, 110], 11.0 990P[4, 5, 48, 89, 100, 101, 109, 110], 11.0 ACE[4, 5, 48, 89, 100, 101, 109, 110]	**HPQ A6795A[3, 30, 49, 77, 79]**	FC-AL, FC-SW	Y[79]	**See[4, 108]**
102	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11.0[4, 5], 11.0 990P[4, 5]	HPQ A5158A[3, 23, 28, 29, 30]	FC-AL, FC-SW	N	See[37]
103	**HP 9000: rp5400 (L1000), rp5450 (L2000)**	PCI	HPQ HP-UX **11.0**[4, 5], 11.0 990P[4, 5], 11.0 ACE[4, 5]	**HPQ A6795A[3, 30, 49, 77, 79]**	FC-AL, FC-SW	N	**See[4, 81]**
104	**HP 9000 rp7400**	PCI	HPQ HP-UX **11.0**[5, 61], 11.0 990P[5]	**HPQ A5158A[29, 30]**	FC-AL, FC-SW	Y[23]	**See[65]**
105	HP 9000 rp7400[14, 62, 63]	PCI	HPQ HP-UX 11.0[5, 61], 11i v1.0 (HP-UX 11.11)[5, 6, 61]	HPQ A5158A[3, 23, 28, 29, 30, 66]	FC-AL, FC-SW	N	See[63, 65]
106	HP 9000 T600	HP-PB HSC	HPQ HP-UX 11.0 ACE[4, 5]	HPQ 28696A[3]	FWD	Y	
107	HP 9000 K-Class	HP-PB HSC	HPQ HP-UX 11.0[4, 5], 11.0 ACE[4, 5], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ 28696A[3]	FWD	N	See[1]
108	HP 9000 T600	HP-PB HSC	HPQ HP-UX 11.0[4, 5], 11.0 ACE[4, 5], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A3644A[3]	FWD	N	
109	HP 9000 T600	HP-PB HSC	HPQ HP-UX: 11.0[4, 5], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ 28696A[3]	FWD	N	
110	HP 9000 K-Class	HSC	HPQ HP-UX 11.0 ACE[4, 5]	HPQ A2969A[3]	FWD	Y	See[1]
111	HP 9000: D-Class, R-Class	HSC	HPQ HP-UX 11.0 ACE[4, 5]	HPQ A4107A[3]	FWD	Y[7]	
112	HP 9000 K-Class	HSC	HPQ HP-UX 11.0[4, 5]	HPQ A2969A[3]	FWD	Y[2]	See[1]
113	HP 9000: D-Class, R-Class	HSC	HPQ HP-UX 11.0[4, 5]	HPQ A4107A[3]	FWD	Y[2]	
114	HP 9000 K-Class	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A2969A[3]	FWD	N	See[1]
115	HP 9000: D-Class, R-Class	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A4107A[3]	FWD	N	
116	HP 9000: A180, A180C	HSC	HPQ HP-UX: 11.0[4, 5], 11.0 ACE[4, 5], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A4107A[3]	FWD	N	See[19]
117	HP 9000 R380	HSC	HPQ HP-UX: 11.0[5], 11i v1.0 (HP-UX 11.11)[5]	HPQ A4107A	FWD	N	
118	HP 9000: A180, A180C	HSC	HPQ HP-UX: 11.0[4, 5, 55], 11.0 ACE[4, 5, 55], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5838A[3, 9]	U2 LVD	N	
119	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11.0 990P[4, 5]	HPQ: A5149A[3, 9], A5150A[3, 9]	U2 LVD	N	See[8, 17]
120	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11.0 ACE[4, 5]	HPQ: A5149A[3, 9], A5150A[3, 9]	U2 LVD	Y	See[8, 17]
121	HP 9000: N-Class (N4000), rp5400 (L1000), rp5450 (L2000), rp7400[14, 62, 63]	PCI	HPQ HP-UX 11.0: 990P[4, 5, 55], ACE[4, 5, 55]; HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5838A[3, 9]	U2 LVD	N	See[17]
122	HP 9000 N-Class (N4000)	PCI	HPQ HP-UX 11.0: 990P[4, 5], ACE[4, 5]; HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ: A5149A[3, 9], A5150A[3, 9]	U2 LVD	Y[13]	See[8, 17]
123	HP 9000 rp7400	PCI	HPQ HP-UX 11.0: 990P[5, 61], ACE[4, 5, 55]	HPQ: A5149A[3, 9], A5150A[3, 9]	U2 LVD	Y	See[63]
124	HP 9000 rp7400[14, 62, 63]	PCI	HPQ HP-UX 11.0: 990P[5, 61], ACE[4, 5, 55]	HPQ: A5149A[3, 9], A5150A[3, 9]	U2 LVD	Y[15]	See[63]
125	HP 9000 SUPERDOME	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[5, 6]	HPQ A5149A[3, 9]	U2 LVD	Y	See[4, 20]
126	HP 9000: rp7405[96], **rp7410[89]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[5]	HPQ: A5149A[3, 9], A5150A[3, 9], A5838A[3, 9]	U2 LVD	N	See[88]
127	HP 9000 rp8400[64]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[5, 61]	HPQ A5149A[3, 9]	U2 LVD	N	See[64]
128	HP 9000: V2200, V2250, V2500[11] V2600[12]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5149A[3, 9]	U2 LVD	N	
129	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ: A5149A[3, 9], A5150A[3, 9]	U2 LVD	Y[14]	See[8, 17]
130	HP 9000 rp7400[14, 62, 63]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6, 61]	HPQ: A5149A[3, 9], A5150A[3, 9]	U2 LVD	N	See[63]
131	HP 9000 rx4610[70]	PCI	HPQ HP-UX 11i v1.5 (HP-UX 11.20)	HPQ A5150A[3, 9]	U2 LVD	N	See[69]
132	HP 9000: rp2400 (A400 440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11.0 ACE[4, 5, 55] 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5838A[3, 9]	U2 LVD	N	
133	HP 9000 rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11.0 ACE[4, 5] 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ: A5149A[3, 9], A5150A[3, 9]	U2 LVD	N	See[8]
134	HP 9000: rp2400 (A400 440MHz), rp2450 (A500/440MHz)	PCI	HPQ HP-UX 11.0 ACE[4, 5], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ: A5149A[3, 9], A5150A[3, 9]	U2 LVD	Y[18]	See[8]
135	HP 9000: rp5405, rp5470, L3000)[16]	PCI	HPQ HP-UX: 11.0 ACE[4, 5] 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ: A5149A[3, 9], A5150A[3, 9]	U2 LVD	Y[15]	See[8, 17]
136	HP 9000: rp2405, rp2430, rp2470	PCI	HPQ HP-UX 11.0 March 2002[4, 5, 55] 11i v1.0 (HP-UX 11.11) March 2002[4, 5]	HPQ A5838A[9, 95]	U2 LVD	N	See[8, 93]
137	HP 9000: rp2405, rp2430, rp2470	PCI	HPQ HP-UX 11.0 March 2002[5] 11i v1.0 (HP-UX 11.11) March 2002[5]	HPQ: A5149A[9] A5150A[9]	U2 LVD	N	
138	**HP 9000 rp5430[73]**	PCI	HPQ HP-UX 11.0 Sept 2001[4, 5, 61] 11i v1.0 (HP-UX 11.11) Sept 2001[4, 5, 61]	HPQ: A5149A[3, 9] A5150A[3, 9]	U2 LVD	Y[16]	[8, 72]

HPQ – HPQ HP-UX

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
139	HP 9000: V2200, V2250, V2500[11], V2600[12]	PCI	HPQ HP-UX: 11.0[4, 5], 11.0 ACE[4, 5]	HPQ A5149A[3, 9]	U2 LVD	Y	
140	HP 9000: V2500 SCA, V2600 SCA	PCI	HPQ HP-UX: 11.0[4, 5], 11.0 ACE[4, 5], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5149A[3, 9]	U2 LVD	N	
141	HP 9000 rp5405[14]	PCI	HPQ HP-UX: 11.0[5, 102], 11i v1.0 (HP-UX 11.11)[5]	HPQ A5838A[9]	U2 LVD	N	
142	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11.0 990P[4, 5]	HPQ A5159A[3, 10]	UWD	N	See[8]
143	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11.0 990P[5]	HPQ A4800A[3, 10]	UWD	N	See[4, 8]
144	HP 9000 rp7400[14, 62]	PCI	HPQ HP-UX 11.0 990P[5, 61]	HPQ A4800A[3, 10]	UWD	Y[15]	
145	HP 9000 rp7400	PCI	HPQ HP-UX 11.0 990P[5, 61]	HPQ A5159A[3, 10]	UWD	Y	See[63, 64]
146	HP 9000 rp7400[14, 62, 63]	PCI	HPQ HP-UX 11.0 990P[5, 61]	HPQ A5159A[3, 10]	UWD	Y[15]	See[63, 64]
147	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11.0 ACE[4, 5]	HPQ A5159A[3, 10]	UWD	Y	See[8]
148	HP 9000 rp7400	PCI	HPQ HP-UX 11.0 ACE[4, 5, 55]	HPQ A5159A[3, 10]	UWD	Y	
149	HP 9000 rp7400[14, 62, 63]	PCI	HPQ HP-UX 11.0 ACE[4, 5, 55]	HPQ: A4800A[3, 10], A5159A[3, 10]	UWD	Y[15]	
150	HP 9000 rp2450 (A500/440MHz)	PCI	HPQ HP-UX 11.0 ACE[5]	HPQ A4800A[3, 10]	UWD	N	See[4]
151	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11.0 ACE[5]	HPQ A4800A[3, 10]	UWD	Y	See[4, 8]
152	HP 9000 N-Class (N4000)	PCI	HPQ HP-UX 11.0: 990P[4, 5], ACE[4, 5]; HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A4800A[3, 10]	UWD	Y[13]	See[8]
153	HP 9000 rp7400	PCI	HPQ HP-UX 11.0: 990P[5, 61], ACE[4, 5, 55]	HPQ A4800A[3, 10]	UWD	Y	
154	HP 9000 N-Class (N4000)	PCI	HPQ HP-UX 11.0[5, 6, 14]	HPQ A5159A[8, 10]	UWD	N	
155	HP 9000 SUPERDOME	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[4, 5, 6]	HPQ A5159A[3, 10]	UWD	Y	See[20]
156	HP 9000 SUPERDOME	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[5, 6]	HPQ A4800A[3, 10]	UWD	Y	See[4, 20]
157	HP 9000: rp7405[96], **rp7410[89]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[5]	HPQ: A4800A[3, 10], A5159A[3, 10]	UWD	N	See[88]
158	HP 9000 rp8400[64]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[5, 61]	HPQ: A4800A[3, 10], A5159A[3, 10]	UWD	N	See[64]
159	HP 9000 rp2450 (A500/440MHz)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A4800A[3, 10]	UWD	N	
160	HP 9000 rp5450 (L2000)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A4800A[3, 10]	UWD	Y[14]	See[4, 8]
161	HP 9000 V2600[12]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A4800A[3, 10]	UWD	N	See[4, 8, 9]
162	HP 9000: V2200, V2250	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A4800A[3, 10]	UWD	N	See[8, 9]
163	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5159A[3, 10]	UWD	Y[14]	See[8]
164	HP 9000 N-Class (N4000)[14]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 14, 97]	HPQ A5159A[8, 10]	UWD	Y[6, 13]	
165	HP 9000 rp5400 (L1000)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6]	HPQ A4800A[3, 10]	UWD	Y[14]	See[4, 8]
166	HP 9000 V2500[11]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6]	HPQ A4800A[3, 10]	UWD	N	See[4, 8, 9]
167	HP 9000 rp7400[14, 62, 63]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6, 61]	HPQ A4800A[3, 10]	UWD	N	
168	HP 9000 rp7400[14, 62, 63]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[5, 6, 61]	HPQ A5159A[3, 10]	UWD	N	See[63, 64]
169	HP 9000 rx4610[70]	PCI	HPQ HP-UX 11i v1.5 (HP-UX 11.20)	HPQ A5159A[3, 10]	UWD	N	See[69]
170	HP 9000 rp2450 (A500/550MHz)	PCI	HPQ HP-UX: 11.0 ACE[4, 5], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5159A[3, 10]	UWD	N	See[8]
171	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz)	PCI	HPQ HP-UX: 11.0 ACE[4, 5], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5159A[3, 10]	UWD	Y[18]	See[8]
172	HP 9000: rp5405, rp5470 (L3000)[16]	PCI	HPQ HP-UX: 11.0 ACE[4, 5], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A5159A[3, 10]	UWD	Y[15]	See[8]
173	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX: 11.0 ACE[5], 11i v1.0 (HP-UX 11.11)[5, 6]	HPQ A4800A[3, 10]	UWD	N	See[4]
174	HP 9000: rp5405, rp5470 (L3000)[16]	PCI	HPQ HP-UX: 11.0 ACE[5], 11i v1.0 (HP-UX 11.11)[5, 6]	HPQ A4800A[3, 10]	UWD	Y[15]	See[4, 8]
175	HP 9000: rp2405, rp2430, rp2470	PCI	HPQ HP-UX: 11.0 March 2002[5], 11i v1.0 (HP-UX 11.11) March 2002[5]	HPQ A4800A[3, 10]	UWD	N	See[4, 93]
176	HP 9000: rp2405, rp2430, rp2470	PCI	HPQ HP-UX: 11.0 March 2002[5], 11i v1.0 (HP-UX 11.11) March 2002[5]	HPQ A5159A[3, 10]	UWD	N	See[93]
177	**HP 9000 rp5430[73]**	PCI	HPQ HP-UX: 11.0 Sept 2001[4, 5, 61], 11i v1.0 (HP-UX 11.11) Sept 2001[4, 5, 61]	HPQ A5159A[3, 10]	UWD	Y[16]	See[8, 72]
178	**HP 9000 rp5430[73]**	PCI	HPQ HP-UX: 11.0 Sept 2001[5, 61], 11i v1.0 (HP-UX 11.11) Sept 2001[5, 61]	HPQ A4800A[3, 10]	UWD	Y[16]	See[4, 8]
179	HP 9000: V2200, V2250	PCI	HPQ HP-UX: 11.0[4, 5] 11.0 ACE[4, 5]	HPQ A4800A[3, 10]	UWD	Y	See[8, 9]
180	HP 9000: V2500 SCA, V2600 SCA	PCI	HPQ HP-UX: 11.0[4, 5] 11.0 ACE[4, 5], 11i v1.0 (HP-UX 11.11)[4, 5, 6]	HPQ A4800A[3, 10]	UWD	N	See[8, 9]
181	HP 9000: V2500[11], V2600[12]	PCI	HPQ HP-UX: 11.0[5] 11.0 ACE[5]	HPQ A4800A[3, 10]	UWD	Y	See[4, 8, 9]

1 PA8000 RISC architecture supported on K series models today

2 For releases prior to 11.0, boot device maximum capacity is 4 GB

3. These qualified HBAs for EMC Symmetrix storage in the HP9000 server model and the HP-UX revision installed may co-exist in that same server or the same hard partition. Other supported HBAs not used to attach to the Symmetrix may also co-exist on the same server unless specified by EMC and/or HP.

4. Symmetrix 8000 Series & 66/67 support. HP-UX 10.20,11.0,11.10. 11.0 ACE,11i MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01. Symmetrix 8000 Series 5568 support. HP-UX 10.20, 11.0, 11i MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01

5. For HP-UX systems only.LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.

6 Symmetrix microcode version: 5266 33.23 or higher, 5566 35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher

7 D, R Class only. Releases before 11.0, boot device max. capacity is 4 GB. Boot from Fibre Channel supported in non-HA configurations on D and K class servers running HP-UX 11.0

8 The cables are the same as the Cxx mini 68S ("VHDCI" 8mm to SCSI3). Cables require termination at host end for N-Class, L-Class, A-Class and Superdome. Can be terminated either on cable or on HBA, but not both.

9 Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DF3-U2SD4L)

10 A4800A and A5159A HBAs are both capable of Ultra 1 speeds, but ship from HP with a default setting of FWD. Symmetrix is supported at Ultra 1 speeds with autospeed HBA. 2000 can be enabled in the V-Class, N-Class, and L-Class. A-Class and Superdome PDC firmware. V-Class supports the A4800A Only

HP e3000 MPE SYSTEMS – The above note applies but only includes the A-Class and N-Class Servers. The HP e3000 A-Class does not support the dual port HBA A5159A

11. Minimum OS revision is HP-UX 11.0 Rev 9812.
12. Minimum OS revision is HP-UX 11.0 990P.
13. A4800A and A5159A HBAs are both capable of Ultra 1 speeds, but ship from HP with default setting of FWD. Symmetrix is supported at Ultra 1 speeds with both HBAs. Ultra 1 can be enabled in the N-Class PDC firmware.
14. rp5405, rp5430, rp5470, rp7400: (PA-8700 processors): Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001. Symmetrix microcode supported: 5266.40.28 or higher, 5566.41.28 or higher, 5267.27.19 or higher, 5567.34.19 or higher.
15. VPARS supported in boot environment with HBA supported defined in Base Connectivity table.
16. PA-8700 processors: Initial support with HP-UX 11.0 Sept 2001, HP-UX 11i Sept 2001
17. Requires minimum PDC firmware 39.46 (39.26 acceptable) or higher.
18. PDC firmware. Arbitrated loop and fabric, use 40.32 or higher.
19. Requires minimum microcode release 5265.39.24.
20. Requires minimum PDC firmware 32.2 and PDHC 7.3 or higher
21. Qualified and supported by HP.
22. Requires PDC firmware TSSW5.3.
23. HP-UX 11.0 switched fabric support is enabled with: fabric device driver version B.11.00.03 and higher; minimum operating system level HP/UX 11.0 990P with March 2000 HW-CR bundle and dependency patch PHKL_21381 patches may be superceded or have co-dependencies as defined by HP. Symmetrix microcode versions: 5265.49.31, 5266.20, 5566.22 or latest Symmetrix microcode versions.
24. HP A5158A FC-SW is enabled in the March 2000 HWCR bundle XSWHWCR1100.48. Additional patches may be required for support.
25. PDC firmware: V2200, 2250: Arbitrated loop and fabric, use TSSW 5.3 or higher. V2500, 2600: Arbitrated loop, use TSSW 3.1 or higher. Fabric, use TSSW 3.2 or higher.
26. The Brocade (Brocade, EMC, or HP models) switch port the HBA involved in a FC-SW topology boot process or FC-SW topology dump process is attached to, is required to be locked as G port when the boot or dump volume resides on the Symmetrix. This can be accomplished by executing the "portCfgGport port_number,1" command from a telnet session on the Brocade switch.The boot device can not be located more than two hops from the initiator involved in the boot process.
27. For direct attached FC-AL boot or dump from a Symmetrix FA port configured for 2 Gbit speed, the Symmetrix auto-negotiation director flag must also be enabled on the FA port. FC-SW 2-Gbit boot and/or dump using A6795A requires Auto-Negotiation flag to be enabled on the switch port the HBA is attached to.
28. FC-AL and FC-SW topologies can co-exist on the same server but not on the same HBA, provided that the different topologies are attached to different HBAs
29. HP A5158A FC-SW software requirement: FC-AL and FC-SW requires the HP A5158A Tachlite PCI Fibre Channel Adapter. The A5158A FC-SW software fabric driver version "AP0301", for HP-UX 11i is now available for download from HP's software depot site, http://www.software.hp.com under "drivers" . It is referred to as the "hp pci tachyon tl fibre channel adapter", and requires the installation of dependent patch PHKL_22874 prior to installing the fabric driver, patches may be superceded or have co-dependencies as defined by HP.
30. Minimum driver version for SNIA HBA API support with HP-UX 11.0 is B.11.00.10. Minimum driver version for SNIA HBA API support with HP-UX 11.11 is B.11.11.09.
31. Boot from Fibre Channel is supported in non-HA configurations on N class servers running HP-UX 11.0 with direct attachment.
32. N-Class: Arbitrated loop boot with PDC rev 40.04 or higher.Fabric boot with PDC rev 40.25 or higher.
33. Requires PDC firmware N-Class 40.25, rp7400 (PA-8700) requires PDC firmware 41.36.
34. Fibre boot from N-Class and L-Class in both non-HA and HA configurations is now supported in multi-initiator configurations.
35. Initial support for fabric is enabled with: fabric device driver version B.11.00.03; minimum operating system level HP/UX 11.0 990P with March 2000 HW-CR bundle and dependency patch PHKL_21381; Symmetrix microcode versions 5265.49.31, 5266.20, 5566.22. Please refer to the Base Connectivity section for the latest driver and OS support.
36. Brocade 12000 and EMC ED-12000B do not support boot at this time.
37. Requires PDC firmware N-Class 40.25,L-Class 40.26.
38. PDC firmware: Arbitrated Loop (direct attach): use 40.19 or higher; Fabric: use 40.26 or higher
39. **rp5430/5470 requires minimum PDC firmware 41.36 or higher.**
40. **PA-8700 processors: Supports both 11.00 and HP-UX 11i processor 8700+ only supports HP-UX 11i.**
41. **Virtual Partitions (VPAR) is supported on the L-class/rp5470 server.**
    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 41.02 or later.
42. **Minimum driver revision for HP-UX 11i v1.0 (HP-UX 11.11) is PCI/HSC Fibre Channel Driver B.11.11.09. In a (Vpar) environment.**
43. **HP-UX 11.00 minimum driver revision B.11.00.06.**
    HP-UX 11i minimum driver revision B.11.11.06.
44. Requires PDC firmware 40.32 or higher.
45. **Only PowerPath 3.0.1 is supported for DMX series systems**
46. **FC-AL supported for direct attach only. No support for hubs or Quickloop at this time**
47. **Requires minimum PDC firmware 35.4 and PDHC 7.3 or higher**
48. **Virtual Partitions (VPAR) is supported on the SuperDome server with 4.x and 5.x Symmetrix models and DMX series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 36.1 or later.**
49. Initial Symmetrix microcode support: 5x67 minimum of 5567.38 or 5267.31 .
    Initial Symmetrix microcode support: 5568 minimum of 5568.34.14 .
50. Required dependent FCMS patches are required (patches may be superceded or have co-dependencies as defined by HP): HP-UX 11.0, PHKL_21834 HP-UX 11i: PHKL_23626.NOTE: These patches must be installed before installing the driver, available at http://us-support2.external.hp.com, HSC Tachlite driver available at http://www.software.hp.com, under "drivers" and locate Fibre Channel HSC Tachlite adapter (A6684A or A6685A).For HP-UX 11i, the driver is under "hp tachyon tl fibre channel adapter" which enables support for A6684A/A6685A/A5158A.
51. Supports: K260/360/460 and K370/380/570/580 for HP-UX 11.0 and 11i only.Boot support currently not available.
52. HP-UX 10.20 minimum driver revision B.10.20.01. HP-UX 11.0 minimum driver revision B.11.00.06. HP-UX 11i minimum driver revision B.11.11.06.
53. HP-UX 10.20 required patches (patches may be superceded or have co-dependencies as defined by HP): PHKL_16751, PHKL_17590, PHSS_23581. Note: These patches must be installed before installing the driver, available at http://us-support2.external.hp.com. HSC Tachlite driver available at http://www.software.hp.com, under drivers and locate Fibre Channel HSC Tachlite adapter (A6684A or A6685A). Installation instructions available at: http://www.software.hp.com/cgi-bin/swdepot_parser.cgi/cgi/displayProductInfo.pl?productNumber=A6685A&oper=install.
54. Dx90, Rx90 servers support a maximum of 2 A6684A HBAs. The first must be installed in the turbo slot 10/12 and the second in any HSC slot.
55. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC Symmetrix devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set. No additional patches are required for this option in HP-UX 11.0, HP-UX 11.11 and forward, however in HP-UX 10.x the "N" flag option was introduced with the following patches are required to be installed or patches which supercede or replace these in order to configured the logical volumes residing on Symmetrix devices in this manner. For all HP/UX 10.xx versions install the following Bad Block Reallocation Patch Pair: 10.01: PHKL_11294, PHKL_11890, PHCO_11288 (patches may be superseded or have co-dependencies as defined by HP). 10.10: PHKL_11816, PHCO_11817 (patches may be superseded or have co-dependencies as defined by HP). 10.20: PHKL_11086, PHKL_11903, PHCO_10964 (patches may be superseded or have co-dependencies as defined by HP).
56. Dx90, Rx90 require minimum PDC firmware 41.35 or higher.
57. **HP-UX 11.0 minimum driver revision B.11.00.06. HP-UX 11i minimum driver revision B.11.11.06.**
58. **Symm 6 is qualified with: HP-UX 11.00 Support Plus Sept '02 bundle = QPK1100 Sept '02 & HWE1100 Sept '02**
59. **Requires minimum PDC firmware 41.34 or higher**
60. The A6685A is not supported in slots 10/0 and 10/8 of the K570 and K580. In the K570 and K580, there are restrictions for the number of A6685A HBA cards supported when graphics cards are installed.
61. Symmetrix microcode supported:5266.40.28 or higher, 5566.41.28 or higher, 5267.27.19 or higher, 5567.34.19 or higher
62. Virtual Partitions (VPAR) is supported on the N-class/rp7400 server with 4.x and 5.x Symmetrix models. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later
63. rp7400 requires minimum PDC firmware 41.36 or higher
64. rp8400 requires minimum PDC firmware 13.10 or higher.
65. Requires minimum PDC firmware for N-class 40.25 or higher. The rp7400 (PA-8700) requires minimum PDC firmware 41.36 or higher
66. HP-UX required patches. HP-UX 11.0 ACE, PHKL_23939, HP-UX 11i : PHKL_23626
67. rp7400 A5158A requires: HP-UX 11i minimum driver version B11.11.06 or higher. HP-UX 11.0 minimum driver version B11.00.06 or higher. rp8400 A5158A requires: HP-UX 11i minimum driver version B11.11.06 or higher
68. A device may not be shared on both NIO(HP-PB) and HSC buses from the same server(e.g., A2969A with 28696A on K-class.or A3644A with 28696A on T600)
69. Requires minimum firmware revision 104
70. Non-HA, single initiator only. Symmetrix microcode supported: 5266.41.29s or higher, 5566.42.29s or higher, 5267.29.20a or higher, 5567.36.20a or higher
71. rx4610 A5158A requires: HP-UX 11i Version 1.5 (11.20) minimum driver version B11.20.04 or higher
72. A4800A and A5159A HBAs are both capable of Ultra 1 speeds, but ship from HP with a default setting of FWD. Symmetrix is supported at Ultra 1 speeds with both these HBAs. Ultra 1 can be enabled in the V-Class, N-Class, and L-Class. A-Class and Superdome PDC firmware. V-Class supports the A4800A Only
73. **rp5405, rp5430, rp5470, rp7400: (PA-8700 processors): Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001.**
74. **Symmetrix microcode supported:5566.41.28 or higher, 5567.34.19 or higher.**
75. **The A6795A HBA is capable of supporting both 1 and 2 Gb speeds.**
76. **Minimum driver revision for HP-UX 11i v1.0 (HP-UX 11.11) is PCI/HSC Fibre Channel Driver B.11.11.09.**
77. Auto-sensing capability on the HBA is permanently enabled. There is no option to disable auto-sensing on the HBA
78. PDC firmware 15.05 or higher. Arbitrated Loop (direct attach) or FC-SW
79. HP-UX driver requirements: HP-UX 11.0 A6795A HP PCI Tachyon TL/XL2 Fibre Channel driver B.11.00.10 or later release which supports this HBA. HP-UX 11i A6684A/A6685A/A5158A/A6795A HP Tachyon TL/XL2 Fibre Channel driver B.11.11.09 or later release which supports this HBA
80. The A6795A HBA is capable of supporting both 1 and 2 Gb speeds. QuickLoop is not supported with Brocade 3200/3800/12000 or EMC DS-16B2, ED-12000B
81. L-Class requires minimum PDC firmware 40.26 or higher
82. PDC firmware 42.06 or higher. Arbitrated Loop (direct attach) or FC-SW
83. **rp5430/5470 required minimum PDC firmware 41.46 or higher.**
84. PDC firmware 41.39 or higher. Arbitrated Loop (direct attach) or FC-SW

85. PDC firmware 41.46 or higher; Arbitrated Loop (direct attach) or FC-SW
86. A500/550 requires minimum PDC 40.32 or higher.
87. PDC firmware 42.09 or higher; Arbitrated Loop (direct attach) or FC-SW
88. Requires minimum PDC firmware 15.005
89. **Virtual Partitions (VPAR) is supported on the rp7405/7410 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.**
90. **rp7410 requires minimum PDC firmware 16.009 or higher.**
91. **Virtual Partitions (VPAR) is supported on the rp7405/7410 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 16.009 or later.**
92. **For rp7405 and rp7410 required minimum PDC firmware is 15.005**
93. Requires minimum PDC firmware 42.03 or higher.
94. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
95. The driver is available at http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
96. Virtual Partitions (VPAR) is supported on the rp7405 server with 4.x and 5.x Symmetrix models. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.
97. Symmetrix microcode version:
    5266.33.23 or higher,
    5566.35.23 or higher,
    5267.22.15 or higher,
    5567.29.15 or higher.
98. FC-AL, FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
99. **Virtual Partitions (VPAR) is supported on the rp8400 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 16.009 or later.**
100. **Virtual Partitions (VPAR) is supported on the rp8400 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.**
101. **Virtual Partitions (VPAR) is supported on the N-class/rp7400 server with 4.x and 5.x Symmetrix models and DMX series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later.**
102. Requires HP-UX 11.0 General Release patch bundle XSWGR1100 B.11.00.47.05 released November 1999 or equivalent.
103. Virtual Partitions (VPAR) is supported on the N-class/rp7400 server.
    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later. Powerpath support on Virtual Partitions has to be RPQed at this time.
104. HP-UX required patches: PHKL_23626
105. Initial Symmetrix microcode support. 5x67 minimum of 5567.38 or 5267.31.
106. Initial Symmetrix microcode support: 5568 minimum of 5568.34.14.
107. HP-UX 11i . A6684A/A6685A/A5158A/A6795A HP Tachyon TL/XL2 Fibre Channel driver B.11.11.09 or later release which supports this HBA.
108. Minimum driver version for SNIA HBA API support with HP-UX 11.11 is B.11.11.09.
109. **Requires minimum PDC firmware for N-class 40.25 or higher. The rp7400 (PA-8700) requires minimum PDC firmware 41.46 or higher.**
110. **Virtual Partitions (VPAR) is supported on the rp8400 server with the Clariion CX600 and FC4700.**
    FC-AL only support, Requires PDC 16.009 or later.

    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later.
111. **Virtual Partitions (VPAR) is supported on the rp8400 server with the Clariion CX600 and FC4700.**
    FC-AL only support, Requires PDC 16.009 or later.

    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or

NEC

NEC – HPQ HP-UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	NX7000: 220, 260, 420, 460, K370, K380, K570, K580; TX7: K370, K380	HSC	HPQ HP-UX 11.0[1]	HPQ A3404A	FC-AL	N	
2	NX7000 T600	HSC	HPQ HP-UX 11.0[1]	HPQ A3636A	FC-AL	N	
3	NX7000: 22, 23, 27, 32, 33, 37 D280, D380, D390; TX7: D280, D390	HSC	HPQ HP-UX 11.0[1]	HPQ: A3591A, A3591B[2]	FC-AL	N	
4	NX7000 rp5430, TX7 rp5430	PCI	HPQ HP-UX 11.0 ACE[1]	HPQ A3740A	FC-AL	N	See[32]
5	NX7000 rp5470 (L3000); TX7 rp5470 (L3000)	PCI	HPQ HP-UX 11.0 ACE[1]	HPQ A3740A	FC-AL	N	
6	NX7000: V2250, V2500[3], TX7: V2250, V2500	PCI	HPQ HP-UX 11.0[1]	HPQ A3740A	FC-AL	N	
7	NX7000: V2600[10, 16], rp5400 (L1000), rp5450 (L2000); TX7: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX: 11.0[1], 11.0 ACE[1]	HPQ A3740A	FC-AL	N	
8	NX7000 V2600[10, 16]	PCI	HPQ HP-UX 11.0: 990P[1], ACE[1]; HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ A5158A[8, 17, 18, 19]	FC-AL, FC-SW	N	
9	NX7000 rp5430	PCI	HPQ HP-UX 11.0[1]	HPQ: A5158A, A6795A	FC-AL FC-SW	N	
10	NX7000 Superdome TX7 Superdome	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[1, 11]	HPQ A5158A[8, 19]	FC-AL, FC-SW	N	See[22]
11	NX7000 rp8400	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[1, 7]	HPQ A5158A[8]	FC-AL, FC-SW	N	See[6]
12	NX7000 Superdome TX7 Superdome	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1]	HPQ: A5158A, A6795A	FC-AL FC-SW	N	
13	NX7000 rp5430 TX7 rp5430	PCI	HPQ HP-UX: 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ A5158A[19, 29, 30]	FC-AL, FC-SW	N	See[32]
14	NX7000 rp5470 (L3000)	PCI	HPQ HP-UX: 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ A5158A[8, 17, 18, 19]	FC-AL, FC-SW	N	
15	NX7000 rp2450 (A550)	PCI	HPQ HP-UX: 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ A6795A[8, 23, 24, 25, 26]	FC-AL FC-SW	N	See[21]
16	NX7000 rp2400 (A400), rp2450 (A500)	PCI	HPQ HP-UX: 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ A5158A[8, 17, 18, 19] A6795A[8, 23, 24, 25, 26]	FC-AL FC-SW	N	See[21]
17	NX7000 rp5430, rp5470 (L3000) TX7 rp5430	PCI	HPQ HP-UX: 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11, 15]	HPQ A6795A[8, 23, 24, 25, 26, 33]	FC-AL FC-SW	N	
18	TX7 rp5470 (L3000)	PCI	HPQ HP-UX: 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11, 15]	HPQ A5158A[8, 17, 18, 19] A6795A[8, 23, 24, 25, 26, 33]	FC-AL, FC-SW	N	

NEC – HPQ HP-UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
19	NX7000 rp7410	PCI	HPQ HP-UX: 11.0 March 2002[1], 11i v1.0 (HP-UX 11.11) March 2002[1]	HPQ: A5158A[19, 29, 30], A6795A[8, 23, 24, 25, 26]	FC-AL, FC-SW	N	See[31]
20	NX7000: rp2430, rp2470	PCI	HPQ HP-UX: 11.0 March 2002[1], 11i v1.0 (HP-UX 11.11) March 2002[1]	HPQ: A5158A[19, 29, 30], A6795A[8, 23, 24, 25, 26]	FC-AL, FC-SW	N	See[28]
21	TX7 rp7400	PCI	HPQ HP-UX: 11.0 Sept 2001[1, 7, 15], 11i v1.0 (HP-UX 11.11) Sept 2001[1, 7, 15]	HPQ A5158A[8]	FC-AL, FC-SW	N	See[14]
22	NX7000 rp7400	PCI	HPQ HP-UX: 11.0 Sept 2001[1, 7], 11i v1.0 (HP-UX 11.11) Sept 2001[1, 7]	HPQ A5158A[8]	FC-AL, FC-SW	N	See[14]
23	NX7000 rp8400	PCI	HPQ HP-UX: 11.0 Sept 2001[1, 7], 11i v1.0 (HP-UX 11.11) Sept 2001[1, 7]	HPQ A6795A[8, 23, 24, 25, 26, 33]	FC-AL, FC-SW	N	
24	NX7000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX: 11.0[1], 11.0 990P[1], 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ A5158A[8, 17, 18, 19]	FC-AL, FC-SW	N	See[20]
25	NX7000: rp5400 (L1000), rp5450 (L2000); TX7: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX: 11.0[1], 11.0 990P[1], 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ A6795A[8, 23, 24, 25, 26]	FC-AL, FC-SW	N	See[27]
26	TX7: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX: 11.0[1], 11.0 990P[1], 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11, 15]	HPQ A5158A[8, 17, 18, 19]	FC-AL, FC-SW	N	See[20]
27	NX7000 T600	HSC	HPQ HP-UX 11.0[1]	HPQ A3644A	FWD	N	
28	NX7000: 22, 23, 27, 32, 33, 37, D280, D380, D390; TX7: D280, D390	HSC	HPQ HP-UX 11.0[1]	HPQ A4107A	FWD	N	
29	NX7000 Superdome; TX7 Superdome	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[1, 11]	HPQ A5149A[12]	U2 LVD	N	
30	NX7000 rp7410	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[1]	HPQ: A5149A[12], A5150A[12], A5838A[12]	U2 LVD	N	
31	NX7000 rp8400	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[1, 7]	HPQ A5149A[12]	U2 LVD	N	See[6]
32	NX7000: rp2400 (A400), rp2450 (A500)	PCI	HPQ HP-UX: 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ A5838A[12]	U2 LVD	N	
33	NX7000: rp2400 (A400), rp2450 (A500)	PCI	HPQ HP-UX: 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ: A5149A[12], A5150A[12]	U2 LVD	N	See[13]
34	NX7000: rp2430, rp2470	PCI	HPQ HP-UX: 11.0 March 2002[1], 11i v1.0 (HP-UX 11.11) March 2002[1]	HPQ A5149A[12]	U2 LVD	N	
35	TX7 rp7400	PCI	HPQ HP-UX: 11.0 Sept 2001[1, 7, 15], 11i v1.0 (HP-UX 11.11) Sept 2001[1, 7, 15]	HPQ: A5149A[12], A5150A[12], A5838A[12]	U2 LVD	N	See[14]
36	NX7000 rp7400	PCI	HPQ HP-UX: 11.0 Sept 2001[1, 7], 11i v1.0 (HP-UX 11.11) Sept 2001[1, 7]	HPQ: A5149A[12], A5150A[12], A5838A[12]	U2 LVD	N	See[14]
37	NX7000 V2600[10]	PCI	HPQ HP-UX: 11.0[1], 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ A5149A[12]	U2 LVD	N	See[9]
38	NX7000: rp5400 (L1000), rp5450 (L2000); TX7: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11.0: 990P[1], ACE[1]; HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ A4800A[5]	UWD	N	See[13]
39	NX7000: rp5400 (L1000), rp5450 (L2000); TX7: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11.0: 990P[1], ACE[1]; HPQ HP-UX 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ A5159A[5]	UWD	N	
40	NX7000: V2250, V2500[3]; TX7: V2250, V2500	PCI	HPQ HP-UX 11.0[1]	HPQ A4800A[5]	UWD	N	See[4]
41	NX7000 Superdome; TX7 Superdome	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[1, 11]	HPQ: A4800A[5], A5159A[5]	UWD	N	
42	NX7000 rp7410	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[1]	HPQ: A4800A[5], A5159A[5]	UWD	N	
43	NX7000 rp8400	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[1, 7]	HPQ: A4800A[5], A5159A[5]	UWD	N	See[6]
44	NX7000: rp2400 (A400), rp2450 (A500), rp5470 (L3000); TX7 rp5470 (L3000)	PCI	HPQ HP-UX: 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ: A4800A[5], A5159A[5]	UWD	N	See[13]
45	NX7000: rp2430, rp2470	PCI	HPQ HP-UX: 11.0 March 2002[1], 11i v1.0 (HP-UX 11.11) March 2002[1]	HPQ: A4800A[5], A5159A[5]	UWD	N	
46	TX7 rp7400	PCI	HPQ HP-UX: 11.0 Sept 2001[1, 7, 15], 11i v1.0 (HP-UX 11.11) Sept 2001[1, 7, 15]	HPQ: A4800A[5], A5159A[5]	UWD	N	See[14]
47	NX7000 rp7400	PCI	HPQ HP-UX: 11.0 Sept 2001[1, 7], 11i v1.0 (HP-UX 11.11) Sept 2001[1, 7]	HPQ: A4800A[5], A5159A[5]	UWD	N	See[14]
48	NX7000 V2600[10]	PCI	HPQ HP-UX: 11.0[1], 11.0 ACE[1], 11i v1.0 (HP-UX 11.11)[1, 11]	HPQ A4800A[5]	UWD	N	See[9]

1 For HP-UX systems only LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.

2 Qualified and supported by HP

3 Minimum OS revision is HP-UX 11.0 Rev 9812

4 Adapter is Ultra-capable, but disabled by HP; HP 'Commercial Server' will negotiate bus as FWD; HP 'Technical Server' will negotiate bus as UWD

5. A4800A and A5159A HBAs are both capable of Ultra 1 speeds, but ship from HP with a default setting of FWD. Symmetrix is supported at Ultra 1 speeds with both these HBAs. Ultra 1 can be enabled in the V-Class, N-Class, and L-Class, A-Class and Superdome PDC firmware. V-Class supports the A4800A Only.

HP e3000 MPE SYSTEMS – The above note applies but only includes the A-Class and N-Class Servers. The HP e3000 A-Class does not support the dual port HBA A5159A.

6 rp8400 requires minimum PDC firmware 13.10 or higher

7 Symmetrix microcode supported 5266.40.28 or higher, 5566.41.28 or higher, 5267.27.19 or higher, 5567.34.19 or higher

8. Minimum driver version for SNIA HBA API support with HP-UX 11.0 is B.11.00.10. Minimum driver version for SNIA HBA API support with HP-UX 11.11 is B.11.11.09

9. A4800A and A5159A HBAs are both capable of Ultra 1 speeds, but ship from HP with a default setting of FWD. Symmetrix is supported at Ultra 1 speeds with both these HBAs. Ultra 1 can be enabled in the V-Class, N-Class, and L-Class, A-Class and Superdome PDC firmware. V-Class supports the A4800A Only.

10 Minimum OS revision is HP-UX 11.0 990P

11 Symmetrix microcode version 5266.33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher

12 Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L)

13 The cables are the same as the Cxx mini 68S ("VHDCI" 8mm to SCSI3). Cables require termination at host end for N-Class, L-Class, A-Class and Superdome. Can be terminated on cable or on HBA, but not both.

14 rp7400 requires minimum PDC firmware 41.36 or higher

15 rp5405, rp5430, rp5470, rp7400 (PA-8700 processors): Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001. Symmetrix microcode supported: 5266.40.29 or higher, 5566.41.28 or higher, 5267.27.19 or higher, 5567.34.19 or higher

16 Arbitrated loop boot with PDC rev TSSW.3.1 or higher. Fabric boot with PDC rev TSSW.3.2 or higher

17 HP-UX 11.0 switched fabric support is enabled with: fabric device driver version B.11.00.03 and higher, minimum operating system level HP/UX 11.0 990P with March 2002 HW-CR bundle and dependency patch PHKL_21381 patches may be superceded or have co-dependencies as defined by HP. Symmetrix microcode versions: 5265.49.31, 5565.50.22 or latest Symmetrix microcode versions.

18. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
19. HP A5158A FC-SW software requirement: FC-AL and FC-SW requires the HP A5158A Tachlite PCI Fibre Channel Adapter. Type A5158A FC-SW software fabric driver version "AP0301", for HP-UX 11i is now available for download from HP's software depot site, http://www.software.hp.com under "drivers". It is referred to as the "hp pci tachyon tl fibre channel adapter", and requires the installation of dependent patch PHKL_22874 prior to installing the fabric driver, patches may be superceded or have co-dependencies as defined by HP.
20. Requires PDC firmware N-Class 40.25,L-Class 40.26.
21. Requires PDC firmware 40.32 or higher.
22. Requires PDC firmware 7.3, 10.0 or higher.
23. The A6795A HBA is capable of supporting both 1 and 2 Gb speeds. QuickLoop is not supported with Brocade 3200/3800/12000 or EMC DS-16B2. ED-12000B.
24. Initial Symmetrix microcode support: 5x67 minimum of 5567.38 or 5267.31 .
    Initial Symmetrix microcode support: 5568 minimum of 5568.34.14 .
25. HP-UX required patches. HP-UX 11.0 ACE: PHKL_23939, HP-UX 11i : PHKL_23626
26. HP-UX driver requirements: HP-UX 11.0 : A6795A HP PCI Tachyon TL/XL2 Fibre Channel driver B.11.00.10 or later release which supports this HBA. HP-UX 11i : A6684A/A6685A/A5158A/A6795A HP Tachyon TL/XL2 Fibre Channel driver B.11.11.09 or later release which supports this HBA.
27. Requires PDC firmware 40.26 or higher.
28. Requires minimum PDC firmware 42.03 or higher
29. HP-UX 11.0 switched fabric support is enabled with: fabnc device driver version B.11.00.03 and higher; minimum operating system level HP/ UX 11.0 990P with March 2000 HW-CR bundle. Refer to Base Connectivity table for additional information.
30. FC-AL and FC-SW topologies can co-exist on the same server but not on the same HBA, provided that the different topologies are attached to different HBAs
31. Requires minimum PDC firmware 15.005 or higher.
32. Requires minimum PDC firmware 40.26 or higher.
33. Auto-sensing capability on the HBA is permanently enabled. There is no option to disable auto-sensing on the HBA.

HPQ MPE/ix
HPQ

HPQ – HPQ MPE/ix							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	e3000 900 Series[5]	HP-PB	HPQ MPE/ix 7.5[11, 12, 13, 14]	HPQ 28696A	FWD	Y[2]	See[1]
2	e3000 900 Series[5]	HP-PB	HPQ MPE/ix: 6.0[4], 6.5[4], 6.5.02[4, 6], 7.0.01[6, 8, 9]	HPQ 28696A[3]	FWD	Y[2]	See[1]
3	e3000 N-Class (N4000)	PCI	HPQ MPE/ix 7.0.01[6, 8, 9]	HPQ: A5149A[10], A5150A[10]	U2 LVD	Y[1, 2]	See[1]
4	e3000 N-Class (N4000)	PCI	HPQ MPE/ix 7.5[11, 12, 13, 14]	HPQ: A5149A[10], A5150A[10]	U2 LVD	Y[1, 2, 15]	
5	e3000 A-Class	PCI	HPQ MPE/ix: 7.0.01[6, 8, 9], 7.5[11, 12, 13, 14]	HPQ A5149A[10]	U2 LVD	Y[2]	See[1]
6	e3000 N-Class (N4000)	PCI	HPQ MPE/ix 7.0.01[6, 8, 9]	HPQ: A4800A[7], A5159A[7]	UWD	Y[1, 2]	See[1]
7	e3000 N-Class (N4000)	PCI	HPQ MPE/ix 7.5[11, 12, 13, 14]	HPQ: A4800A[7], A5159A[7]	UWD	Y[1, 2, 15]	
8	e3000 A-Class	PCI	HPQ MPE/ix: 7.0.01[6, 8, 9], 7.5[11, 12, 13, 14]	HPQ A4800A[7]	UWD	Y[2]	See[1]

1. HAFO is supported with 6.5.02+ and 7.0.01+, and 7.5 on 9xx Series, A-Class and N-Class.
2. RAID-1 ONLY Requires MPE_XL_SYSTEM_VOLUME_SET on a dedicated channel. Boot device maximum capacity is 4 GB.
3. HP 3000 Series 9x9 Core I/O card (A2372-60004 or A3453-60010 a.k.a Mustang) is supported for Symmetrix only if the 'dedicated SCSI bus' requirement above is met by disconnecting the internal devices attached to the Core I/O card (firmware patch FWSJXB6A required for this support.)
4. Symmetrix 8000 Series & 66/67 support: HP-UX 10.20,11.0,11.10, 11.0 ACE,11.i. MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01: Symmetrix 8000 Series 5568 support: HP-UX 10.20, 11.0, 11i. MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
5. The HP end-of-support for MPE/iX 5.0, 5.5 was 10/31/99 and 12/31/2000 respectively
6. MPE/iX 6.0, 6.5, 6.5.02 or 7.0, 7.0.01 require Symmetrix microcode: 5266.40.28 or higher, 5566.40.27 or higher, 5267.25.17 or higher, 5567.32.16 or higher, 5568.34.14 or higher.
7. A4800A and A5159A HBAs are both capable of Ultra 1 speeds, but ship from HP with a default setting of FWD. Symmetrix is supported at Ultra 1 speeds with both these HBAs. Ultra 1 can be enabled in the V-Class, N-Class, and L-Class, A-Class and Superdome PDC firmware. V-Class supports the A4800A Only.

HP e3000 MPE SYSTEMS – The above note applies but only includes the A-Class and N-Class Servers. The HP e3000 A-Class does not support the dual port HBA A5159A.

8. Symmetrix 8000 Series & 66/67 support: HP-UX 10.20,11.0,11.10, 11.0 ACE,11.i.
   Symmetrix 8000 Series 5568 support: HP-UX 10.20, 11.0, 11i.
   Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01:
   Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
9. Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01: Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
10. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L).
11. Requires Symmetrix microcode:
    5266.40.28 or higher
    5566.40.27 or higher
    5267.25 17 or higher
    5567.32 16 or higher
    5568.34 14 or higher
12. Symmetrix 8000 Series & 66/67 support:
    MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01, 7.5
    Symmetrix 8000 Series 5568 support:
    MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01, 7.5
13. LDEV1, the boot volume, has no size limit in MPEi/X 7.5. The 4GB limit that existed in previous releases has been eliminated.
14. Symmetrix 8000 Series & 66/67 support.HP-UX 10.20, 11.0, 11.0 ACE, 11i.
    Symmetrix 8000 Series 5568 support: HP-UX 10 20, 11.0, 11i
    Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
    Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
    LDEV1, the boot volume, has no size limit in MPE i/X. The 4GB limit that existed in previous releases has been eliminated.

HPQ Open VMS
HPQ

HPQ – HPQ Open VMS							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AlphaServer 1200, 4000, 4100 GS140, GS60	PCI	HPQ Open VMS V7.2-1H1[5, 6, 7]	HPQ KGPSA-BC (380574-001)[21, 22, 23]	FC-SW	Y[2]	See[11]
2	AlphaServer DS25[8]	PCI	HPQ Open VMS V7 3-1[6, 18]	HPQ: FCA2354 (LP9002)[12], **FCA2384 (LP9802)[24]**, KGPSA-CA (168794-B21)[12], KGPSA-DA (261329-B21)[12], **KGPSA-EA[24, 25]**	FC-SW	Y[2]	See[11]
3	AlphaServer 8200[8] 8400[8], GS140[8], GS60[8]	PCI	HPQ Open VMS: V7.2-1[6, 7] V7 2-1H1[5, 6, 7], V7 2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ KGPSA-CA (168794-B21)[12]	FC-SW	Y[2]	See[11]
4	AlphaServer DS10[8] DS10L, DS20[8], DS20E, ES40[8]	PCI	HPQ Open VMS: V7.2-1[6, 7] V7.2-1H1[5, 6, 7], V7.2-2[6, 13, 14], V7 3[6, 16, 17], V7 3-1[6, 18]	HPQ KGPSA-BC (380574-001)[15], KGPSA-CA (168794-B21)[12]	FC-SW	Y[2]	See[11]
5	AlphaServer 8200[8] 8400[8]	PCI	HPQ Open VMS: V7 2-1[6, 7] V7.2-1H1[5, 7] V7.2-2[6, 13, 14] V7 3[6, 16, 17] V7 3-1[6, 18]	HPQ KGPSA-BC (380574-001)[15]	FC-SW	Y[2]	See[11]
6	AlphaServer GS140[8], GS60[8]	PCI	HPQ Open VMS: V7 2-1[6, 7] V7.2-2[6, 13, 14] V7 3[6, 16, 17] V7 3-1[6, 18]	HPQ KGPSA-BC (380574-001)[15]	FC-SW	Y[2]	See[11]
7	AlphaServer 1200[8] 4000[8] 4100[8]	PCI	HPQ Open VMS: V7 2-1[6, 7] V7.2-2[6, 13, 14] V7 3[6, 16, 17] V7 3-1[6, 18]	HPQ: KGPSA-BC (380574-001)[15], KGPSA-CA (168794-B21)[12]	FC-SW	Y[2]	See[11]
8	AlphaServer GS160[8]	PCI	HPQ Open VMS: V7 2-1H1[5, 6, 7] V7 2-2[6, 13, 14] V7 3-1[6, 18]	HPQ KGPSA-CA (168794-B21)[12]	FC-SW	Y[2]	See[11]
9	AlphaServer GS320[8] GS80[8]	PCI	HPQ Open VMS: V7.2-1H1[5, 6, 7] V7.2-2[6, 13, 14] V7 3[6, 16, 17] V7 3-1[6, 18]	HPQ KGPSA-CA (168794-B21)[12]	FC-SW	Y[2]	See[11]

HPQ – HPQ Open VMS							
No.	**Host System**	**Host Bus**	**Operating System**	**Host Bus Adapter**	**Adapter Type**	**External Boot**	**Comments**
10	AlphaServer GS80[8]	PCI	HPQ Open VMS: V7.2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ: FCA2354 (LP9002)[12], **FCA2384 (LP9802)**, KGPSA-DA (261329-B21)[12], **KGPSA-EA**	FC-SW	N	See[11]
11	AlphaServer: ES40[8], GS160[8], GS320[8]	PCI	HPQ Open VMS: V7.2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ: FCA2354 (LP9002)[12], **FCA2384 (LP9802)**, KGPSA-DA (261329-B21)[12], **KGPSA-EA**	FC-SW	Y[2]	See[11]
12	AlphaServer: 8200[8], 8400[8], DS10[8], DS10L, DS20[8], DS20E, GS140[8], GS60[8]	PCI	HPQ Open VMS: V7.2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ: FCA2354 (LP9002)[12], KGPSA-DA (261329-B21)[12]	FC-SW	Y[2]	See[11]
13	AlphaServer ES45[8]	PCI	HPQ Open VMS: V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ: FCA2354 (LP9002)[12], **FCA2384 (LP9802)[24]**, KGPSA-CA (168794-B21)[12], KGPSA-DA (261329-B21)[12], **KGPSA-EA[24, 25]**	FC-SW	Y[2]	See[11]
14	**AlphaServer ES45[8]**	**PCI**	**HPQ Open VMS V7.3[6, 16, 17] V7.3-1[6, 18]**	**HPQ: FCA2384 (LP9802)[24], KGPSA-EA[24, 25]**	**FC-SW**	**Y[2]**	**See[1]**
15	AlphaServer GS1280	PCI-X	HPQ Open VMS V7.3-1[6, 18]	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)[24]**, KGPSA-DA (261329-B21)[12], **KGPSA-EA[24, 25]**	FC-SW	Y[2]	See[11]
16	AlphaServer ES80	PCI-X	HPQ Open VMS V7.3-1[6, 18]	HPQ: FCA2354 (LP9002)[19, 20], **FCA2384 (LP9802)[24]**, KGPSA-DA (261329-B21), **KGPSA-EA[24, 25]**	FC-SW	Y[2]	See[11]
17	AlphaServer ES47	PCI PCI-X	HPQ Open VMS V7.3-1[6, 18]	HPQ: FCA2354 (LP9002)[19, 20], **FCA2384 (LP9802)[24]**, KGPSA-DA (261329-B21), **KGPSA-EA[24, 25]**	FC-SW	Y[2]	See[11]
18	AlphaServer: 1200, 4000, 4100	PCI	HPQ Open VMS V7.2-1H1[5, 6, 7]	HPQ KGPSA-CA (168794-B21)	FC-SW[12]	Y[2]	See[11]
19	AlphaServer GS160[8]	PCI	HPQ Open VMS V7.3[6, 16, 17]	HPQ KGPSA-CA (168794-B21)	FC-SW[12]	Y[2]	See[11]
20	AlphaServer: 1200[8], 4000[8], 4100[8], GS140[8]	PCI	HPQ Open VMS: V7.1-2[6, 9], V7.2-1[6, 7], V7.2-1H1[5, 6, 7]	HPQ KZPSA-BB[3, 4]	FWD	Y[2]	See[1]
21	AlphaServer: 8200[8], 8400[8], GS60[8]	PCI	HPQ Open VMS: V7.1-2[6, 9], V7.2-1[6, 7], V7.2-1H1[5, 6, 7], V7.2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ KZPSA-BB[3, 4]	FWD	Y[2]	See[1]
22	AlphaServer: 1200[8], 4000[8], 4100[8]	PCI	HPQ Open VMS: V7.2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ KZPSA-BB[3, 4]	FWD	Y[2]	See[11]
23	AlphaServer GS140[8]	PCI	HPQ Open VMS: V7.2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ KZPSA-BB[4]	FWD	N	See[1]
24	AlphaServer: 1200[8], 4000[8], 4100[8]	PCI	HPQ Open VMS: V7.1-2[6, 9], V7.2-1[6, 7], V7.2-1H1[5, 6, 7]	HPQ: 4A-KZPBA-CY[10], KZPBA-CB[10], KZPBA-CY[10]	UWD	Y[2]	See[1]
25	AlphaServer: 8200[8], 8400[8], GS140[8], GS60[8]	PCI	HPQ Open VMS: V7.1-2[6, 9], V7.2-1[6, 7], V7.2-1H1[5, 6, 7]	HPQ: 4A-KZPBA-CY[10], KZPBA-CY[10]	UWD	Y[2]	See[1]
26	AlphaServer: 8200[8], 8400[8], GS140[8], GS60[8]	PCI	HPQ Open VMS: V7.1-2[6, 9], V7.2-1[6, 7], V7.2-1H1[5, 6, 7], V7.2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ KZPBA-CB[10]	UWD	Y[2]	See[1]
27	AlphaServer: DS10[8], DS20[8], ES40[8]	PCI	HPQ Open VMS: V7.1-2[6, 9], V7.2-1[6, 7], V7.2-1H1[5, 6, 7], V7.2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ: 4A-KZPBA-CY[10], KZPBA-CB[10], KZPBA-CY[10]	UWD	Y[2]	See[1]
28	AlphaServer: DS10L, DS20E	PCI	HPQ Open VMS: V7.1-2[6, 9], V7.2-1[6, 7], V7.2-1H1[5, 6, 7], V7.2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ: KZPBA-CB[10], KZPBA-CY[10]	UWD	Y[2]	See[1]
29	AlphaServer: GS160[8], GS320[8], GS80[8]	PCI	HPQ Open VMS: V7.2-1H1[5, 6, 7], V7.2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ: 4A-KZPBA-CY, KZPBA-CB[10], KZPBA-CY	UWD	Y[2]	See[1]
30	AlphaServer: 1200[8], 4000[8], 4100[8]	PCI	HPQ Open VMS: V7.2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ: 4A-KZPBA-CY, KZPBA-CB, KZPBA-CY	UWD	Y[2]	See[11]
31	AlphaServer: 8200[8], 8400[8], GS140[8], GS60[8]	PCI	HPQ Open VMS: V7.2-2[6, 13, 14], V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ: 4A-KZPBA-CY, KZPBA-CY	UWD	Y[2]	See[1]
32	AlphaServer ES45[8]	PCI	HPQ Open VMS: V7.3[6, 16, 17], V7.3-1[6, 18]	HPQ: 4A-KZPBA-CY[10], KZPBA-CB[10], KZPBA-CY[10]	UWD	Y[2]	See[1]

1. Apply latest revision of SCSI patches
2. Refer to Base Connectivity, Clustered Host HPQ sections for connectivity details.
3. KZPSA-BB: Latest/Minimum firmware revision is A12
4. KZPSA-BB (FWD) has been discontinued by HPQ (Compaq).
5. Latest SCSI patch qualified: VMS721H1 FIBRE SCSI-V0500
6. Symmetrix 8000 Series: 66/67 support: Tru64 4.0F, 4.0G, 5.0A, 5.1, 5.1A, 5.1B; Open VMS 7.1.7.2-1H1, 7.3, 7.3-1. 5568 support: Tru64 4.0F, 4.0G, 5.1, 5.1A, 5.1B; Open VMS 7.2-2, 7.3, 7.3-1
7. OpenVMS 7.2-1, 7.2-1H1 FC-SW requires console firmware 5.6 or later and patch VMS721_fibre_SCSI-V0400. Available from http://ftp1.support.compaq.com/public/
8. Latest qualified Alpha Systems firmware is V6.4.
9. Open VMS 7.1-2 requires console firmware 5.6 or later and patch VMS712_SCSI-V0300.
10. KZPBA-CB: Latest/Minimum firmware revision is 5.57.
11. Requires Fibre Channel switch. Refer to Fibre Channel Connectivity – HPQ sections for connectivity details.
12. KGPSA-CA, KGPSA-DA. Latest/Minimum firmware revision 3.82a1.
13. Latest SCSI patch qualified. VMS722 FIBRE SCSI-V0400
14. Open VMS 7.2-2 FC-SW requires console firmware 5.6 or later and patch VMS722 fibre SCSI-V0100
15. KGPSA-BC Latest/Minimum firmware revision is 3.20x7
16. Latest SCSI patch qualified VMS73 FIBRE SCSI-V0500
17. Open VMS 7.3 FC-SW requires console firmware 5.6 or later and patch VMS73 update-V0100 or patch VMS73 fibre SCSI-V0200.
18. Latest SCSI patch qualified: VMS731 FIBRE SCSI-V0300
19. KGPSA-CA/KGPSA-DA(FCA2354): Minimum firmware revision 3.81A4
20. KGPSA-CA/KGPSA-DA(FCA2354): Latest firmware revision 3.82A1
21. KGPSA-BC. Latest firmware revision 3.20X7
22. The KGPSA-BC login to switch may fail if the Brocade switch port speed is set to auto-negotiate. Set the port speed to 1 Gb
23. KGPSA-BC Minimum firmware revision 3.03A1
24. **KGPSA-EA(FCA2384): Latest qualified firmware revision 1-00X6.**
25. **KGPEA-EA(FCA2384): Latest qualified firmware revision 1-00X6.**

HPQ Tru64 UNIX
HPQ

HPQ – HPQ Tru64 UNIX							
No.	**Host System**	**Host Bus**	**Operating System**	**Host Bus Adapter**	**Adapter Type**	**External Boot**	**Comments**
1	AlphaServer GS1[illegible][7] GS[illegible][7] GS[illegible][7]	PCI	HPQ Tru64 UNIX V4.0G[3, 5, 8]	HPQ KGPSA-CA (168794-B21)[12]	FC-SW	N	See[11]
2	**AlphaServer: DS10, DS10L, DS20, DS20E, ES40, GS160[7], GS320[7], GS80[7]**	PCI	**HPQ Tru64 UNIX V5.1[3, 15, 16]**	**HPQ: FCA2354 (LP9002)[12], KGPSA-DA (261329-B21)[12]**	FC-SW	N	See[11]
3	AlphaServer: SC20[19], SC40[19], SC45[19]	PCI	HPQ Tru64 UNIX V5.1A[14, 16, 18]	HPQ KGPSA-CA (168794-B21)[12]	FC-SW	Y[2]	See[11]

HPQ – HPQ Tru64 UNIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
4	**AlphaServer: ES47, ES80, GS1280**	**PCI**	**HPQ Tru64 UNIX V5.1B[16, 20, 21]**	**HPQ FCA2384 (LP9802)[22, 23]**	**FC-SW**	**Y**	**See[11]**
5	**AlphaServer: ES47, ES80, GS1280**	PCI	**HPQ Tru64 UNIX V5.1B[16, 20, 21]**	**HPQ: FCA2354 (LP9002)[12] KGPSA-DA (261329-B21)[12]**	FC-SW	**Y[2]**	**See[11]**
6	AlphaServer: 1200[7], 4000[7], 4100[7], 8200[7], 8400[7], DS10[7], DS10L, DS20[7], DS20E, ES40[7], GS140[7], GS60[7]	PCI	HPQ Tru64 UNIX: V4.0F[3, 4, 5], V4.0G[3, 5, 8]	HPQ: KGPSA-BC (380574-001)[13], KGPSA-CA (168794-B21)[12]	FC-SW	N	See[11]
7	AlphaServer: 1200[7], 4000[7], 4100[7], 8200[7], 8400[7], DS10[7], DS10L, DS20[7], DS20E, ES40[7], GS140[7], GS60[7]	PCI	HPQ Tru64 UNIX: V5.0A[3, 16], **V5.1[3, 15, 16]**, V5.1A[3, 14, 16], **V5.1B[16, 20]**	HPQ KGPSA-BC (380574-001)[13]	FC-SW	**Y[2, 17]**	See[11]
8	AlphaServer: 1200[7], 4000[7], 4100[7], 8200[7], 8400[7], DS10[7], DS10L, DS20[7], DS20E, ES40[7], GS140[7], GS60[7]	PCI	HPQ Tru64 UNIX: V5.0A[3, 16], **V5.1[3, 15, 16]**, V5.1A[3, 14, 16], **V5.1B[16, 20]**	HPQ KGPSA-CA (168794-B21)[12]	FC-SW	**Y[2]**	See[11]
9	AlphaServer: GS160[7], GS320[7], GS80[7]	PCI	HPQ Tru64 UNIX: **V5.1[3, 15, 16]**, V5.1A[3, 14, 16], **V5.1B[16, 20]**	HPQ KGPSA-CA (168794-B21)[12]	FC-SW	**Y[2]**	See[11]
10	**AlphaServer: DS10, DS20E, DS25, ES40, ES45[7], GS160[7], GS320[7], GS80[7]**	**PCI**	**HPQ Tru64 UNIX: V5.1A[3, 14, 16], V5.1B[16, 20]**	**HPQ FCA2384 (LP9802)[22, 23]**	**FC-SW**	**Y**	**See[11]**
11	AlphaServer DS20L	PCI	HPQ Tru64 UNIX: V5.1A[3, 14, 16], **V5.1B[16, 20]**	HPQ KGPSA-CA (168794-B21)[12]	FC-SW	**Y[2]**	See[11]
12	AlphaServer: DS25, ES45[7]	PCI	HPQ Tru64 UNIX: V5.1A[3, 14, 16], **V5.1B[16, 20]**	HPQ: FCA2354 (LP9002)[12] KGPSA-CA (168794-B21)[12], KGPSA-DA (261329-B21)[12]	FC-SW	**Y[2]**	See[11]
13	AlphaServer: DS10, DS10L, DS20, DS20E, ES40, GS160[7], GS320[7], GS80[7]	PCI	HPQ Tru64 UNIX: V5.1A[3, 14, 16], **V5.1B[16, 20]**	HPQ: FCA2354 (LP9002)[12] KGPSA-DA (261329-B21)[12]	FC-SW	**Y[2]**	See[11]
14	AlphaServer: 1200[7], 4000[7], 4100[7], 8200[7], 8400[7], GS140[7], GS60[7]	PCI	HPQ Tru64 UNIX: V4.0F[3, 4, 5], V4.0G[3, 5, 8], **V5.1[15]**, V5.1A[14]	HPQ KZPSA-BB[9, 10]	FWD	N	See[1]
15	AlphaServer: DS20L, ES45[7]	PCI	HPQ Tru64 UNIX V5.1A[3, 14]	HPQ: 4A-KZPBA-CY[6], KZPBA-CB[6], KZPBA-CY[6]	UWD	**Y[2]**	See[1]
16	**AlphaServer: 1200[7], 4000[7], 4100[7], 8200[7], 8400[7], DS10[7], DS10L, DS20[7], DS20E, DS20L, ES40[7], ES45[7], GS140[7], GS160[7], GS320[7], GS60[7], GS80[7]**	PCI	**HPQ Tru64 UNIX V5.1B[20]**	**HPQ: 4A-KZPBA-CY[6], KZPBA-CB[6], KZPBA-CY[6]**	UWD	**Y[2, 16]**	**See[1]**
17	AlphaServer: 1200[7], 4000[7], 4100[7], 8200[7], 8400[7], DS10[7], DS10L, DS20[7], DS20E, ES40[7], GS140[7], GS60[7]	PCI	HPQ Tru64 UNIX: V4.0F[3, 4, 5], V4.0G[3, 5, 8], V5.0A[3], **V5.1[3, 15]**, V5.1A[3, 14]	HPQ: 4A-KZPBA-CY[6], KZPBA-CB[6], KZPBA-CY[6]	UWD	**Y[2]**	See[1]
18	AlphaServer: GS160[7], GS320[7], GS80[7]	PCI	HPQ Tru64 UNIX: V4.0G[3, 5, 8], **V5.1[3, 15]**, V5.1A[3, 14]	HPQ: 4A-KZPBA-CY[6], KZPBA-CB[6], KZPBA-CY[6]	UWD	**Y[2]**	See[1]

1. Apply latest revision of SCSI patches.
2. Minimum AlphaServer SRM console firmware V6.0 required for boot device support.
3. Symmetrix 8000 Series: 66/67 support: Tru64 4.0F, 4.0G, 5.0A, 5.1, 5.1A, 5.1B; Open VMS 7.1,7.2-1H1, 7.3, 7.3-1. 5568 support: Tru64 4.0F, 4.0G, 5.1, 5.1A, 5.1B; Open VMS 7.2-2, 7.3, 7.3-1.
4. Tru64 V4.0F BL13 Patch Kit 2 may introduce problems with KZPBA adapters. Tru64 V4.0F latest qualified Patch Kit-0007 (DUV40FB18AS0007-20020102).
5. V4.0F, V4.0G: 8 LUNs/Symmetrix Fibre director port (LUNs 000-007 valid).
6. KZPBA-CB: Latest/Minimum firmware revision is 5.57.
7. Latest qualified Alpha Systems firmware is V6.4.
8. Tru64 V4.0G latest qualified patch kit-0003 (T64V40GAS0003-20010613).
9. KZPSA-BB [FWD] has been discontinued by HPQ (Compaq).
10. KZPSA-BB: Latest/Minimum firmware revision is A12.
11. Requires Fibre Channel switch. Refer to Fibre Channel Connectivity - HPQ sections for connectivity details.
12. KGPSA-CA, KGPSA-DA: Latest/Minimum firmware revision 3.82a1.
13. KGPSA-BC: Latest/Minimum firmware revision is 3.20x7.
14. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
15. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
16. V5.x: 255 LUNs/Symmetrix Fibre director port (LUNs 000-0FE valid) on Symmetrix 8000 Series, requires OVMS director bit setting (minimum 5265.48.30 or 5566.26.19). LUN 000 must be mapped to gatekeeper device, the LUN 000 array controller device will not be usable by the Tru64 host.
17. The KGPSA-BC login to switch may fail if the Brocade switch port speed is set to auto-negotiate. Set the port speed to 1 Gb.
18. AlphaServer SC systems have special Tru64 UNIX operating system and AlphaServer SC System Software requirements.
19. Requires RPQ
20. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
21. **AlphaServer GS1280,ES80,ES47: Minimum Tru64 V5.1B with Patch Kit 1 (T64V51BB1AS0001-20021229)**
22. **FCA2384(KGPSA-EA): Latest firmware revision 1.00X6**
23. **FCA2384(KGPSA-EA): Minimum firmware revision 1.00X2**

Hitachi VOS3/FS-JSS3

Hitachi

Hitachi – Hitachi VOS3/FS-JSS3						
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	M600 Series, M800 Series, MP5000 Series, MP6000 Series	Mainframe Bus	Hitachi VOS3/FS-JSS3 01-01	Hitachi BMC-Parallel[1]	BMC-Parallel	N
2	M600 Series, M800 Series, MP5000 Series MP6000 Series	Mainframe Bus	Hitachi VOS3/FS-JSS3 01-01	Hitachi ESCON	ESCON	N

1 Parallel channel attachment is only available on the Symmetrix 5000 series.

IBM AIX

Bull

Bull – IBM AIX							
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Escala E230 T430	PCI	IBM AIX 4.3.0[4]	Bull DCCG141-0000[2, 3], DCCG147-0000[2, 3], DCCG148-0000[2, 3]	FC-AL, FC-SW	N	See[1]
2	Escala PL220T, PL400T	PCI	IBM AIX 4.3.3	Bull DCCG147-C000[3] DCCG148-0000[3]	FC-AL FC-SW	N	
3	Escala EPC2400, EPC2450 EPC450 EPC610 EPC810, PL600R PL600T	PCI	IBM AIX 4.3.3[4]	Bull DCCG147-C000[2, 3], DCCG148-0000[2, 3]	FC-AL, FC-SW	N	See[1]

Bull – IBM AIX

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
4	Escala EPC1200A	PCI	IBM AIX 5.1	Bull: DCCG141-0000[3], DCCG147-0000[3], DCCG148-0000[3]	FC-AL, FC-SW	N	
5	Escala: E250, EPC1200, EPC400, RL470, T450, T610	PCI	IBM AIX: 4.3.0[4], 4.3.1[4], 4.3.2[4], 4.3.3[4]	Bull: DCCG141-0000[2, 3], DCCG147-0000[2, 3], DCCG148-0000[2, 3]	FC-AL, FC-SW	N	See[1]
6	Escala: E230, EPC430, T430	PCI	IBM AIX: 4.3.1[4], 4.3.2[4], 4.3.3[4]	Bull: DCCG141-0000[2, 3], DCCG147-0000[2, 3], DCCG148-0000[2, 3]	FC-AL, FC-SW	N	See[7]
7	Escala: EPC1200A, EPC440	PCI	IBM AIX: 4.3.2[4], 4.3.3[4]	Bull: DCCG141-0000[2, 3], DCCG147-0000[2, 3], DCCG148-0000[2, 3]	FC-AL, FC-SW	N	See[1]
8	Escala PL220R	PCI	IBM AIX: 4.3.3, 5.1[9], 5.2	Bull DCCG148-0000[3]	FC-AL, FC-SW	N	
9	Escala PL820R	PCI	IBM AIX: 5.1[9], 5.2	Bull DCCG155-0000	FC-AL, FC-SW	N	
10	Escala: E250, EPC2450, EPC450, PL1600R, PL220T, PL3200R, PL400R, PL400T, PL600R, PL600T, PL800R	PCI	IBM AIX: 4.3.3[3], 5.1[3, 8]	Bull DCCG154-0000	FC-AL[1, 12] FC-SW[1, 12]	N	
11	Escala: EPC1200, RL470	PCI	IBM AIX 5.1[1, 4]	Bull: DCCG141-0000[2, 3], DCCG147-0000[2, 3], DCCG148-0000[2, 3]	FC-AL[1] FC-SW[1, 10]	N	See[5]
12	Escala EPC440	PCI	IBM AIX 5.1[1, 8]	Bull: DCCG141-0000[2, 3], DCCG147-0000[2, 3], DCCG148-0000[2, 3]	FC-AL[1] FC-SW[1, 10]	N	See[5]
13	Escala: E250, EPC450, T450	PCI	IBM AIX 5.1[1, 8]	Bull: DCCG147-0000[2, 3], DCCG148-0000[2, 3]	FC-AL[1] FC-SW[1, 10]	N	See[5]
14	Escala: EPC2400, EPC2450, EPC610, EPC810, PL220T, PL400T, PL600R, PL600T, T610	PCI	IBM AIX 5.1[1, 9]	Bull: DCCG147-0000[2, 3], DCCG148-0000[2, 3]	FC-AL[1] FC-SW[1, 10]	N	See[5]
15	Escala: PL1600, PL3200	PCI	IBM AIX 5.1[3, 4, 9, 11]	Bull: DCCG147-0000[2, 3], DCCG148-0000[2, 3]	FC-AL[1] FC-SW[1, 10]	N	
16	Escala: E230, EPC430, T430	PCI	IBM AIX 5.1[4, 8]	Bull: DCCG141-0000[2, 3], DCCG147-0000[2, 3], DCCG148-0000[2, 3]	FC-AL[1] FC-SW[1, 10]	N	See[5]
17	Escala PL800R	PCI	IBM AIX: 4.3.3[4], 5.1[1, 9]	Bull: DCCG147-0000[2, 3], DCCG148-0000[2, 3]	FC-AL[1] FC-SW[1, 10]	N	See[5]
18	Escala: D Series, EPC800, M Series	MCA	IBM AIX 4.3.1[4]	Bull: MSCG012-0000, MSCG020-0000	FWD	Y	See[5]
19	Escala: RL450, RL470	PCI	IBM AIX 4.3.1[4]	Bull: MSCG012-0000, MSCG020-0000	FWD	Y	See[5]
20	Escala: EPC1200, RL470	PCI	IBM AIX: 4.3.0[4], 4.3.1[4], 4.3.2[4], 4.3.3[4]	Bull MSCG032-0000	FWD	Y[6]	See[5]
21	Escala PL220R	PCI	IBM AIX: 4.3.3, 5.1[9], 5.2	Bull MSCG048-0000	FWD	N	
22	Escala PL820R	PCI	IBM AIX: 5.1[9], 5.2	Bull MSCG049-0000	FWD	N	
23	Escala: EPC1200, RL470	PCI	IBM AIX 5.1[4, 8]	Bull: MSCG030-0000, MSCG032-0000	FWD, UWD	N	See[5]
24	Escala: E250, EPC450, T450	PCI	IBM AIX 4.3.3[4]	Bull MSCG041-0000	U2 LVD	Y	See[5]
25	Escala: EPC2400, EPC2450, EPC610, EPC810, T610	PCI	IBM AIX 4.3.3[4]	Bull MSCG043-0000	U2 LVD	Y	See[5]
26	Escala: EPC450, T450	PCI	IBM AIX 5.1	Bull MSCG041-0000	U2 LVD	N	
27	Escala: E230, EPC1200, EPC430, RL470, T430	PCI	IBM AIX 5.1[4, 8]	Bull MSCG041-0000	U2 LVD	N	See[5]
28	Escala EPC1200A	PCI	IBM AIX 5.1[4, 8]	Bull MSCG043-0000	U2 LVD	N	See[5]
29	Escala: EPC2400, EPC2450, EPC610, EPC810, T610	PCI	IBM AIX 5.1[4, 9]	Bull MSCG043-0000	U2 LVD	N	See[5]
30	Escala: PL1600, PL3200	PCI	IBM AIX 5.1[4, 9, 11]	Bull MSCG043-0000	U2 LVD	N	
31	Escala: EPC1200, RL470	PCI	IBM AIX: 4.3.0[4], 4.3.1[4], 4.3.2[4], 4.3.3[4]	Bull MSCG041-0000	U2 LVD	Y	See[5]
32	Escala: E230, EPC430, T430	PCI	IBM AIX: 4.3.1[4], 4.3.2[4], 4.3.3[4]	Bull MSCG041-0000	U2 LVD	Y	See[5]
33	Escala EPC1200A	PCI	IBM AIX: 4.3.1[4], 4.3.2[4], 4.3.3[4]	Bull MSCG043-0000	U2 LVD	Y	See[5]
34	Escala: PL220T, PL400T, PL600R, PL600T, PL800R	PCI	IBM AIX: 4.3.3[4], 5.1[4, 9]	Bull MSCG043-0000	U2 LVD	N	See[5]
35	Escala EPC450	PCI	IBM AIX 4.3.3[4]	Bull MSCG023-0000	UWD	Y	See[5]
36	Escala: EPC2400, EPC2450, EPC610, EPC810, T610	PCI	IBM AIX 4.3.3[4]	Bull MSCG044-0000	UWD	Y	See[5]
37	Escala: E230, E250, EPC430, EPC450, S100, S120, T430, T450	PCI	IBM AIX 5.1[4, 8]	Bull MSCG023-0000	UWD	N	See[5]
38	Escala: EPC1200A, EPC440	PCI	IBM AIX 5.1[4, 8]	Bull: MSCG030-0000, MSCG032-0000	UWD	N	See[5]
39	Escala: EPC2400, EPC2450, EPC610, EPC810, T610	PCI	IBM AIX 5.1[4, 9]	Bull MSCG044-0000	UWD	N	See[5]
40	Escala: PL1600, PL3200	PCI	IBM AIX 5.1[4, 9, 11]	Bull MSCG044-0000	UWD	N	
41	Escala: EPC1200, RL470	PCI	IBM AIX: 4.3.0[4], 4.3.1[4], 4.3.2[4], 4.3.3[4]	Bull MSCG030-0000	UWD	Y[6]	See[5]
42	Escala: E230, E250, EPC400, EPC430, S100, S120, T430, T450, T610	PCI	IBM AIX: 4.3.1[4], 4.3.2[4], 4.3.3[4]	Bull MSCG023-0000	UWD	Y	See[5]
43	Escala: EPC1200A, EPC440	PCI	IBM AIX: 4.3.2[4], 4.3.3[4]	Bull: MSCG030-0000, MSCG032-0000	UWD	Y	See[5]
44	Escala PL220R	PCI	IBM AIX: 4.3.3, 5.1[9], 5.2	Bull MSCG044-0000	UWD	N	
45	Escala: PL220T, PL400T, PL600R, PL600T, PL800R	PCI	IBM AIX: 4.3.3[4], 5.1[4, 9]	Bull MSCG044-0000	UWD	N	See[5]

1. Mixed FC-AL and FC-SW are supported on the same server
2. Fibre Channel HBAs: DCCG141-0000: LP7000e copper DCCG147-0000: LP8000 copper DCCG148-0000: LP8000 fibre
3. Fibre Channel device driver distributed and supported by Bull
4. Symmetrix 8000 Series 66/67 support at AIX 4.3.x, 5568 support at AIX 4.3.3, 5.1, 5.2
5. Bull supplies the appropriate cables
6. The latest qualified operating system is AIX 4.3.3 except for RL Series
7. Mixed FC-AL and FC-SW supported on the same server, MSKG006-0000 = Brocade Silkworm 2800

8. 32-bit kernel support only with AIX 5.1.
9. AIX 5.1 32/64-bit kernel support.
10. MSKG0008-0000 = Brocade® Silkworm® 2800.
11. LPAR and SMP modes supported.
12. SMDF007-B000-Brocade SilkWorm 3800
    SMDF008-B000-Brocade SilkWorm 3800

IBM

IBM – IBM AIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	7013-S70 as SP2 node	PCI	IBM AIX 5.1[2, 6]	IBM 6227[19]	FC-AL	N	
2	7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[3], 07 55X[3], 08 T70[3]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node, p680 7017-S85 as SP2 node	PCI	IBM AIX 5.1[2, 6]	IBM 6227[19, 34, 36]	FC-AL	N	
3	p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 5.2[51]	IBM 6227[19, 34, 36]	FC-AL	Y[14, 17, 21, 49, 50]	
4	p640 7026-B80	PCI	IBM AIX 5.2[51]	IBM 6227[19, 34, 36]	FC-AL	Y[14, 17, 26, 49, 50]	
5	p660 7026-6M1	PCI	IBM AIX 5.2[51]	IBM 6227[19, 34, 36]	FC-AL	Y[14, 17, 25, 49, 50]	
6	p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 5.2[51]	IBM 6227[19, 34, 36]	FC-AL	Y[14, 17, 24, 49, 50]	
7	p680 7017-S85	PCI	IBM AIX 5.2[51]	IBM 6227[19, 34, 36]	FC-AL	Y[14, 17, 27, 49, 50]	
8	p610: 7028-6C1, 7028-6E1	PCI	IBM AIX 4.3.3[2]	EMC CKIT-E70-AIX[1, 8, 9, 10]	FC-AL, FC-SW	N	
9	p660 7026-6M1 as SP2 node	PCI	IBM AIX 4.3.3[2]	EMC CKIT-E70-AIX[1, 8, 9, 10]; IBM 6228[19, 28, 29]	FC-AL, FC-SW	N	
10	7017-S80; 7025-F80; 7026-H80; 7026-M80; 7044-170; 7044-270; p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1; p680: 7017-S85, 7017-S85 as SP2 node	PCI	IBM AIX 4.3.3[2]	EMC CKIT-E70-AIX[8, 9, 10]	FC-AL, FC-SW	N	
11	7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node	PCI	IBM AIX 4.3.3[2]	EMC CKIT-E70-AIX[8, 9, 10]; IBM 6228[1, 19, 28, 29]	FC-AL, FC-SW	N	
12	7017-S80 as SP2 node	PCI	IBM AIX 4.3.3[2]	EMC CKIT-E70-AIX[8, 9]; IBM 6228[1, 19, 28, 29]	FC-AL, FC-SW	N	
13	7013-S7A; 7013-S7A as SP2 node; 7015-S7A; 7015-S7A as SP2 node; 7017-S7A; 7017-S7A as SP2 node, 7025-F50; SP2 9076 +: 06 50X[3], 07 55X[3], 08 T70[3], p680 7017-S85 as SP2 node[10]	PCI	IBM AIX 4.3.3[2]	IBM 6228[1, 19, 28, 29]	FC-AL, FC-SW	N	
14	7017-S80[10], p680 7017-S85[10]	PCI	IBM AIX 4.3.3[2]	IBM 6228[1, 19, 28, 29]	FC-AL, FC-SW	Y[13, 15, 16, 17, 18, 27, 30]	
15	7025-F80; p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 4.3.3[2]	IBM 6228[1, 19, 28, 29]	FC-AL, FC-SW	Y[13, 15, 16, 17, 18, 21, 30]	
16	7025-H70; 7026-H70	PCI	IBM AIX 4.3.3[2]	IBM 6228[1, 19, 28, 29]	FC-AL, FC-SW	Y[13, 15, 16, 17, 18, 22, 30]	
17	7026-H50	PCI	IBM AIX 4.3.3[2]	IBM 6228[1, 19, 28, 29]	FC-AL, FC-SW	Y[13, 15, 16, 17, 18, 23, 30]	
18	7026-H80 p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 4.3.3[2]	IBM 6228[1, 19, 28, 29]	FC-AL, FC-SW	Y[13, 15, 16, 17, 18, 24, 30]	
19	7026-M80	PCI	IBM AIX 4.3.3[2]	IBM 6228[1, 19, 28, 29]	FC-AL, FC-SW	Y[13, 15, 16, 17, 18, 25, 30]	
20	7044-170, 7044-270	PCI	IBM AIX 4.3.3[2]	IBM 6228[1, 19, 28, 29]	FC-AL, FC-SW	Y[12, 13, 15, 16, 17, 18, 30]	
21	p610: 7028-6C1, 7028-6E1	PCI	IBM AIX 4.3.3[2]	IBM 6228[1, 19, 28, 29]	FC-AL, FC-SW	Y[13, 15, 16, 17, 18, 30, 40]	
22	p640 7026-B80	PCI	IBM AIX 4.3.3[2]	IBM 6228[1, 19, 28, 29]	FC-AL, FC-SW	Y[13, 15, 16, 17, 18, 26, 30]	
23	p660 7026-6M1	PCI	IBM AIX 4.3.3[2]	IBM 6228[19, 28, 29]	FC-AL, FC-SW	Y[13, 15, 16, 17, 18, 25, 30]	
24	p660 7026-6M1	PCI	IBM AIX 5.1[2, 4]	IBM 6227[1, 19, 34, 36]	FC-AL, FC-SW	Y[14, 15, 17, 25, 32, 33]	
25	7017-S80; p680 7017-S85	PCI	IBM AIX 5.1[2, 4]	IBM 6227[19, 34, 35, 36]	FC-AL, FC-SW	Y[14, 15, 17, 27, 32, 33]	
26	7025-F80; p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 5.1[2, 4]	IBM 6227[19, 34, 35, 36]	FC-AL, FC-SW	Y[14, 15, 17, 21, 32, 33]	
27	7025-H70	PCI	IBM AIX 5.1[2, 4]	IBM 6227[19, 34, 35, 36]	FC-AL, FC-SW	Y[14, 15, 17, 22, 32, 33, 37]	
28	7026-H70	PCI	IBM AIX 5.1[2, 4]	IBM 6227[19, 34, 35, 36]	FC-AL, FC-SW	Y[14, 15, 17, 22, 32, 33, 38]	
29	7026-H50; p660 7026-6H0	PCI	IBM AIX 5.1[2, 4]	IBM 6227[19, 34, 35, 36]	FC-AL, FC-SW	Y[14, 15, 17, 24, 32, 33]	

IBM – IBM AIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
30	7026-M80	PCI	IBM AIX 5.1[2, 4]	IBM 6227[19, 34, 35, 36]	FC-AL, FC-SW	Y[14, 15, 17, 25, 32, 33]	
31	7044-170; 7044-270	PCI	IBM AIX 5.1[2, 4]	IBM 6227[19, 34, 35, 36]	FC-AL, FC-SW	Y[12, 14, 15, 17, 32, 33]	
32	p640 7026-B80	PCI	IBM AIX 5.1[2, 4]	IBM 6227[19, 34, 35, 36]	FC-AL, FC-SW	Y[14, 15, 17, 26, 32, 33]	
33	p660 7026-6H1	PCI	IBM AIX 5.1[2, 4]	IBM 6227[19, 34, 35, 36]	FC-AL, FC-SW	Y[14, 15, 17, 24, 32, 33, 38]	
34	p610 7028-6E1	PCI	IBM AIX 5.1[2, 4]	IBM 6228[1, 19, 34, 39]	FC-AL, FC-SW	Y[15, 17, 30, 32, 33, 40]	
35	p660 7026-6M1	PCI	IBM AIX 5.1[2, 4]	IBM 6228[1, 19, 34, 39]	FC-AL, FC-SW	Y[15, 17, 25, 30, 32, 33]	
36	p610 7028-6C1	PCI	IBM AIX 5.1[2, 4]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	Y[15, 17, 30, 32, 33, 40]	
37	7017-S80; p680 7017-S85	PCI	IBM AIX 5.1[2, 4]	IBM 6228[34, 35, 39]	FC-AL, FC-SW	Y[15, 17, 27, 30, 32, 33]	
38	7025-F80; p620 7025-6F0, 7025-6F1	PCI	IBM AIX 5.1[2, 4]	IBM 6228[34, 35, 39]	FC-AL, FC-SW	Y[15, 17, 21, 30, 32, 33]	
39	7025-H70	PCI	IBM AIX 5.1[2, 4]	IBM 6228[34, 35, 39]	FC-AL, FC-SW	Y[15, 17, 22, 30, 32, 33, 37]	
40	7026-H70	PCI	IBM AIX 5.1[2, 4]	IBM 6228[34, 35, 39]	FC-AL, FC-SW	Y[15, 17, 22, 30, 32, 33, 38]	
41	7026-H80; p660 7026-6H0	PCI	IBM AIX 5.1[2, 4]	IBM 6228[34, 35, 39]	FC-AL, FC-SW	Y[15, 17, 24, 30, 32, 33]	
42	7026-M80	PCI	IBM AIX 5.1[2, 4]	IBM 6228[34, 35, 39]	FC-AL, FC-SW	Y[15, 17, 25, 30, 32, 33]	
43	7044-170; 7044-270	PCI	IBM AIX 5.1[2, 4]	IBM 6228[34, 35, 39]	FC-AL, FC-SW	Y[12, 15, 17, 30, 32, 33]	
44	p640 7026-B80	PCI	IBM AIX 5.1[2, 4]	IBM 6228[34, 35, 39]	FC-AL, FC-SW	Y[15, 17, 26, 30, 32, 33]	
45	p660 7026-6H1	PCI	IBM AIX 5.1[2, 4]	IBM 6228[34, 35, 39]	FC-AL, FC-SW	Y[15, 17, 24, 30, 32, 33, 38]	
46	p670 7040-671, p690 7040-W42	PCI	IBM AIX 5.1[2, 4]	IBM 6228[39]	FC-AL, FC-SW	Y[15, 17, 30, 32, 33]	
47	p690 7040-681	PCI	IBM AIX 5.1[2, 4]	IBM 6228[39]	FC-AL, FC-SW	Y[16, 17, 30, 33, 42, 43]	
48	p690; 7040-61D, 7040-61R	PCI	IBM AIX 5.1[2, 4]	IBM 6228[39]	FC-AL, FC-SW	Y[15, 17, 32, 33, 41]	
49	p630; 7028-6C4, 7028-6E4	PCI	IBM AIX 5.1[2, 45]	IBM 6228[1, 19, 34, 39]	FC-AL, FC-SW	Y[15, 17, 30, 32, 33, 44]	
50	7026-H50	PCI	IBM AIX 5.1[2, 6]	IBM 6227[19, 34, 35, 36]	FC-AL, FC-SW	Y[14, 15, 17, 23, 32, 33]	
51	7026-H50	PCI	IBM AIX 5.1[2, 6]	IBM 6228[19, 34, 35, 39]	FC-AL, FC-SW	Y[15, 17, 23, 30, 32, 33]	
52	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node SP2 9076 +: 06 50X[3], 07 55X[3], 08 T70[3]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node p680 7017-S85 as SP2 node	PCI	IBM AIX 5.1[2, 6]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	N	
53	p650 7038-6M2	PCI	IBM AIX 5.1[47]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	Y[15, 17, 30, 33, 48]	
54	p655 7039-651	PCI	IBM AIX 5.1[47]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	Y[17, 30, 33]	
55	7026-H50	PCI	IBM AIX 5.2[1]	IBM: 6227[19, 34, 35, 36], 6228[19, 34, 35, 39]	FC-AL, FC-SW	N	
56	7017-S80; 7025-F80; 7025-H70, 7026-H70, 7026-H80 7026-M80 7044-170, 7044-270	PCI	IBM AIX 5.2[1]	IBM: 6227[19, 34, 35, 36], 6228[34, 35, 39]	FC-AL, FC-SW	N	
57	p610, 7028-6C1, 7028-6E1	PCI	IBM AIX 5.2[51]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	Y[17, 30, 40, 49, 50]	
58	p620 7025-6F0 7025-6F1	PCI	IBM AIX 5.2[51]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	Y[17, 21, 30, 49, 50]	
59	p630 7028-6C4, 7028-6E4	PCI	IBM AIX 5.2[51]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	Y[17, 30, 42, 49, 50]	
60	p640 7026-B80	PCI	IBM AIX 5.2[51]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	Y[17, 26, 30, 49, 50]	
61	p650 7038-6M2	PCI	IBM AIX 5.2[51]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	Y[17, 30, 49, 50, 52]	
62	p655 7039-651	PCI	IBM AIX 5.2[51]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	Y[17, 30, 49, 50]	
63	p660 7026-6M1	PCI	IBM AIX 5.2[51]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	Y[17, 25, 30, 49, 50]	
64	p660 7026-6H0 7026-6H1	PCI	IBM AIX 5.2[51]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	Y[17, 24, 30, 49, 50]	
65	p680 7017-S85	PCI	IBM AIX 5.2[51]	IBM 6228[19, 34, 39]	FC-AL, FC-SW	Y[17, 27, 30, 49, 50]	
66	p670 7040-671 p690 7040-W42	PCI	IBM AIX 5.2[51]	IBM 6228[39]	FC-AL, FC-SW	Y[17, 30, 49, 50]	

IBM – IBM AIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
67	p690 7040-681	PCI	IBM AIX 5.2[51]	IBM 6228[39]	FC-AL, FC-SW	Y[17, 30, 42, 49, 50]	
68	p690: 7040-61D, 7040-61R	PCI	IBM AIX 5.2[51]	IBM 6228[39]	FC-AL, FC-SW	Y[17, 41, 49, 50]	
69	7025-F50; 7026-H50; SP2 9076 +: 06 50X[3], 07 55X[3], 08 T70[3]	PCI	IBM AIX: 4.3.0[2], 4.3.1[2], 4.3.2[2], 4.3.3[2]	EMC CKIT-E70-AIX[8, 9, 10]	FC-AL, FC-SW	N	
70	7017-S70; 7017-S70 as SP2 node	PCI	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	EMC CKIT-E70-AIX[8, 9]	FC-AL, FC-SW	N	
71	7013-S70; 7013-S70 as SP2 node; 7015-S70; 7015-S70 as SP2 node	PCI	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	EMC CKIT-E70-AIX[8, 9, 10]	FC-AL, FC-SW	N	
72	7017-S7A; 7017-S7A as SP2 node	PCI	IBM AIX: 4.3.2[2], 4.3.3[2]	EMC CKIT-E70-AIX[8, 9]	FC-AL, FC-SW	N	
73	7013-S7A; 7013-S7A as SP2 node; 7015-S7A; 7015-S7A as SP2 node; 7025-H70; 7026-H70	PCI	IBM AIX: 4.3.2[2], 4.3.3[2]	EMC CKIT-E70-AIX[8, 9, 10]	FC-AL, FC-SW	N	
74	7013-S70; 7015-S70; 7017-S70	PCI	IBM AIX: 5.1[2, 4], 5.2[1]	IBM 6227[19, 34, 35, 36]	FC-AL, FC-SW	N	
75	7044-170; 7044-270	PCI	IBM AIX: 5.1[2, 4], 5.2[1]	IBM 6239	FC-AL, FC-SW	N	
76	7013-S7A; 7015-S7A; 7017-S7A	PCI	IBM AIX: 5.1[2, 4], 5.2[1]	IBM: 6227[19, 34, 35, 36], 6228[34, 35, 39]	FC-AL, FC-SW	N	
77	p610: 7028-6C1, 7028-6E1; p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1, p670 7040-671, p690: 7040-61D, 7040-61R, 7040-681	PCI	IBM AIX: 5.1[2, 4], 5.2[51]	IBM 6239	FC-AL, FC-SW	N	
78	p630: 7028-6C4, 7028-6E4	PCI	IBM AIX: 5.1[2, 45], 5.2[51]	IBM 6239	FC-AL, FC-SW	N	
79	7025-F50	PCI	IBM AIX: 5.1[2, 6], 5.2[1]	IBM: 6227[34, 35, 36], 6228[34, 35, 39]	FC-AL, FC-SW	N	
80	p650 7038-6M2; p655 7039-651	PCI	IBM AIX: 5.1[47], 5.2[51]	IBM 6239	FC-AL, FC-SW	N	
81	p615: 7029-6C3, 7029-6E3	PCI	IBM AIX: 5.1[53], 5.2[55]	IBM 6239[19, 54]	FC-AL, FC-SW	N	
82	7013-S70; 7013-S70 as SP2 node; 7013-S7A; 7013-S7A as SP2 node; 7015-S70; 7015-S70 as SP2 node; 7015-S7A; 7015-S7A as SP2 node; 7017-S70; 7017-S70 as SP2 node; 7017-S7A; 7017-S7A as SP2 node; 7017-S80 as SP2 node 7025-F50; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node; p680 7017-S85 as SP2 node	PCI	IBM AIX 4.3.3[2]	IBM 6227[1, 19]	FC-AL[11] FC-SW[20]	N	See[11]
83	7017-S80; p680 7017-S85	PCI	IBM AIX 4.3.3[2]	IBM 6227[1, 19]	FC-AL[11] FC-SW[20]	Y[13, 14, 15, 16, 17, 18, 27]	See[11]
84	7025-F80; p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 4.3.3[2]	IBM 6227[1, 19]	FC-AL[11] FC-SW[20]	Y[13, 14, 15, 16, 17, 18, 21]	See[11]
85	7025-H70; 7026-H70	PCI	IBM AIX 4.3.3[2]	IBM 6227[1, 19]	FC-AL[11] FC-SW[20]	Y[13, 14, 15, 16, 17, 18, 22]	See[11]
86	7026-H50	PCI	IBM AIX 4.3.3[2]	IBM 6227[1, 19]	FC-AL[11] FC-SW[20]	Y[13, 14, 15, 16, 17, 18, 23]	See[11]
87	7026-H80 as SP2 node	PCI	IBM AIX 4.3.3[2]	IBM 6227[1, 19]	FC-AL[11] FC-SW[20]	N	See[20]
88	7026-H80 p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 4.3.3[2]	IBM 6227[1, 19]	FC-AL[11] FC-SW[20]	Y[13, 14, 15, 16, 17, 18, 24]	See[11]
89	7026-M80	PCI	IBM AIX 4.3.3[2]	IBM 6227[1, 19]	FC-AL[11] FC-SW[20]	Y[13, 14, 15, 16, 17, 18, 25]	See[11]
90	7044-170; 7044-270	PCI	IBM AIX 4.3.3[2]	IBM 6227[1, 19]	FC-AL[11] FC-SW[20]	Y[12, 13, 14, 15, 16, 17, 18]	See[11]
91	p640 7026-B80	PCI	IBM AIX 4.3.3[2]	IBM 6227[1, 19]	FC-AL[11] FC-SW[20]	Y[13, 14, 15, 16, 17, 18, 26]	See[11]
92	p660 7026-6M1	PCI	IBM AIX 4.3.3[2]	IBM 6227[1, 19]	FC-AL[11] FC-SW[20]	Y[13, 14, 15, 16, 17, 18, 25]	
93	SP2 9076 +: 06 50X[3], 07 55X[3], 08 T70[3]	PCI	IBM AIX 4.3.3[2]	IBM 6227[1, 19, 31]	FC-AL[11] FC-SW[20]	N	
94	p660 7026-6M1 as SP2 node	PCI	IBM AIX 4.3.3[2]	IBM 6227[19]	FC-AL[11] FC-SW[20]	N	
95	7013-J30 7013-J40 7013-J50 7015-R30 7015-R40 7015-R5	MCA	IBM AIX 4.3.2[2], 4.3.3[2]	IBM 2412[1], 2416[1]	FWD	Y	
96	SP2 9076 + 01 30X[3], 10X[3], A0X[3] SP2 9076 + 02 XX1[3], 03 XX2[3], 03 XX3[3], 03 XX4[3], 03 XX5[3], 03 XX6[3], 04 XX7[3], 04 XX8[3], 04 XXA[3], 05 XX9[3]	MCA	IBM AIX 4.3.2[2], 4.3.3[2]	IBM 2412[1], 2416[1]	FWD	N	

IBM – IBM AIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
97	SP2 9076 +: 06 50X[3], 07 55X[3]	PCI	IBM AIX 4.3.3[2]	IBM 6204[1, 31]	FWD	N	
98	7017-S80 as SP2 node	PCI	IBM AIX 4.3.3[2]	IBM 6209[1]	FWD	N	
99	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; SP2 9076 + 06 50X[3]	PCI	IBM AIX 5.1[1, 6]	IBM 6209	FWD	N	
100	7025-F50	PCI	IBM AIX 5.1[1, 6]	IBM 6209	FWD	Y[7]	
101	7013-S70; 7013-S7A; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A	PCI	IBM AIX 5 1[2, 4]	IBM 6209[1]	FWD	Y[7]	
102	7026-H50	PCI	IBM AIX 5 1[2, 6]	IBM 6209[1]	FWD	Y[7]	
103	7025-F50	PCI	IBM AIX 5.2[1]	IBM 6209	FWD	N	
104	7013-S70; 7013-S7A; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7017-S80; 7025-F80; 7026-H50	PCI	IBM AIX 5.2[1]	IBM 6209[1]	FWD	N	
105	7013-S70 as SP2 node; 7015-S70 as SP2 node; 7017-S70 as SP2 node	PCI	IBM AIX 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM 6209[1]	FWD	N	
106	7013-S70; 7015-S70; 7017-S70	PCI	IBM AIX: 4.3.1[2], 4.3.2[2], 4 3.3[2]	IBM 6209[1]	FWD	Y	
107	SP2 9076 +: 07 55X[3], 08 T70[3]	PCI	IBM AIX, 4.3.2, 4.3.3	IBM 6209	FWD	N	
108	SP2 9076 +: 07 55X[3], 08 T70[3]	PCI	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM 6207[1]	FWD	N	
109	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; SP2 9076 + 06 50X[3]	PCI	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM 6209[1]	FWD	N	
110	7013-S7A; 7015-S7A; 7017-S7A; 7025-F50; 7026-H50	PCI	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM 6209[1]	FWD	Y	
111	7025-H70; 7026-H70	PCI	IBM AIX: 4.3.2[2], 4.3.3[2], 5 1[2, 4], 5.2[1]	IBM 6209[1]	FWD	N	
112	7017-S80; 7025-F80	PCI	IBM AIX: 4.3.3[2], 5.1[2, 4]	IBM 6209[1]	FWD	Y	
113	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node, 7017-S80 as SP2 node, 7026-H80 as SP2 node, 7026-M80 as SP2 node p660: 7026-6H0 as SP2 node 7026-6H1 as SP2 node; p680 7017-S85 as SP2 node	PCI	IBM AIX 4.3.3[2]	IBM 6205[1, 5]	U2 LVD	N	
114	SP2 9076 + 08 T70[3]	PCI	IBM AIX 4.3.3[2]	IBM 6205[1, 5, 31]	U2 LVD	N	
115	7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node. p660: 7026-6H0 as SP2 node. 7026-6H1 as SP2 node, p680 7017-S85 as SP2 node	PCI	IBM AIX 5.1[1, 6]	IBM 6205[5]	U2 LVD	N	
116	SP2 9076 + 08 T70[3]	PCI	IBM AIX 5.1[1, 6]	IBM 6205[5, 31]	U2 LVD	N	
117	7017-S80 7025-F80; 7026-H80, 7026-M80 7044-170 7044-270 7046-B50	PCI	IBM AIX 5.2[1]	IBM 6205[1, 5]	U2 LVD	N	
118	SP2 9076 + 06 50X[3], 07 55X[3]	PCI	IBM AIX 4.3.3, 5 1	IBM 6205	U2 LVD	N	
119	p660 7026-6M1 as SP2 node	PCI	IBM AIX 4.3 3[2], 5.1[1, 6]	IBM 6205[5]	U2 LVD	N	
120	7017-S80; 7025-F80 7026-H80 7026-M80 7044-170 7044-270 7046-B50 p640 7026-B80 p680 7017-S85	PCI	IBM AIX, 4.3.3[2], 5 1[2, 4]	IBM 6205[1, 5]	U2 LVD	Y	
121	p620: 7025-6F0, 7025-6F1 p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 4.3.3[2] 5.1[2, 4]	IBM 6205[1, 5]	U2 LVD	N	
122	p660 7026-6M1	PCI	IBM AIX 4 3 3[2], 5 1[2, 4]	IBM 6205[5]	U2 LVD	N	
123	7013-S7A 7015-S7A 7017-S7A 7025-H70 7026-H70	PCI	IBM AIX 4 3.3[2] 5 1[2, 4], 5.2[1]	IBM 6205[1, 5]	U2 LVD	N	
124	7025-F50 7026-H50	PCI	IBM AIX 4 3 3[2], 5 1[2, 6], 5.2[1]	IBM 6205[1, 5]	U2 LVD	N	

IBM – IBM AIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
125	p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1; p680 7017-S85	PCI	IBM AIX 5.2[51]	IBM 6205	U2 LVD[5]	N	
126	SP2 9076 + 08 T70[3]	PCI	IBM AIX 4.3.3	IBM 6204	UWD	N	
127	7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node	PCI	IBM AIX 4.3.3[2]	IBM 6204[1]	UWD	N	
128	7017-S80 as SP2 node; 7026-H80 as SP2 node; p680 7017-S85 as SP2 node	PCI	IBM AIX 4.3.3[2]	IBM: 6204[1], 6207[1]	UWD	N	
129	7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node	PCI	IBM AIX 5.1[1, 6]	IBM 6204	UWD	N	
130	SP2 9076 + 06 50X[3]	PCI	IBM AIX 5.1[1, 6]	IBM 6204[31]	UWD	N	
131	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; SP2 9076 + 08 T70[3]	PCI	IBM AIX 5.1[1, 6]	IBM 6207	UWD	N	
132	7025-F50	PCI	IBM AIX 5.1[1, 6]	IBM 6207	UWD	Y[7]	
133	7017-S80 as SP2 node; 7026-H80 as SP2 node; p680 7017-S85 as SP2 node	PCI	IBM AIX 5.1[1, 6]	IBM: 6204, 6207	UWD	N	
134	SP2 9076 + 07 55X[3]	PCI	IBM AIX 5.1[1, 6]	IBM: 6204[46], 6207	UWD	N	
135	7013-S70; 7013-S7A; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A	PCI	IBM AIX 5.1[2, 4]	IBM 6207[1]	UWD	Y[7]	
136	7026-H50	PCI	IBM AIX 5.1[2, 6]	IBM 6207[1]	UWD	Y[7]	
137	7026-M80; 7044-170; 7044-270	PCI	IBM AIX 5.2[1]	IBM 6204[1]	UWD	N	
138	7025-F50	PCI	IBM AIX 5.2[1]	IBM 6207	UWD	N	
139	7013-S70; 7013-S7A; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7026-H50	PCI	IBM AIX 5.2[1]	IBM 6207[1]	UWD	N	
140	7017-S80; 7025-F80; 7026-H80; 7046-B50	PCI	IBM AIX 5.2[1]	IBM: 6204[1], 6207[1]	UWD	N	
141	p610: 7028-6C1, 7028-6E1; p620: 7025-6F0, 7025-6F1; p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 5.2[51]	IBM 6204	UWD	N	
142	p640 7026-B80; p680 7017-S85	PCI	IBM AIX 5.2[51]	IBM: 6204, 6207	UWD	N	
143	7013-S70 as SP2 node; 7015-S70 as SP2 node; 7017-S70 as SP2 node	PCI	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM 6207[1]	UWD	N	
144	7013-S70; 7015-S70; 7017-S70	PCI	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM 6207[1]	UWD	Y	
145	SP2 9076 + 06 50X[3]	PCI	IBM AIX: 4.3.2, 4.3.3, 5.1	IBM 6207	UWD	N	
146	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node	PCI	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM 6207[1]	UWD	N	
147	7013-S7A; 7015-S7A; 7017-S7A; 7025-F50; 7026-H50	PCI	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM 6207[1]	UWD	Y	
148	7025-H70; 7026-H70	PCI	IBM AIX: 4.3.2[2], 4.3.3[2], 5.1[2, 4], 5.2[1]	IBM 6207[1]	UWD	N	
149	p660 7026-6M1 as SP2 node	PCI	IBM AIX: 4.3.3[2], 5.1[1, 6]	IBM 6204	UWD	N	
150	7026-M80; 7044-170; 7044-270	PCI	IBM AIX: 4.3.3[2], 5.1[2, 4]	IBM 6204[1]	UWD	Y	
151	p610: 7028-6C1, 7028-6E1; p620: 7025-6F0, 7025-6F1; p660: 7026-6H0, 7026-6H1	PCI	IBM AIX: 4.3.3[2], 5.1[2, 4]	IBM 6204[1]	UWD	N	
152	7017-S80; 7025-F80; 7026-H80; 7046-B50; p640 7026-B80; p680 7017-S85	PCI	IBM AIX: 4.3.3[2], 5.1[2, 4]	IBM: 6204[1], 6207[1]	UWD	Y	
153	p660 7026-6M1	PCI	IBM AIX: 4.3.3[2], 5.1[2, 4], 5.2[51]	IBM 6204	UWD	N	
154	p670 7040-671; p690, 7040-61D, 7040-61R, 7040-681, 7040-W42	PCI	IBM AIX: 5.1[2, 4], 5.2[51]	IBM 6204	UWD	N	
155	p630: 7028-6C4, 7028-6E4	PCI	IBM AIX: 5.1[4, 45], 5.2[51]	IBM 6204	UWD	N	

1 For all PCI-based hosts only: See http://www-1.ibm.com/servers/eserver/pseries/library/hardware_docs/sa38/380538.pdf for appropriate HBA placement guidelines.

2 Symmetrix 8000 Series:66/67 support AIX 4.3.x, 5.1. 5568 support at AIX 4.3.3, 5.1

3. The following link provides detailed data for all 9076-SP2 models and feature codes:
http://www1.ibmlink.ibm.com/cgi-bin/master?request=salesmanual&parms=SMS&xh=NTZH*daEMSRi4n1USenGnN9332&xhi=usa.main%7Csalesmanual%5E&type=D&search=9076&title=T&product

4. AIX 5.1 32/64 bit Kernel supported. Minimum PowerPath Version 2.1.2 supported . Requires minimum EMC ODM fileset support 5.0.0.0
5. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L).
6. AIX 5.1 only supported with 32-bit kernel. Minimum PowerPath Version 2.1.2 supported. Requires minimum EMC ODM fileset support 5.0.0.0.
7. PowerPC 32-bit only.
8. HBA and driver available exclusively as EMC Fibre Channel Interface V2.0 for AIX Platforms. Latest PTF package (V2.0.0.3 PTF.tar.Z) can be downloaded from the EMC FTP server at ftp://ftp.emc.com/pub/elab/aix/EMC-FC-Kit
9. No longer available
10. Mixed FC-AL and FC-SW are supported on the same server.
11. Requires minimum Symmetrix microcode level 5265.39.25. Requires minimum AIX APAR IY05369. Requires minimum EMC ODM fileset support (4.3.3.0 IBM Fibre Channel interface support for Symmetrix). Supported adapter firmware, 3.22A1.
12. **System/Service processor combined microcode Version SPH02254/sh020307 dated 11/20/2002 or later.**
13. **AIX 4.3.3 ML9, APAR IY22024**
14. **Requires minimum HBA firmware 3.22A1. For all PCI-based hosts only: see HBA placement guidelines in the IBM document PCI Adapter Placement Reference SA38-0538-6, available at http://www-1.ibm.com/servers/eserver/pseries/library/hardware_docs/sa38/380538.pdf**
15. **Booting from a PowerPath device is supported with FC-SW topology only. Any other topologies must be approved via the RPQ process.**
16. **Minimum Powerpath version 3.0.2. For Powerpath patches 3.0.x, the bootfix.sh script is required for boot support. See the EMC Primus case ID emc58038 for more details and the PowerPath Release Notes for installation**
17. **Obtain the EMC Symmetrix and AIX Fibre boot document from avatar.eng.emc.com for installation and configuration instructions.**
18. **Fibre boot when used under AIX 4.3 requires APAR IY42989 which can be obtained from IBM at https://techsupport.services.ibm.com/server/fixes?view=pSeries.**
19. IBM Native Fibre Channel drivers with feature code 6227 and with feature code 6228 are supported on the same server. Feature 6228 and 6239 are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server. 6227 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f7.rte; 6228 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f9.diag, devices.pci.df1000f9.rte; 6239 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1080f9.diag, devices.pci.df1080f9.rte
20. Requires minimum Symmetrix microcode level 5265.48.30. Requires minimum AIX APAR IY08960, IY03872. Requires minimum EMC ODM fileset support (4.3.3.1 IBM Fibre Channel interface support for Symmetrix). Supported adapter firmware, 3.22A1.
21. **System microcode CL020407 or later.**
22. **System/Service processor combined microcode Version SST01256/SS010614 dated 10/23/2001 or later.**
23. **System/Service processor combined microcode Version L02113/ag010611 or later.**
24. **System microcode CM020407 or later.**
25. **System microcode MM020407 or later.**
26. **System/Service processor combined microcode Version NAN02066/SC020308 dated 03/29/2002 or later.**
27. **System/Service processor combined microcode Version 20020920 dated 11/19/2002 or later.**
28. Requires minimum EMC ODM fileset support (4.3.3.1 IBM Fibre Channel interface support for Symmetrix). Device driver df1000f9 is distributed by IBM.
29. Requires minimum AIX 4.3.3 with maintenance level 08 and adapter firmware 3.82A1.
30. **Requires minimum HBA firmware 3.82A1. For all PCI-based hosts only: see HBA placement guidelines in the IBM document PCI Adapter Placement Reference SA38-0538-6, available at http://www-1.ibm.com/servers/eserver/pseries/library/hardware_docs/sa38/380538.pdf**
31. The Following feature codes are supported: 2054: Power 3 High Node 2055: SP expansion I/O 2056: 375 MHz Power 3 thin node 2058: 375 MHz Power 3 high node.
32. **AIX 5.1 ML1, APAR IY21957**
33. **Fibre boot when used under AIX 5.1 requires APAR IY40885 which can be obtained from IBM at https://techsupport.services.ibm.com/server/fixes?view=pSeries.**
34. Requires minimum ODM fileset support (5.0.0.0 EMC Symmetrix Fibre Channel support software).
35. See http://www.rs6000.ibm.com/resource/hardware_docs/sa38-0538/380538.pdf for appropriate HBA placement guidelines
36. Requires minimum HBA firmware 3.22A1.
37. **AIX 5.1 32/64 bit Kernel supported. Requires minimum EMC ODM fileset support 5.0.0.0.**
38. **AIX 5.1 supported with 32/64-bit kernel. Requires minimum EMC ODM fileset support 5.0.0.0.**
39. Requires minimum HBA firmware 3.82A1.
40. **System/Service processor combined microcode Version CLT02066/ct020307 dated 04/04/2002 or later.**
41. **Minimum microcode levels RH0 20413 dated 05/22/2002 or later.**
42. **System/Service processor combined microcode Version RH020413 dated 05/22/2002 or later.**
43. **AIX 5.1 ML1, APAR IY21957 or higher.**
44. **System/Service processor combined microcode Version RR020822 dated 09/19/2002 or later.**
45. Support only SMP mode. No LPAR support.
46. Latest APAR for PSSP 3.1.1 is IY17870.
47. Requires minimum AIX5.1 with maintenance level 03 APAR IY32749.
48. **System/Service processor combined microcode Version RK021120 dated 12/11/2002 or later.**
49. **Minimum Powerpath version 3.0.3 is supported.**
50. **Fibre boot when used under AIX 5.2 requires APAR IY41028 which can be obtained from IBM at https://techsupport.services.ibm.com/server/fixes?view=pSeries.**
51. AIX 5.2 32/64 bit kernel supported. Requires Minimum EMC ODM fileset support 5.0.0.0.
52. **System/Service processor combined microcode Version RK030206 dated 03/31/2003 or later.**
53. Requires AIX 5.1 with minimum maintenance level 04 APAR IY44478.
54. Requires minimum HBA firmware 1.00X5.
55. Requires AIX 5.2 with minimum maintenance level 01 APAR IY44479.

IBM DYNIX/ptx
IBM

IBM – IBM DYNIX/ptx							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	xSeries NUMA-Q 2000	PCI	IBM DYNIX/ptx 4.4.9[1]	IBM: IOC-210-52 (LP6500)[8, 9], IOC-210-54 (LP7000E-N1)[8, 9]	FC-AL, FC-SW	N	See[5]
2	xSeries NUMA-Q 2000	PCI	IBM DYNIX/ptx 4.6.1[1]	IBM IOC-210-52 (LP6500)[8, 9]	FC-AL, FC-SW	Y[6, 7]	See[5]
3	xSeries NUMA-Q 2000	PCI	IBM DYNIX/ptx 4.6.1[1]	IBM IOC-210-54 (LP7000E-N1)[8, 9]	FC-AL, FC-SW	Y[6]	See[5]
4	xSeries NUMA-Q 2000	PCI	IBM DYNIX/ptx 4.4.6[12], 4.4 7[12]	IBM IOC-210-54 (LP7000E-N1)[9]	FC-AL, FC-SW	N	
5	xSeries NUMA-Q 2000[3]	PCI	IBM DYNIX/ptx 4.4.9[1]	IBM FC to SCSI Bridge	FC-BR	N	
6	xSeries NUMA-Q 2000	PCI	IBM DYNIX/ptx 4.4.9[1]	IBM FCB 1000-MB	FC-BR	N	See[3]
7	xSeries NUMA-Q 2000	PCI	IBM DYNIX/ptx 4.5.2	IBM FC to SCSI Bridge[4, 11]	FC-BR	N	
8	xSeries NUMA-Q 2000	PCI	IBM DYNIX/ptx 4.4 6[12], 4.4 7[12]	IBM FCB 1000-MB	FC-BR	N	
9	xSeries NUMA-Q 2000	PCI	IBM DYNIX/ptx 4.4.8[1], 4.5.2[1], 4.6.1[1]	IBM FCB 1000-MB[4]	FC-BR	N	See[3]
10	xSeries NUMA-Q 2000	PCI	IBM DYNIX/ptx 4.4 10[1, 10], 4.4.8[1], 4.5.2[1], 4.5.3[1, 10]	IBM: IOC-210-52 (LP6500)[8, 9], IOC-210-54 (LP7000E-N1)[8, 9]	FC-SW	N	See[5]
11	xSeries NUMA-Q 2000	PCI	IBM DYNIX/ptx 4.4 6[12], 4.4 7[12]	IBM IOC-210-52 (LP6500)[9]	FC-SW	N	
12	Symmetry 5000	PCI	IBM DYNIX/ptx 4.2.4[1] 4.4.6[12], 4.4 7[12] 4.4.8[1]	IBM: QCIC-E QCIC-W-CTLR-01	FWD		
13	Symmetry 2000[2]	PCI	IBM DYNIX/ptx 4.2.4[1] 4.4.8[1]	IBM: QCIC-E QCIC-W-CTLR-01	FWD		
14	Symmetry 2000	PCI	IBM DYNIX/ptx 4.4.6[12], 4.4 7[12]	IBM: QCIC-E, QCIC-W-CTLR-01	FWD		

1. Symmetrix 8000 Series 66/67 support DYNIX/ptx 4.2.4(66 only) 4.4.x, 4.5.1, 4.6.0(Symmetry @ 4.2)
2. Dynix 4.5.1 is not supported on Symmetry 2000
3. Attachment is through an integrated Fibre Channel to SCSI Bridge C10V cable requires switched termination ptx 4.4.2 requires a minimum Symmetrix microcode level of 5264.25.2
4. FC to SCSI Bridge and firmware v1.5.5

5. FC-AL support only available in DYNIX/ptx 4.5.0 and above.
6. Boot device cannot be mapped to FC-to-SCSI bridges.
7. Not supported on the EMC DP3-FCD4 or on the DP3-FCD42G(S).
8. EMC DP3-FCD4 supported on DYNIX/ptx 4.4.8, 4.4.9, 4.4.10, 4.5.2, 4.5.3, and 4.6.1 only. Requires minimum 5x67 microcode 5567.34.19A, or 5568.27.12A.
9. EMC DP3-FCD42G and EMC DP3-FCD42GS supported on DYNIX/ptx 4.4.8, 4.4.9 and 4.4.10 only.
10. DYNIX/ptx 4.4.10 and 4.5.3 are not supported in FC-AL Configurations
11. Attachment is through and integrated Fibre Channel to SCSI bridge C10V cable requires switched termination.
12. Only supported in cluster configurations

IBM MVS/ESA

IBM

IBM – IBM MVS/ESA							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM MVS/ESA 5.1	IBM BMC-Parallel	BMC-Parallel	N	See[1]
2	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM MVS/ESA 5.1	IBM BMC-Parallel	BMC-Parallel	N	
3	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM MVS/ESA 5.1	IBM ESCON	ESCON	N	See[1]
4	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM MVS/ESA 5.1	IBM ESCON	ESCON	N	

1. SuSE Linux AG kernel 2.2 / 2.4, TurboLinux kernel 2.2 / 2.4, and Red Hat kernel 2.2 / 2.4: support for Linux on Symmetrix is limited to basic I/O operations only. Control of Symmetrix features (i.e., SRDF, TF. Config Mgr) is not supported at this time. Linux is supported both in an LPAR and as a guest under VM/ESA.

IBM OS/390

Amdahl

Amdahl – IBM OS/390						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	IBM OS/390: 2.10, 2.6, 2.7.0, 2.8, 2.9.0	IBM BMC-Parallel[1]	BMC-Parallel	N
2	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	IBM OS/390: 2.10, 2.6, 2.7.0, 2.8, 2.9.0	IBM ESCON	ESCON	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series.

IBM

IBM – IBM OS/390							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM OS/390 1.1	IBM BMC-Parallel	BMC-Parallel	N	
2	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM OS/390 2.8	IBM BMC-Parallel	BMC-Parallel	N	See[1]
3	Multiprise 3000	Mainframe Bus	IBM OS/390: 1.1, 2.6	IBM BMC-Parallel	BMC-Parallel	N	See[1]
4	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM OS/390: 2.10, 2.6, 2.7.0, 2.8, 2.9.0	IBM BMC-Parallel	BMC-Parallel	N	See[1]
5	z/series: z800-2066, z900-2064	Mainframe Bus	IBM OS/390: **2.10**, 2.6, 2.8, **2.9.0**	IBM BMC-Parallel[2]	BMC-Parallel	N	
6	Multiprise 3000	Mainframe Bus	IBM OS/390: 2.10, 2.7.0, 2.8, 2.9.0	IBM BMC-Parallel	BMC-Parallel	N	
7	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM OS/390 1.1	IBM ESCON	ESCON	N	
8	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM OS/390 2.8	IBM ESCON	ESCON	N	See[1]
9	Multiprise 3000	Mainframe Bus	IBM OS/390: 1.1, 2.6	IBM ESCON	ESCON	N	See[1]
10	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM OS/390: 2.10, 2.6, 2.7.0, 2.8, 2.9.0	IBM ESCON	ESCON	N	See[1]
11	z/series: z800-2066, z900-2064	Mainframe Bus	IBM OS/390: **2.10**, 2.6, 2.8, **2.9.0**	IBM ESCON	ESCON	N	
12	Multiprise 3000	Mainframe Bus	IBM OS/390: 2.10, 2.7.0, 2.8, 2.9.0	IBM ESCON	ESCON	N	
13	z/series: z800-2066, z900-2064	Mainframe Bus	IBM OS/390: **2.10**, 2.8, **2.9.0**	IBM FICON	FICON	N	

1. SuSE Linux AG kernel 2.2 / 2.4, TurboLinux kernel 2.2 / 2.4, and Red Hat kernel 2.2 / 2.4: support for Linux on Symmetrix is limited to basic I/O operations only. Control of Symmetrix features (i.e., SRDF, TF. Config Mgr) is not supported at this time. Linux is supported both in an LPAR and as a guest under VM/ESA.
2. Parallel channel attachment is only available on the Symmetrix 5000 series.

IBM OS/400

IBM

IBM – IBM OS/400							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AS/400 9406: 270, 820[9], 830[9], 840[9]	PCI	IBM OS/400: V5R1[5, 16], V5R2	IBM 2844	FC-AL	N	See[14]
2	AS/400 9406: 270, 820[9], 830[9], 840[9]	PCI	IBM OS/400: V5R1[5, 16], V5R2	IBM: 2766, 2843	FC-AL[15]	N	See[14]
3	AS/400 9406 890	PCI	IBM OS/400 V5R2	IBM 2766	FC-AL[16]	Y[10, 11, 18]	See[17]
4	AS/400 9406 270[19]	PCI	IBM OS/400: V4R5[5], V5R1[5]	IBM 8HDA	FC-SW	Y	
5	AS/400 9406: 820[11], 830[11], 840[11]	SPD	IBM OS/400 V4R5[5], V5R1[5]	IBM 8HDA	FC-SW	Y	
6	AS/400 9406: 500[6], 50S[6], 510[6], 530[6], 53S[6]	SPD	IBM OS/400 V4R5[4, 5]	IBM 6501	FWD	Y[2, 3]	See[1]
7	AS/400 9406: 620[6], 720[6], S20[6]	SPD	IBM OS/400 V4R5[4, 5]	IBM 6501	FWD	Y[7, 8]	See[1]
8	AS/400 9406: 640[6], 650[6], 730[6], 740[6], S30[6], S40[6]	SPD	IBM OS/400 V4R5[4, 5]	IBM 6501	FWD	Y[2, 7]	See[1]
9	AS/400 9406: 820[9], 830[9], 840[9]	SPD	IBM OS/400 V4R5[4, 5]	IBM 6501	FWD	Y[10, 11, 12]	See[1]
10	AS/400 9406: 500[6], 50S[6], 510[6], 530[6], 53S[6]	SPD	IBM OS/400 V5R1[4, 5]	IBM 6501	FWD	Y[2, 3]	See[13]
11	AS/400 9406: 620[6], 720[6], S20[6]	SPD	IBM OS/400 V5R1[4, 5]	IBM 6501	FWD	Y[7, 8]	See[13]
12	AS/400 9406: 640[6], 650[6], 730[6], 740[6], S30[6], S40[6]	SPD	IBM OS/400 V5R1[4, 5]	IBM 6501	FWD	Y[2, 7]	See[13]
13	AS/400 9406: 820[9], 830[9], 840[9]	SPD	IBM OS/400 V5R1[4, 5]	IBM 6501	FWD	Y[10, 11, 12]	See[13]

IBM – IBM OS/400							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
14	AS/400 9406: 500[6], 50S[6], 510[6], 530[6], 53S[6], 620[6], 640[6], 650[6], 720[6], 730[6], 740[6], 820[9], 830[9], 840[9], S20[6], S30[6], S40[6]	SPD	IBM OS/400 V5R2	IBM 6501	FWD	N	See[13]

1. Minimum Symmetrix microcode for V4R5: 5065.26.12, 5265.50.32, 5266.22.18, 5566.23.18, 5568.36.14A.
2. Primary Load Source: uHDA. Primary Load Source used for stand-alone system or primary partition.
3. Secondary Load Source: N/A. Secondary Load Source used for secondary partition in an expansion bus.
4. Symm5 & 66/67 support: OS/400 V4R5, V5R1, V5R2
5. Subject to IBMs limitations per host model.
6. These systems can come with an SPD-bus in the base-system cabinet, but can also be equipped with a "PCI-Only" Card-Cage. In a "PCI-Only" case, an additional SPD attachment and Expansion Cabinet is neccesary to attach the #6501-Cards to the AS/400
7. Secondary Load Source: uHDA. Secondary Load Source used for secondary partition in an expansion bus.
8. Primary Load Source. eHDA. Primary Load Source used for stand-alone system or primary partition.
9. Requires IBM SPD migration tower 5057 or 5077 for external storage connection to 6501.
10. Primary Load Source: 8HDA. Primary Load Source used for stand-alone system or primary partition
11. Requires IBM SPD migration tower 5057 or 5077 for external storage connection to 6501 and for expansion buses.
12. Secondary Load Source. uHDA, 8HDA. Secondary Load Source used for secondary partition in an expansion bus.
13. Minimum Symmetrix microcode for V5R1: 5266.39.27S, 5566.40.27S, 5267.24.16S, 5567.31.16S, 5568.36.14A. V5R2 min ucode 5267.40.27, 5567.49.27
14. Minimum Symmetrix microcode 5568.36.14A or later using DP3-FCD4, DP3-FCD42G in 1Gb mode.
15. Direct connect only. Hub connection not supported for boot device.
16. Direct Connect only
17. Minimum Symmetrix microcode 5568.36.14A or later using DP3-FCD4, DP3-FCD42G in 1Gb mode. V5R2 minimum Symmetrix microcode 5568.54.20. Can support 1Gb or 2Gb mode.
18. 8HDA is the only load source compatible with model 890
19. 8HDA is the only load source compatible with model 270

IBM TPF

Amdahl

Amdahl – IBM TPF						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	IBM TPF 4.1	IBM BMC-Parallel[1]	BMC-Parallel	N
2	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	IBM TPF 4.1	IBM ESCON	ESCON	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series.

IBM

IBM – IBM TPF						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	ES/9000: 9020, 9121, 9221; S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM TPF 4.1	IBM BMC-Parallel	BMC-Parallel	N
2	z/series: z800-2066, z900-2064	Mainframe Bus	IBM TPF 4.1	IBM BMC-Parallel[1]	BMC-Parallel	N
3	ES/9000: 9020, 9121, 9221. S/390 parallel Enterprise Servers (G5 series) 9672-Rxx; z/series. z800-2066, z900-2064	Mainframe Bus	IBM TPF 4.1	IBM ESCON	ESCON	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series.

IBM TPF HPO

Amdahl

Amdahl – IBM TPF HPO						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	IBM TPF HPO 4.1	IBM BMC-Parallel[1]	BMC-Parallel	N
2	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	IBM TPF HPO 4.1	IBM ESCON	ESCON	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series.

IBM

IBM – IBM TPF HPO						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM TPF HPO 4.1	IBM BMC-Parallel	BMC-Parallel	N
2	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM TPF HPO 4.1	IBM ESCON	ESCON	N

IBM VM/ESA

Amdahl

Amdahl – IBM VM/ESA						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	IBM VM/ESA: 2.2.0, 2.3, 2.4.0	IBM BMC-Parallel[1]	BMC-Parallel	N
2	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	IBM VM/ESA: 2.2.0, 2.3, 2.4.0	IBM ESCON	ESCON	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series

IBM

IBM – IBM VM/ESA							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM VM/ESA 1.2.2	IBM BMC-Parallel	BMC-Parallel	N	
2	z/series z900-2064	Mainframe Bus	IBM VM/ESA 2.3	IBM BMC-Parallel[2]	BMC-Parallel	N	See[1]
3	z/series z800-2066	Mainframe Bus	IBM VM/ESA 1.2.2, 2.2.0, 2.3, 2.4.0	IBM BMC-Parallel[2]	BMC-Parallel	N	See[1]
4	z/series z900-2064	Mainframe Bus	IBM VM/ESA 1.2.2, 2.2.0, 2.4.0	IBM BMC-Parallel[2]	BMC-Parallel	N	See[1]

IBM – IBM VM/ESA							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
5	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM VM/ESA: 1.2.2, 2.3	IBM BMC-Parallel	BMC-Parallel	N	See[1]
6	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM VM/ESA: 2.2.0, 2.4.0	IBM BMC-Parallel	BMC-Parallel	N	
7	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM VM/ESA 1.2.2	IBM ESCON	ESCON	N	
8	Multiprise 3000; z/series z900-2064	Mainframe Bus	IBM VM/ESA 2.3	IBM ESCON	ESCON	N	
9	z/series z800-2066	Mainframe Bus	IBM VM/ESA: 1.2.2, 2.2.0, 2.3, 2.4.0	IBM ESCON	ESCON	N	See[1]
10	z/series z900-2064	Mainframe Bus	IBM VM/ESA: 1.2.2, 2.2.0, 2.4.0	IBM ESCON	ESCON	N	See[1]
11	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM VM/ESA: 1.2.2, 2.3	IBM ESCON	ESCON	N	See[1]
12	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM VM/ESA: 2.2.0, 2.4.0	IBM ESCON	ESCON	N	

1. SuSE Linux AG kernel 2.2 / 2.4, TurboLinux kernel 2.2 / 2.4, and Red Hat kernel 2.2 / 2.4: support for Linux on Symmetrix is limited to basic I/O operations only. Control of Symmetrix features (i.e., SRDF, TF, Config Mgr) is not supported at this time. Linux is supported both in an LPAR and as a guest under VM/ESA.
2. Parallel channel attachment is only available on the Symmetrix 5000 series.

IBM VSE/ESA
Amdahl

Amdahl – IBM VSE/ESA						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	IBM VSE/ESA: 2.1.0, 2.2, 2.3.0, 2.4.0	IBM BMC-Parallel[1]	BMC-Parallel	N
2	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	IBM VSE/ESA: 2.1.0, 2.2, 2.3.0, 2.4.0	IBM ESCON	ESCON	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series.

IBM

IBM – IBM VSE/ESA							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM VSE/ESA 1.4	IBM BMC-Parallel	BMC-Parallel	N	See[1]
2	z/series: z800-2066, z900-2064	Mainframe Bus	IBM VSE/ESA 3.2	IBM BMC-Parallel[2]	BMC-Parallel	N	
3	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM VSE/ESA: 1.4, 2.2, 3.2	IBM BMC-Parallel	BMC-Parallel	N	See[1]
4	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM VSE/ESA: 2.1.0, 2.3.0, 2.4.0	IBM BMC-Parallel	BMC-Parallel	N	
5	Multiprise 3000	Mainframe Bus	IBM VSE/ESA: 2.2, 3.2	IBM BMC-Parallel	BMC-Parallel	N	See[1]
6	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM VSE/ESA 1.4	IBM ESCON	ESCON	N	See[1]
7	z/series: z800-2066, z900-2064	Mainframe Bus	IBM VSE/ESA 3.2	IBM ESCON	ESCON	N	
8	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM VSE/ESA: 1.4, 2.2, 3.2	IBM ESCON	ESCON	N	See[1]
9	ES/9000: 9020, 9121, 9221	Mainframe Bus	IBM VSE/ESA: 2.1.0, 2.3.0, 2.4.0	IBM ESCON	ESCON	N	
10	Multiprise 3000	Mainframe Bus	IBM VSE/ESA: 2.2, 3.2	IBM ESCON	ESCON	N	See[1]

1. SuSE Linux AG kernel 2.2 / 2.4, TurboLinux kernel 2.2 / 2.4, and Red Hat kernel 2.2 / 2.4: support for Linux on Symmetrix is limited to basic I/O operations only. Control of Symmetrix features (i.e., SRDF, TF, Config Mgr) is not supported at this time. Linux is supported both in an LPAR and as a guest under VM/ESA.
2. Parallel channel attachment is only available on the Symmetrix 5000 series.

IBM z/OS
IBM

IBM – IBM z/OS						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM z/OS	IBM BMC-Parallel	BMC-Parallel	N
[illegible]	z/series. z800-2066, z900-2064	Mainframe Bus	IBM z/OS	IBM BMC-Parallel[1]	BMC-Parallel	N
3	z/series: z800-2066, z900-2064	Mainframe Bus	IBM z/OS 1.4	IBM BMC-Parallel	BMC-Parallel[1]	N
4	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM z/OS	IBM ESCON	ESCON	N
5	z/series. z800-2066, z900-2064	Mainframe Bus	IBM: z/OS, z/OS 1.4	IBM ESCON	ESCON	N
6	z/series. z800-2066, z900-2064	Mainframe Bus	IBM z/OS 1.4	IBM FICON	FICON	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series

IBM z/OS.e
IBM

IBM – IBM z/OS.e						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	z/series. z800-2066, z900-2064	Mainframe Bus	IBM z/OS.e 1.4	IBM BMC-Parallel	BMC-Parallel[1]	N
2	z/series: z800-2066, z900-2064	Mainframe Bus	IBM z/OS.e 1.4	IBM ESCON	ESCON	N
3	z/series. z800-2066, z900-2064	Mainframe Bus	IBM z/OS.e 1.4	IBM FICON	FICON	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series.

IBM z/VM
IBM

IBM – IBM z/VM						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx	Mainframe Bus	IBM z/VM	IBM BMC-Parallel	BMC-Paralle	N
2	z/series. z800-2066, z900-2064	Mainframe Bus	IBM z/VM	IBM BMC-Parallel[1]	BMC-Paralle	N

IBM – IBM z/VM						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
3	S/390 parallel Enterprise Servers (G5 series) 9672-Rxx; z/series: z800-2066, z900-2064	Mainframe Bus	IBM z/VM	IBM ESCON	ESCON	N

1. Parallel channel attachment is only available on the Symmetrix 5000 series

Microsoft Windows 2000

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Bull

Bull – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Express 5800: 320La[13] 320La-R[13], 320Lb[13], 320Lb-R[13] 330Ma-R[13], 330Mb-R[13], 340Ha-R[13]**	**PCI**	**Microsoft Windows 2000 Advanced Server SP2[3, 4]**	**QLogic QLA2310F-E-SP[11, 12]**	**FC-AL, FC-SW**	N	
2	**Express 5800: 320La[13], 320La-R[13], 320Lb[13], 320Lb-R[13] 330Ma-R[13], 330Mb-R[13], 340Ha-R[13]**	PCI	**Microsoft Windows 2000 Advanced Server SP3[3]**	**QLogic QLA2310F-E-SP[11, 12]**	**FC-AL, FC-SW**	**N**	**See[27]**
3	Express 5800 180Rb7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4; Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4	Emulex LP8000-EMC[5]; **QLogic QLA2300F-E-SP[9, 10]**	FC-AL, FC-SW	N	
4	**Express 5800: HX4600, MH4500**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4; Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4**	**QLogic QLA2300F-E-SP[9, 10]**	FC-AL, FC-SW	N	
5	Express 5800 140Ra4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP7000E-EMC[22], LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[10, 15, 20], LP9002DC-E[10, 15, 16, 17, 18]; QLogic: QLA2200F-EMC, QLA2202F-EMC[21], **QLA2300F-E-SP[9, 10], QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]**	FC-AL, FC-SW	Y[6, 7, 8]	
6	Express 5800: HX4600, MH4500	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP7000E-EMC[22], LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[10], LP9002DC-E[10, 15, 16, 17, 18], LP9802-E[14, 15], LP9802DC-E[10, 14], LP982-E[14, 15]; QLogic: QLA2200F-EMC, QLA2202F-EMC[21], **QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]**	FC-AL, FC-SW	N	
7	Express 5800: **120Md**, 120Rc-2 140Hb, 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP7000E-EMC[22], LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[10], LP9002DC-E[10, 15, 16, 17, 18]; QLogic: QLA2200F-EMC, QLA2202F-EMC[21], **QLA2300F-E-SP[9, 10], QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]**	FC-AL, FC-SW	Y[6, 7, 8]	
8	Express 5800 180Rb7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP7000E-EMC[22], LP850-EMC, LP9002-E (LP9002L-E)[10], LP9002DC-E[10, 15, 16, 17, 18], LP9802-E[14, 15], LP9802DC-E[10, 14], LP982-E[14, 15]; QLogic: QLA2200F-EMC, QLA2202F-EMC[21], **QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]**	FC-AL, FC-SW	N	
9	Express 5800: **120Md**, 120Rc-2, 140Hb, 140Ra-7, 140Ra4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9802-E[14, 15], LP9802DC-E[10, 14], LP982-E[14, 15]	FC-AL, FC-SW	Y[6, 7, 8, 19]	
10	**Express 5800: 120Md, 120Rc-2 140Hb, 140Ra-7, 140Ra4**	PCI	**Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4**	**QLogic QLA2300F-E-SP[9, 10]**	FC-AL, FC-SW	N	
11	Express 5800 120Ra4	PCI	Microsoft Windows 2000 Advanced Server SP2[3, 4]	Adaptec ASC-29160[24, 25]	U2 LVD	N	See[23]
12	Express 5800 **120Md** 120Rc-2 140Hb, 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server SP2[3, 4]	Adaptec ASC-29160[24, 25]	U2 LVD	Y[8]	See[23]
13	Express 5800 120Ra4	PCI	Microsoft Windows 2000 Advanced Server SP2[3, 4] SP3[3] SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4]	Adaptec ASC-39160[24, 25]	U2 LVD	N	See[23]

Bull – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
14	Express 5800: **120Md**, 120Rc-2, 140Hb, 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4]	Adaptec ASC-39160[24, 25]	U2 LVD	Y[8]	See[23]
15	Express 5800 140Ra4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec ASC-29160[24, 25], ASC-39160[24, 25]	U2 LVD	Y[8]	
16	Express 5800 120Ra4	PCI	Microsoft Windows 2000 Advanced Server: SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec ASC-29160[24, 25]	U2 LVD	N	See[26]
17	Express 5800: **120Md**, 120Rc-2, 140Hb, 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server: SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec ASC-29160[24, 25]	U2 LVD	Y[8]	See[26]
18	Express 5800 120Ra4	PCI	Microsoft Windows 2000 Server: SP3[3, 4], SP4	Adaptec ASC-39160[24, 25]	U2 LVD	N	See[26]
19	Express 5800: **120Md**, 120Rc-2, 140Hb, 140Ra-7	PCI	Microsoft Windows 2000 Server, SP3[3, 4], SP4	Adaptec ASC-39160[24, 25]	U2 LVD	Y[8]	See[26]
20	Express 5800: **120Md**, 120Rc-2, 140Hb, 140Ra-7, 140Ra4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec AHA-2944UW[1, 2]	UWD	Y[8]	
21	Express 5800: HX4600, MH4500	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec AHA-2944UW[1, 2]	UWD	N	

1. Requires Legacy PCI slot (not available on new servers.)
2. Requires BIOS version 2.20 and driver version 2.20b (native on Windows 2000 Advanced Server CD-ROM).
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
6. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.
7. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
8. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
9. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
10. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
11. **Qlogic SANSurfer/SANBlade Manager is not supported.**
12. **Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**
13. **Bus Enumeration Issue Causes Problems using SYMCLI SCSI bus enumeration of disks will change depending on cold boot or warm boot. This causes symcli commands to fail because the path is changed and SYMCLI can no longer communicate with the Symmetrix.**

    By "shutdown" and booting system, internal disks are assigned first, followed by Symmetrix disks.
    By "restart" the system, Symmetrix disks are assigned first, followed by internal disks. Drive letter are not changed in both cases.
    The workaround is to perform "symcfg discover" after rebooting.
14. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
15. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
16. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
17. Host must be offline for interfamily Symmetrix microcode upgrade
18. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
    CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only
19. The LP9002-E now ships with the LP9002L-E low profile adapter
20. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com Supports SNIA HBA API.
21. Requires HBA driver revision 2.13a4 and firmware 3.30a7. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com
22. Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B.
23. Requires BIOS version 3.10.0 and driver 4.10.4002 set V 1.02
24. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L)
25. Adaptec AHA-2944UW has been OEM'ed by HP as A5252A and A5252B
26. Windows 2000 Professional is supported as the management workstation.

DG

DG – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON AV3704	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5] SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6] Server SP3[5, 6], Server SP4	QLogic QLA2200F-EMC[10]	FC-AL	N	
2	AViiON AV1400[8], AV2300[8], AV2700[8], AV2800[8], AV3600[8], AV3700[8], AV3704R[8], AV3800[8], AV8700[8], AV8900[8], AV8950[8], AV8950R[8]	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5] SP4 Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6] Server SP3[5, 6], Server SP4	QLogic QLA2200F-EMC[10]	FC-AL	Y[1, 2, 3, 4]	
3	AViiON AV8950R[8]	PCI	Microsoft Windows 2000 Advanced Server SP2[5, 6]	Emulex LP9802-E[23], LP9802DC-E[11, 23]	FC-AL, FC-SW	N	

DG – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
4	**AViiON: AV3704, AV3750**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4;** **Microsoft Windows 2000 Server: SP2[5, 6], SP3[5, 6], SP4**	**QLogic QLA2300F-E-SP[11, 12]**	FC-AL, FC-SW	N	
5	**AViiON AV8950**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6]**	**QLogic QLA2310F-E-SP[11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	**See[16]**
6	**AViiON AV3700**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6]**	**QLogic QLA2310F-E-SP[12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	**See[16]**
7	AViiON AV8950R	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex LP982-E[24]	FC-AL, FC-SW	N	
8	AViiON AV8600	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP7000E-EMC[7], LP8000-EMC[9, 20], LP850-EMC; QLogic: QLA2200F-EMC, QLA2202F-EMC[10], **QLA2310F-E-SP[11, 12], QLA2340-E-SP[11, 12, 17, 18], QLA2342-E-SP[11, 12, 17, 18]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
9	AViiON: AV1400[8], AV2300[8], AV2700[8], AV2800[8], AV3600[8], AV3700[8], AV3704R[8], AV3800[8], AV8700[8], AV8900[8], AV8950[8], AV8950R[8]	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP7000E-EMC[7], LP8000-EMC[9], LP850-EMC; QLogic QLA2202F-EMC[10]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
10	AViiON AV3704	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP7000E-EMC[7], LP8000-EMC[9], LP850-EMC; QLogic: QLA2202F-EMC[10], **QLA2310F-E-SP[11, 12], QLA2340-E-SP[11, 12], QLA2342-E-SP[11, 12]**	FC-AL, FC-SW	N	
11	**AViiON: AV2300, AV2700, AV3600, AV3700[8], AV8600, AV8700**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4**	**QLogic QLA2300F-E-SP[11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	**See[15]**
12	AViiON AV3750	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	QLogic: QLA2202F-EMC[10], **QLA2310F-E-SP[11, 12], QLA2340-E-SP[11, 12], QLA2342-E-SP[11, 12]**	FC-AL, FC-SW	N	
13	**AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4**	**QLogic: QLA2300F-E-SP[11, 12], QLA2310F-E-SP[11, 12], QLA2340-E-SP[11, 12], QLA2342-E-SP[11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
14	**AViiON AV8950**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4**	**QLogic: QLA2300F-E-SP[11, 12], QLA2340-E-SP[11, 12, 17, 18], QLA2342-E-SP[11, 12, 17, 18]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
15	**AViiON: AV2300, AV2700, AV3600, AV3700, AV8700**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4**	**QLogic: QLA2340-E-SP[11, 12, 17, 18], QLA2342-E-SP[11, 12, 17, 18]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
16	**AViiON: AV2300, AV2700, AV3600, AV8700**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter SP4, Server SP2[5, 6], Server SP3[5], Server SP4**	**QLogic QLA2310F-E-SP[12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	**See[15]**
17	AViiON AV8950R	PCI	Microsoft Windows 2000 Advanced Server SP3[5], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex LP9802-E[23], LP9802DC-E[11, 23]	FC-AL, FC-SW	N	
18	AViiON AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950R	PCI	**Microsoft Windows 2000 Datacenter SP2[5, 6], SP3[5, 6], SP4**	**QLogic QLA2300F-E-SP[11, 12]**	FC-AL, FC-SW	N	
19	AViiON AV2300[8], AV2700[8], AV3600[8], AV3700[8], AV8600, AV8700[8], AV8950	PCI	**Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4**	**QLogic QLA2300F-E-SP[11, 12]**	FC-AL, FC-SW	N	

DG – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
20	**AViiON: AV2300, AV2700, AV3600, AV3700, AV8700, AV8950**	PCI	**Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4**	**QLogic: QLA2310F-E-SP[12], QLA2340-E-SP[11, 12, 17, 18], QLA2342-E-SP[11, 12, 17, 18]**	FC-AL, FC-SW	N	
21	**AViiON AV8600**	PCI	**Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6],** SP4	**QLogic: QLA2340-E-SP[11, 12, 17, 18], QLA2342-E-SP[11, 12, 17, 18]**	FC-AL, FC-SW	N	
22	**AViiON AV8950**	PCI	**Microsoft Windows 2000 Server: SP3[5, 6], SP4**	**QLogic QLA2310F-E-SP[11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	**See[19]**
23	**AViiON AV3700**	PCI	**Microsoft Windows 2000 Server: SP3[5], SP4**	**QLogic QLA2310F-E-SP[12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	**See[19]**
24	AViiON: **AV2300, AV2700,** AV2800, **AV3600, AV3700,** AV3704R, **AV8600, AV8700,** AV8900, **AV8950**	PCI	Microsoft Windows 2000 Advanced Server SP2[5, 6]	Adaptec ASC-29160[21, 22]	U2 LVD	Y[1, 4]	See[16]
25	AViiON: AV2300, AV2700, AV2800, AV3600, AV3700, AV3704R, AV8600, AV8700, AV8900, AV8950	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6]	Adaptec ASC-39160[21, 22]	U2 LVD	Y[1, 4]	See[16]
26	AViiON: AV2300, AV2700, AV2800, AV3600, AV3700, AV3704R, AV8600, AV8700, AV8900, AV8950	PCI	Microsoft Windows 2000 Advanced Server: SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Adaptec ASC-29160[21, 22]	U2 LVD	Y[1, 4]	See[19]
27	AViiON: AV2300, AV2700, AV2800, AV3600, AV3700, AV3704R, AV8600, AV8700, AV8900 AV8950	PCI	Microsoft Windows 2000 Server: SP3[5, 6], SP4	Adaptec ASC-39160[21, 22]	U2 LVD	Y[1, 4]	See[19]
28	AViiON AV8950	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Adaptec AHA-2944UW[13, 14]	UWD	Y[1, 4]	

1. Data General servers that are rack-mountable (designated by Data General with an "R") are supported.
2. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
3. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
4. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
7. Requires HBA driver revision 2.13a4 and firmware 3.30a7. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com
8. Data General servers that are rack-mountable (designated with an "R") are supported.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
10. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
11. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
12. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
13. Requires Legacy PCI slot (not available on new servers.)
14. Requires BIOS version 2.20 and driver version 2.20b (native on Windows 2000 Advanced Server CD-ROM).
15. AHA-2944W is no longer available in distribution channels.
16. Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B.
17. **Qlogic SANSurfer/SANBlade Manager is not supported.**
18. **Qlogic SanBlade Manager is not supported.**
19. Adaptec AHA-2944UW has been OEM'ed by HP as A5252A and A5252B.
20. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
21. Requires BIOS version 3.10.0 and driver 4.10.4002 set V.1.02
22. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L).
23. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
24. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.

Dell

Dell – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerEdge 1550[6]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4] SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	QLogic QLA2200F-EMC[7]	FC-AL	Y[1, 2, 3]	
2	PowerEdge 2650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	QLogic QLA2100F-EMC	FC-AL	N	
3	PowerVault 750N, 755N	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9002-E (LP9002L-E)[15], LP9002DC-E[14, 15, 16, 17, 18]; QLogic QLA2202F-EMC[7], **QLA2300F-E-SP[15, 20], QLA2310F-E-SP[15, 20], QLA2340-E-SP[15, 20], QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	N	
4	**PowerEdge 1650[6] PowerVault 770N, 775N**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4]** SP4, **Microsoft Windows 2000 Datacenter SP2[4, 5] SP3[4, 5] SP4** **Microsoft Windows 2000 Server SP2[4, 5] SP3[4, 5] SP4**	**QLogic QLA2300F-E-SP[15, 20]**	FC-AL, FC-SW	N	
5	PowerEdge 8450[6]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5] SP3[4] SP4 Microsoft Windows 2000 Server, SP2[4, 5] SP3[4, 5], SP4	Emulex LP8000-EMC[10], QLogic QLA2200F-EMC[7]	FC-AL, FC-SW	Y[1, 2, 3]	

Dell – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
6	PowerEdge: 2400[6], 2450[6], 2500[6], 2550[6, 11], 4400[6], 6400[6], 6450[6]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[8, 9], LP8000-EMC[10], LP850-EMC[8], LP9002-E (LP9002L-E)[15], LP9002DC-E[14, 15, 16, 17, 18]; QLogic: QLA2200F-EMC[7], QLA2202F-EMC[7] **QLA2300F-E-SP[15, 20], QLA2310F-E-SP[15, 20], QLA2340-E-SP[15, 20], QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	Y[1, 2, 3]	
7	PowerEdge 1550[6]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[8, 9], LP8000-EMC[10], LP850-EMC[8], LP9002-E (LP9002L-E)[15], LP9002DC-E[14, 15, 16, 17, 18]; QLogic: QLA2202F-EMC[7], **QLA2300F-E-SP[15, 20], QLA2310F-E-SP[15, 20], QLA2340-E-SP[15, 20], QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	Y[1, 2, 3]	
8	PowerEdge: 4300[6], 4350	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[8, 9], LP8000-EMC[10], LP850-EMC[8]; QLogic: QLA2200F-EMC[7], QLA2202F-EMC[7]	FC-AL, FC-SW	N	
9	PowerEdge: 2300[6], 6100[6], 6300[6], 6350[6]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[8, 9], LP8000-EMC[10], LP850-EMC[8]; QLogic: QLA2200F-EMC[7], QLA2202F-EMC[7] **QLA2300F-E-SP[15, 20], QLA2310F-E-SP[15, 20], QLA2340-E-SP[15, 20], QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	Y[1, 2, 3]	
10	PowerEdge 8450[6]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[8, 9], LP850-EMC[8], LP9002-E (LP9002L-E)[15], LP9002DC-E[14, 15, 16, 17, 18]; QLogic: QLA2202F-EMC[7], **QLA2300F-E-SP[15, 20], QLA2310F-E-SP[15, 20], QLA2340-E-SP[15, 20], QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	Y[1, 2, 3]	
11	PowerEdge 1650[6]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[9], LP8000-EMC[10, 14], LP850-EMC[14]; QLogic: QLA2200F-EMC[7], QLA2202F-EMC[7] **QLA2310F-E-SP[15, 20], QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	N	
12	PowerEdge 1650[6]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9002-E (LP9002L-E)[15], LP9002DC-E[14, 15, 16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 19]	
13	PowerVault: 770N, 775N	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9002-E (LP9002L-E)[15], LP9002DC-E[14, 15, 16, 17, 18]; QLogic: QLA2202F-EMC[7], **QLA2310F-E-SP[15, 20], QLA2340-E-SP[15, 20], QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	N	
14	PowerEdge 1650[6]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9802-E[16, 22], LP9802DC-E[15, 22], LP982-E[16, 22]	FC-AL, FC-SW	Y[1, 2, 3, 19, 21]	
15	PowerEdge: 1550[6], 2400[6], 2450[6], 2500[6], 2550[6, 11], 4400[6], 6400[6], 6450[6]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9802-E[16, 22], LP9802DC-E[15, 22], LP982-E[16, 22]	FC-AL, FC-SW	Y[1, 2, 3, 21]	
16	**PowerEdge 1650[6]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4**	**QLogic QLA2340-E-SP[15, 20]**	FC-AL, FC-SW	Y[1, 2, 3]	
17	PowerVault: 750N, 755N, 770N, 775N	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP7000E-EMC[9], LP8000-EMC[10, 14], LP850-EMC[14], LP9802-E[15, 16, 22], LP9802DC-E[15, 22], LP982-E[15, 16, 22]; QLogic QLA2200F-EMC[7]	FC-AL, FC-SW	N	
18	PowerEdge 6350	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4, Microsoft Windows 2000 Datacenter SP4	Emulex: LP9002-E (LP9002L-E)[14, 16, 23], LP9002DC-E[14, 15, 16, 17, 18], LP9802-E[15, 16, 22], LP9802DC-E[15, 22], LP982-E[15, 16, 22]	FC-AL, FC-SW	N	
19	PowerEdge 6300	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9002-E (LP9002L-E)[14, 16, 23], LP9002DC-E[14, 15, 16, 17, 18], LP9802DC-E[15, 22], LP982-E[15, 16, 22]	FC-AL, FC-SW	N	
20	PowerEdge 8450	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4, Microsoft Windows 2000 Datacenter SP4	Emulex LP9802-E[15, 16, 22], LP982-E[15, 16, 22]	FC-AL, FC-SW	Y[1, 2, 3, 21]	See[24]
21	PowerEdge 6300	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4, Microsoft Windows 2000 Datacenter SP2[4], SP3[4], SP4 Microsoft Windows 2000 Server SP2[4], SP3[4], SP4	Emulex LP9802-E[15, 16, 22]	FC-AL, FC-SW	N	
22	PowerEdge 8450	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4 Microsoft Windows 2000 Datacenter SP4, Server SP2[4, 5]	Emulex LP9802DC-E[15, 22]	FC-AL, FC-SW	Y[1, 2, 3, 21]	See[24]

Dell – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
23	PowerEdge 2600[6]	PCI	Microsoft Windows 2000 Advanced Server: SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9002-E (LP9002L-E)[15], LP9002DC-E[14, 15, 16, 17, 18]; QLogic QLA2202F-EMC[7]	FC-AL, FC-SW	Y[1, 2, 3]	
24	PowerEdge 8450[6]	PCI	Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4	Emulex LP8000-EMC[10]; QLogic QLA2200F-EMC[7]	FC-AL, FC-SW	Y	
25	**PowerEdge: 4300[6], 4350**	PCI	**Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[15]**	FC-AL, FC-SW	N	
26	**PowerEdge: 1550[6], 2300[6], 2400[6], 2450[6], 2500[6], 2550[6, 11, 30], 4400[6], 6100[6], 6300[6], 6350[6], 6400[6], 6450[6], 8450[6]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[15, 20]**	FC-AL, FC-SW	N	
27	PowerEdge 8450[6]	PCI	Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4], SP4	Emulex: LP9802-E[22], LP9802DC-E[15, 22], LP982-E[16]; QLogic QLA2340-E-SP	FC-AL, FC-SW	N	
28	PowerEdge 8450	PCI	Microsoft Windows 2000 Server SP2[4, 5]	Emulex LP9802-E[22]	FC-AL, FC-SW	Y[1, 2, 3, 21]	See[24]
29	PowerEdge 8450	PCI	Microsoft Windows 2000 Server SP2[4, 5]	Emulex LP982-E[16]	FC-AL, FC-SW	Y[1, 2, 3, 21, 22]	See[24]
30	PowerEdge 8450	PCI	Microsoft Windows 2000 Server: SP3[4, 5], SP4	Emulex LP982-E[16]	FC-AL, FC-SW	Y[1, 2, 3, 21, 22]	See[29]
31	PowerEdge 8450	PCI	Microsoft Windows 2000 Server: SP3[4, 5], SP4	Emulex: LP9802-E[22], LP9802DC-E[15, 22]	FC-AL, FC-SW	Y[1, 2, 3, 21]	See[29]
32	PowerEdge 2600[6]	PCI-X	Microsoft Windows 2000 Advanced Server SP2[4, 5]	Emulex: LP9802-E[15, 16, 22], LP982-E[15, 16, 22]	FC-AL, FC-SW	Y[1, 2, 3, 21]	
33	**PowerEdge 1750**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4;** **Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4;** **Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[15, 20]**	FC-AL, FC-SW	N	
34	PowerEdge 2650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex LP8000-EMC[10, 14]	FC-AL, FC-SW	N	
35	PowerEdge 6650[6]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[8, 9], LP8000-EMC[10, 14], LP850-EMC[8, 14], LP9002-E (LP9002L-E)[14, 15], LP9002DC-E[14, 15, 16, 17, 18]; QLogic: QLA2200F-EMC[7], QLA2202F-EMC[7], **QLA2300F-E-SP[15, 20], QLA2310F-E-SP[15, 20], QLA2340-E-SP[15, 20], QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	Y[1, 2, 3]	
36	PowerEdge 6600[6]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[8, 9], LP8000-EMC[10], LP850-EMC[8], LP9002-E (LP9002L-E)[15], LP9002DC-E[14, 15, 16, 17, 18]; QLogic: QLA2200F-EMC[7], QLA2202F-EMC[7], **QLA2300F-E-SP[15, 20], QLA2310F-E-SP[15, 20], QLA2340-E-SP[15, 20], QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	Y[1, 2, 3]	
37	PowerEdge 4600[6]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[9], LP8000-EMC[10, 14], LP850-EMC[14], LP9002-E (LP9002L-E)[15], LP9002DC-E[14, 15, 16, 17, 18]; QLogic: QLA2200F-EMC[7], QLA2202F-EMC[7], **QLA2300F-E-SP[15, 20], QLA2310F-E-SP[15, 20], QLA2340-E-SP[15, 20], QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	Y[1, 2, 3]	
38	PowerEdge 1750	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[9], LP8000-EMC[10, 14], LP850-EMC[14]; QLogic: QLA2200F-EMC[7], QLA2202F-EMC[7], **QLA2310F-E-SP[15, 20], QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	N	
39	PowerEdge 1750	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9002-E (LP9002L-E)[15], LP9002DC-E[14, 15, 16, 17, 18]	FC-AL, FC-SW	Y[1, 2, 3, 19]	
40	PowerEdge 2650[6]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9002-E (LP9002L-E)[15], LP9002DC-E[14, 15, 16, 17, 18]; **QLogic: QLA2300F-E-SP[15, 20], QLA2310F-E-SP[15, 20], QLA2340-E-SP[15, 20], QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	Y[1, 2, 3]	
41	PowerEdge 1750	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9802-E[16, 22], LP9802DC-E[15, 22], LP982-E[16, 22]	FC-AL, FC-SW	Y[1, 2, 3, 19, 21]	
42	PowerEdge: 2650[6] 4600[6], 6600[6], 6650[6]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9802-E[16, 22], LP9802DC-E[15, 22], LP982-E[16, 22]	FC-AL, FC-SW	Y[1, 2, 3, 21]	
43	**PowerEdge 1750**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4] SP4** **Microsoft Windows 2000 Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4**	**QLogic QLA2340-E-SP[15, 20]**	FC-AL FC-SW	Y[1, 2, 3]	

Dell – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
44	PowerEdge 2600	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9802DC-E[15, 22]	FC-AL, FC-SW	Y[1, 2, 3, 21]	
45	PowerEdge 2650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	QLogic: QLA2200F-EMC[7], QLA2202F-EMC[7]	FC-AL, FC-SW	Y[1, 2, 3]	
46	PowerEdge 2600	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP7000E-EMC[9], LP8000-EMC[10, 14], LP850-EMC[14]; QLogic: QLA2200F-EMC[7], **QLA2300F-E-SP[15, 20]**, **QLA2310F-E-SP[15, 20]**, **QLA2340-E-SP[15, 20]**, **QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	Y[1, 2, 3]	
47	PowerEdge 2600	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[4], SP4 Microsoft Windows 2000 Datacenter SP4	Emulex: LP9002-E (LP9002L-E)[15, 17], LP9002DC-E[14, 15, 16, 17, 18]; QLogic QLA2202F-EMC[7]	FC-AL, FC-SW	Y[1, 2, 3]	See[25, 26]
48	PowerEdge 2600	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[4], SP4 Microsoft Windows 2000 Datacenter SP4	Emulex: LP9802-E[15, 16, 22], LP982-E[15, 16, 22]	FC-AL, FC-SW	Y[1, 2, 3, 21]	
49	**PowerEdge: 2600[6], 2650[6] 4600[6], 6600[6] 6650[6]**	PCI-X	**Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[15, 20]**	FC-AL, FC-SW	N	
50	PowerEdge 2600[6]	PCI-X	Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	Emulex: LP9802-E[16, 22], LP9802DC-E[15, 22], LP982-E[16, 22]	FC-AL, FC-SW	Y[1, 2, 3, 21]	
51	PowerEdge 2600[6]	PCI-X	Microsoft Windows 2000: Advanced Server SP2[4, 5], Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[8, 9], LP8000-EMC[10], LP850-EMC[8], LP9002-E (LP9002L-E)[15], LP9002DC-E[14, 15, 16, 17, 18]; QLogic: QLA2200F-EMC[7], QLA2202F-EMC[7] **QLA2300F-E-SP[15, 20]**, **QLA2310F-E-SP[15, 20]**, **QLA2340-E-SP[15, 20]**, **QLA2342-E-SP[15, 20]**	FC-AL, FC-SW	Y[1, 2, 3]	
52	**PowerEdge: 2600[6], 2650[6], 4600[6], 6600[6], 6650[6]**	PCI, PCI-X	**Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[15]**	FC-AL, FC-SW	N	
53	PowerEdge: 2300, 2400, 2450, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Microsoft Windows 2000 Advanced Server SP2[4, 5]	Adaptec ASC-29160[27, 28]	U2 LVD	Y[3]	See[24]
54	PowerEdge: 2300, 2400, 2450, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5]	Adaptec ASC-39160[27, 28]	U2 LVD	Y[3]	See[24]
55	PowerEdge: 2300, 2400, 2450, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Microsoft Windows 2000 Advanced Server: SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec ASC-29160[27, 28]	U2 LVD	Y[3]	See[29]
56	PowerEdge: 2300, 2400, 2450, 4400 6100, 6300, 6350, 6400, 6450, 8450	PCI	Microsoft Windows 2000 Server: SP3[4, 5], SP4	Adaptec ASC-39160[27, 28]	U2 LVD	Y[3]	See[29]
57	PowerEdge 6650	PCI-X	Microsoft Windows 2000 Advanced Server SP2[4, 5]	Adaptec ASC-29160[27, 28]	U2 LVD	Y[3]	
58	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows 2000 Advanced Server SP2[4, 5]	Adaptec ASC-29160[27, 28]	U2 LVD	Y[3]	See[24]
59	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5]	Adaptec ASC-39160[27, 28]	U2 LVD	Y[3]	See[24]
60	PowerEdge 6650[6]	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec ASC-29160[27, 28]	U2 LVD	Y[3]	
61	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec ASC-29160[27, 28]	U2 LVD	Y[3]	See[29]
62	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows 2000 Server: SP3[4, 5], SP4	Adaptec ASC-39160[27, 28]	U2 LVD	Y[3]	See[29]
63	PowerEdge: 2300, 2400, 2450, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec AHA-2944UW[12, 13]	UWD	Y[3]	
64	PowerEdge: 4300, 4350	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec AHA-2944UW[12, 13]	UWD	N	
65	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4 Microsoft Windows 2000 Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec AHA-2944UW[12, 13]	UWD	Y[3]	

1 Booting Windows 2000 systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported
2 Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops
3. MSCS cluster configurations are supported. PowerPath 3.0 or greater required

4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
6. If using Dell PERC Controller, requires PERC 3 with OpenManager 3.0 and Array Manager 3.1. The afamgl.sys must be version 2.6.0.3486 (or above)..
7. Requires driver 8 1 5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
8. Not supported with the HP NetServer LC-2000
9. Requires HBA driver revision 2.13a4 and firmware 3 30a7 Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
12. Requires Legacy PCI slot (not available on new servers.)
13. Requires BIOS version 2.20 and driver version 2.20b (native on Windows 2000 Advanced Server CD-ROM).
14. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
15. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
16. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
17. Host must be offline for interfamily Symmetrix microcode upgrade.
18. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
19. When used with the HP NetServer LC2000: 32 device maximum.
20. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
21. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
22. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API Drivers available at http://www.emulex.com.
23. The LP9002-E now ships with the LP9002L-E low profile adapter.
24. Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B.
25. Linux v2.4.x Kernels support a maximum of 128 devices per system
26. Symmetrix 8000 Series. 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later.
27. Requires BIOS version 3.10.0 and driver 4.10.4002 set V.1 02
28. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L).
29. Adaptec AHA-2944UW has been OEM'ed by HP as A5252A and A5252B.
30. **Dell PowerEdge supports a maximum of 2 Emulex HBAs at one time and the total power cannot exceed 20 Watts.**

Fuji Serv (ICL)

Fuji Serv (ICL) – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	DL	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic QLA2100F	FC-AL	N	See[8]
2	Trimetra Nova	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex LP8000-EMC[9]	FC-AL, FC-SW	N	
3	DL	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic QLA2202F-EMC[10]	FC-AL, FC-SW	N	See[8]
4	Trimetra Nova	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic QLA2202F-EMC[10]	FC-AL, FC-SW	N	See[6]
5	Trimetra P2000	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic: QLA2200F-EMC, QLA2202F-EMC[10]	FC-AL, FC-SW	N	
6	Trimetra P2000	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec AHA-2944UW[1, 2]	UWD	N	
7	Trimetra Nova	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec AHA-3944AUWD[7]	UWD	N	See[6]
8	Trimetra P2000[5]	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic QLA1041D	UWD	N	

1. Requires Legacy PCI slot (not available on new servers.)
2. Requires BIOS version 2.20 and driver version 2.20b (native on Windows 2000 Advanced Server CD-ROM).
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
5. Requires Fujitsu Services (ICL) BN550/260 to connect the Fujitsu Services (ICL) Management Control Station to the Symmetrix for ECC use
6. EMC requires and supports only one port of the dual-channel adapter.
7. BIOS 2.20.0, driver 5.00.2144.1 aic78xx.sys. Drivers for Adaptec are available at http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
8. Cables to be ordered from Fujitsu Services (ICL)
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
10. Requires driver 8 1 5 20, and bios 1.79 Available at http://www.qlogic.com. Supports SNIA HBA API

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2000						
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Primergy N800	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[8, 14], LP9002-E (LP9002L-E)[11], LP9002DC-E[11, 12, 13, 14, 15]	FC-AL, FC-SW	Y[5, 6, 7]
2	Primergy: F200, H200, H400, K400, L200, N400, P200, P250, RX100	PCI	Microsoft Windows 2000 Advanced Server. SP2[3, 4], SP3[3], SP4, Microsoft Windows 2000. Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4] Server SP4	Emulex. LP8000-EMC[8], LP9002-E (LP9002L-E)[11], LP9002DC-E[11, 12, 13, 14, 15]	FC-AL, FC-SW	Y[5, 6, 7]

Fujitsu Siemens – Microsoft Windows 2000						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
3	Primergy: B210, C200, E200, N200	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[8], LP9002DC-E[11, 12, 13, 14, 15]	FC-AL, FC-SW	Y[5, 6, 7]
4	Primergy: R450, T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9002-E (LP9002L-E)[11], LP9002DC-E[11, 12, 13, 14, 15]	FC-AL, FC-SW	Y[5, 6, 7]
5	Primergy: F200, H200, H400, K400, L200, N400, N800, P200, P250, R450, RX100, T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9802-E[15, 17], LP9802DC-E[11, 17], LP982-E[15, 17]	FC-AL, FC-SW	Y[5, 6, 7, 16]
6	Primergy: B210, C200, E200, N200	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9802-E[17], LP9802DC-E[17], LP982-E[17]	FC-AL, FC-SW	Y[5, 6, 7, 16]
7	GranPower 5000 380; Primergy: 700, B210, C200, E200, F200, H200, H400, K400, L200, N200, N400, N800, P200, P250, R450, RX100, T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic QLA2202F-EMC[19]	FC-AL, FC-SW	N
8	Primergy T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP7000E-EMC[18], LP850-EMC[14]; QLogic: QLA2200F-EMC[19], **QLA2310F-E-SP[11, 20], QLA2340-E-SP[11, 20], QLA2342-E-SP[11, 20]**	FC-AL, FC-SW	N
9	**Primergy T850**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4**	**QLogic QLA2300F-E-SP[11, 20]**	FC-AL, FC-SW	N
10	Primergy: R450, T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex LP8000-EMC[8, 14]	FC-AL, FC-SW	Y[5, 6, 7]
11	Primergy: B210, C200, E200, N200	PCI	Microsoft Windows 2000 Advanced Server: SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9002-E (LP9002L-E)[11]	FC-AL, FC-SW	Y[5, 6, 7]
12	Primergy: B210, C200, E200, N200	PCI	Microsoft Windows 2000: Advanced Server SP2[3, 4], Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[5, 6, 7]
13	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4; Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4	Emulex LP8000-EMC[8, 14]	FC-AL, FC-SW	N
14	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4	Emulex: LP9002-E (LP9002L-E)[11], LP9802-E[15, 17], LP9802DC-E[11, 17], LP982-E[15, 17]	FC-AL, FC-SW	N
15	Primergy: H250[10], H450	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E)[11], LP9002DC-E[11, 12, 13, 14, 15]	FC-AL, FC-SW	Y[5, 6, 7]
16	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP850-EMC[14], LP9002DC-E[11, 12, 13, 14, 15]	FC-AL, FC-SW	Y[5, 6, 7]
17	Primergy: F250[10], R450, T850	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9002-E (LP9002L-E)[11], LP9002DC-E[11, 12, 13, 14, 15]	FC-AL, FC-SW	Y[5, 6, 7]
18	Primergy: F250[10], H250[10], H450, R450, T850	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9802-E[15, 17], LP9802DC-E[11, 17], LP982-E[15, 17]	FC-AL, FC-SW	Y[5, 6, 7, 16]
19	Primergy: F250[10], H250[10], H450, R450, RX200, RX300, T850, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic QLA2202F-EMC[19]	FC-AL, FC-SW	N
20	Primergy: F250[10], H450	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4 Microsoft Windows 2000 Datacenter SP4	Emulex: LP7000E-EMC[18], LP850-EMC[14] QLogic: QLA2200F-EMC[19], **QLA2310F-E-SP[11, 20], QLA2340-E-SP[11, 20], QLA2342-E-SP[11, 20]**	FC-AL, FC-SW	N

Fujitsu Siemens – Microsoft Windows 2000						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
21	**Primergy: F250[10], H450**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4**	**QLogic QLA2300F-E-SP[11, 20]**	FC-AL, FC-SW	N
22	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server, SP2[3], SP3[3], SP4; Microsoft Windows 2000, Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex LP8000-EMC[8, 14]	FC-AL, FC-SW	Y[5, 6, 7]
23	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server SP2[3], SP3[3], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex: LP9802-E[15, 17], LP9802DC-E[11, 17], LP982-E[15, 17]	FC-AL, FC-SW	Y[5, 6, 7, 16]
24	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	QLogic QLA2202F-EMC[19]	FC-AL, FC-SW	N
25	Primergy N800	PCI-X	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4	Emulex: LP8000-EMC[8, 14], LP9002-E (LP9002L-E), LP9002DC-E[11, 12, 13, 14, 15]	FC-AL, FC-SW	N
26	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4	Emulex: LP850-EMC[11, 14, 15], LP9002-E (LP9002L-E), LP9002DC-E[11, 12, 13, 14, 15], LP9802-E[11, 15, 17], LP9802DC-E[11, 15, 17], LP982-E[11, 15, 17]	FC-AL, FC-SW	N
27	Primergy F250[10]	PCI-X	Microsoft Windows 2000: Advanced Server SP3[3], Datacenter SP4, Server SP4	Emulex LP8000-EMC[8]	FC-AL, FC-SW	Y[5, 6, 7]
28	Primergy F250[10]	PCI, PCI-X	Microsoft Windows 2000 Advanced Server SP2[3, 4], SP4; Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4]	Emulex LP8000-EMC[8]	FC-AL, FC-SW	Y[5, 6, 7]
29	Primergy R450	PCI, PCI-X	Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4	Emulex LP8000-EMC[8]	FC-AL, FC-SW	Y[5, 6, 7]
30	Primergy R450	PCI, PCI-X	Microsoft Windows 2000 Server, SP2[3], SP3[3], SP4	QLogic QLA2202F-EMC[19]	FC-AL, FC-SW	N
31	GranPower 5000 380; Primergy: B210, C200, E200, H400, K400, N200, N400	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec AHA-2944UW[1, 2]	UWD	N
32	Primergy 700	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec AHA-2944UW[1, 9]	UWD	N
33	Primergy: H250[10], H450	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4: Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec AHA-2944UW[1, 9]	UWD	N

1 Requires Legacy PCI slot (not available on new servers.)
2. Requires BIOS version 2.11.0 and driver 2.20b (native on Windows 2000 Advanced Server CD-ROM).
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
5. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.
6. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
7 MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
8. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
Requires BIOS version 2.20 and driver version 2.20b (native on Windows 2000 Advanced Server CD-ROM).
Must use standard PCI 32bit/33MHz slot for SCSI
11. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
12. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
13. Host must be offline for interfamily Symmetrix microcode upgrade
14 Requires driver version 2 20a12, firmware version 3.90a7, and BIOS 1 62a1. Supports SNIA HBA API Available at http://www emulex com
15 The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3 3 VDC bus power The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces
16 CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
17. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
18. Requires HBA driver revision 2.13a4 and firmware 3.30a7. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com
19. Requires driver 8 1 5 20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API
20 **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**

HPQ

HPQ – Microsoft Windows 2000							
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Proliant DL580[9]	PCI	Microsoft Windows 2000 Advanced Server SP2[4, 5]	Emulex LP9002-E (LP9002L-E)[16, 17]	FC-AL, FC-SW	Y[7, 13, 14]	
2	Proliant 6500[9, 12]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4] SP4 Microsoft Windows 2000 Datacenter SP4	Emulex LP9002-E (LP9002L-E)[16, 17]	FC-AL FC-SW	Y[7, 13, 14]	

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
3	Proliant 6500[9, 12]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9802DC-E[16, 36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
4	**Proliant: 6000R, 6400R Pro, 8000 Pro, 8000 Xeon, 850[9], 8500 8-way Xeon 550[9], 850R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4;** **Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4;** **Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[15, 16]**	FC-AL, FC-SW	N	
5	**Netserver LH: 3, 3000, 6000, III; Netserver LPR**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4;** **Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4;** **Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[15, 16, 30]**	FC-AL, FC-SW	N	
6	Proliant 8500[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	Emulex LP8000-EMC[20]; QLogic QLA2200F-EMC[18]	FC-AL, FC-SW	Y[7, 13, 14]	
7	Nelserver LH III	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsofl Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex LP7000E-EMC[19, 28]	FC-AL, FC-SW	Y[7, 13, 14, 29]	See[1]
8	Netserver LH III	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex LP8000-EMC[17, 20, 30]; QLogic QLA2202F-EMC[18, 30]	FC-AL, FC-SW	Y[7, 13, 14]	See[1]
9	Netserver LH II, LXR PRO8	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex LP8000-EMC[17, 20]; HPQ: D8602A (Agilent HHBA-5101B)[4, 32, 33, 35], D8602B (Agilent HHBA-5101C)[4, 31, 32, 33, 34]; QLogic QLA2202F-EMC[18]	FC-AL, FC-SW	N	
10	Netserver LX PRO	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex LP8000-EMC[17, 20]; QLogic QLA2200F-EMC	FC-AL, FC-SW	Y[7, 13, 14, 30]	
11	Netserver LP 2000r	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex LP8000-EMC[20, 30]; QLogic: QLA2200F-EMC[30]; QLA2202F-EMC[18, 30] **QLA2300F-E-SP[15, 16, 30]** **QLA2310F-E-SP[15, 16, 30]** **QLA2340-E-SP[15, 16, 30]** **QLA2342-E-SP[15, 16, 30]**	FC-AL, FC-SW	Y[7, 13, 14]	
12	Netserver LC, 2000 U3, 2000r; Netserver LH 4, LT 6000R, LXR 8000, LXR 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex LP8000-EMC[20, 30]; QLogic: QLA2200F-EMC[30] **QLA2300F-E-SP[15, 16, 30]** **QLA2310F-E-SP[15, 16, 30]** **QLA2340-E-SP[15, 16, 30]** **QLA2342-E-SP[15, 16, 30]**	FC-AL, FC-SW	Y[7, 13, 14]	
13	Netserver LH III	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex LP850-EMC[28]	FC-AL, FC-SW	Y[7, 13, 14, 29]	

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
14	Netserver LH 3	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20, 30], LP850-EMC[28]; HPQ: D8602A (Agilent HHBA-5101B)[4, 32, 33, 35], D8602B (Agilent HHBA-5101C)[4, 31, 32, 33, 34]; QLogic: QLA2200F-EMC[30], **QLA2310F-E-SP[15, 16, 30]**, **QLA2340-E-SP[15, 16, 30]**, **QLA2342-E-SP[15, 16, 30]**	FC-AL, FC-SW	N	
15	Netserver LPR	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20, 30], LP850-EMC[28], LP9002-E (LP9002L-E)[16] LP9002DC-E[16, 17, 21, 22, 23]; HPQ: D8602A (Agilent HHBA-5101B)[4, 32, 33, 35], D8602B (Agilent HHBA-5101C)[4, 31, 32, 33, 34]; QLogic: QLA2200F-EMC[30], QLA2202F-EMC[18, 30], **QLA2310F-E-SP[15, 16, 30]**, **QLA2340-E-SP[15, 16, 30]**, **QLA2342-E-SP[15, 16, 30]**	FC-AL, FC-SW	N	
16	Netserver LH: 3000, 6000	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20, 30], LP850-EMC[28], LP9002-E (LP9002L-E)[16] LP9002DC-E[16, 17, 21, 22, 23], LP9802-E[21, 36], LP9802DC-E[16, 36], LP982-E[21, 36]; HPQ: D8602A (Agilent HHBA-5101B)[4, 32, 33, 35], D8602B (Agilent HHBA-5101C)[4, 31, 32, 33, 34]; QLogic: QLA2200F-EMC[30], **QLA2310F-E-SP[15, 16, 30]**, **QLA2340-E-SP[15, 16, 30]**, **QLA2342-E-SP[15, 16, 30]**	FC-AL, FC-SW	N	
17	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4**	**Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20], LP850-EMC[28]**	FC-AL, FC-SW	N	
18	Proliant: DL320[9], DL360[9], ML530[9], ML530(G2)[9], ML750[26]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20], LP850-EMC[28], LP9002-E (LP9002L-E)[16, 17], LP9002DC-E[16, 17, 21, 22, 23]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18], **QLA2300F-E-SP[15, 16]**, **QLA2310F-E-SP[15, 16]**, **QLA2340-E-SP[15, 16]**, **QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
19	Proliant: 2500[9], 6400R[9], DL360(G2)[9], **DL380[9]**, **DL380(G2)[9]**, ML370[9], ML570[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20], LP850-EMC[28], LP9002-E (LP9002L-E)[16] LP9002DC-E[16, 17, 21, 22, 23]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18], **QLA2300F-E-SP[15, 16]**, **QLA2310F-E-SP[15, 16]**, **QLA2340-E-SP[15, 16]**, **QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
20	Proliant: 6500[9, 12], DL580[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20], LP850-EMC[28], LP9002DC-E[16, 17, 21, 22, 23]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18], **QLA2300F-E-SP[15, 16]**, **QLA2310F-E-SP[15, 16]**, **QLA2340-E-SP[15, 16]**, **QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
21	Proliant: ML350[9], ML350(G2)[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4] SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20], LP850-EMC[28]; QLogic QLA2200F-EMC[18]	FC-AL, FC-SW	Y[7, 13, 14]	
22	Proliant: 7000[9, 12], 850[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20], LP850-EMC[28]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18]	FC-AL, FC-SW	Y[7, 13, 14]	
23	Proliant: 1600[8, 9], 1850[9], 3000[9], 5000[9], 5500[9, 12], 6000[9, 12], 8000[9, 12]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4] SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20], LP850-EMC[28]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18], QLA2300F-E-SP[15, 16], QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]	FC-AL, FC-SW	Y[7, 13, 14]	

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
24	Netserver LC: 2000 U3, 2000r; Netserver: LH 4, LP 2000r, LT 6000R, LXR 8000, LXR 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP850-EMC[28]	FC-AL, FC-SW	Y[7, 13, 14, 29]	
25	Proliant 8500[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP850-EMC[28]; QLogic QLA2202F-EMC[18]	FC-AL, FC-SW	Y[7, 13, 14]	
26	Proliant ML370(G2)	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19], LP8000-EMC[17, 20], LP850-EMC[17], LP9002-E (LP9002L-E)[16, 17], LP9002DC-E[16, 17, 21, 22, 23]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18], **QLA2300F-E-SP[15, 16], QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 9, 13, 14]	
27	Proliant ML370(G3)	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19], LP8000-EMC[17, 20], LP850-EMC[17], LP9002-E (LP9002L-E)[16, 17], LP9002DC-E[16, 17, 21, 22, 23]; **QLogic: QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 9, 13, 14]	
28	Proliant 850R	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19], LP8000-EMC[20], LP850-EMC; QLogic: QLA2200F-EMC, QLA2202F-EMC[18], **QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	N	
29	Netserver LX PRO	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19], LP850-EMC[17]	FC-AL, FC-SW	Y[7, 13, 14, 29]	See[40]
30	Proliant 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9002-E (LP9002L-E)[16, 17], LP9002DC-E[16, 17, 21, 22, 23], LP9802-E[21, 36], LP9802DC-E[16, 36], LP982-E[21, 36]; QLogic: QLA2202F-EMC[18], **QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	N	
31	Proliant, ML350[9, 24], ML350(G2)[9, 24]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9002-E (LP9002L-E)[16, 17], LP9002DC-E[16, 17, 21, 22, 23]; QLogic: QLA2202F-EMC[18], **QLA2300F-E-SP[15, 16], QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
32	Proliant: 6400R Pro, 8500 8-way Xeon 550[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9002-E (LP9002L-E)[16, 17], LP9002DC-E[16, 17, 21, 22, 23]; QLogic: QLA2202F-EMC[18], **QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	N	
33	Proliant 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9002-E (LP9002L-E)[16, 17], LP9002DC-E[16, 17, 21, 22, 23]; **QLogic: QLA2300F-E-SP[15, 16], QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 9, 13, 14]	
34	Netserver LC: 2000 U3, 2000r; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9002-E (LP9002L-E)[16], LP9002DC-E[16, 17, 21, 22, 23]	FC-AL, FC-SW	Y[7, 13, 14, 30]	

HPQ – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
35	Proliant: **DL380(G3)**, DL580(G2)[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9002-E (LP9002L-E)[16], LP9002DC-E[16, 17, 21, 22, 23]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18], **QLA2300F-E-SP[15, 16]**, **QLA2310F-E-SP[15, 16]**, **QLA2340-E-SP[15, 16]**, **QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
36	Netserver LC 2000 U3	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9802-E[21, 36], LP9802DC-E[16, 36], LP982-E[21, 36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	See[1]
37	Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500 Proliant: 2500[9], DL320[9], DL360[9], DL360(G2)[9], **DL380[9]**, **DL380(G2)[9]**, **DL380(G3)**, DL580[9], DL580(G2)[9], ML350[9, 24], ML350(G2)[9, 24], ML530[9], ML530(G2)[9], ML570[9], ML750[26]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9802-E[21, 36], LP9802DC-E[16, 36], LP982-E[21, 36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
38	Proliant 6400R[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9802-E[36], LP9802DC-E[36], LP982-E[36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
39	Proliant 6500[9, 12]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9802-E[36], LP982-E[36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
40	Netserver LC: 2000 U3, 2000r; Netserver: LH 4, LP 2000r, LT 6000R, LXR 8000, LXR 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	HPQ: D8602A (Agilent HHBA-5101B)[4, 32, 33, 35], D8602B (Agilent HHBA-5101C)[4, 31, 32, 33, 34]	FC-AL, FC-SW	N	
41	Netserver LH III	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	HPQ: D8602A (Agilent HHBA-5101B)[4, 32, 33, 35], D8602B (Agilent HHBA-5101C)[4, 31, 32, 33, 34]; **QLogic: QLA2310F-E-SP[15, 16, 30]**, **QLA2340-E-SP[15, 16, 30]**, **QLA2342-E-SP[15, 16, 30]**	FC-AL, FC-SW	N	
42	Netserver LH III	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	QLogic QLA2200F-EMC[30]	FC-AL, FC-SW	Y[7, 13, 14]	
43	Netserver LC: 2000 U3, 2000r; Netserver: LH 4, LXR 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	QLogic QLA2202F-EMC[18, 30]	FC-AL, FC-SW	Y[7, 13, 14]	See[1]
44	Netserver LH: 3, 3000, 6000	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	QLogic QLA2202F-EMC[18, 30]	FC-AL, FC-SW	N	See[1]
45	Netserver: LT 6000R, LXR 8000	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	QLogic QLA2202F-EMC[18, 30]	FC-AL, FC-SW	Y[7, 13, 14]	See[27]
46	Netserver LX PRO	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	QLogic QLA2202F-EMC[18, 41]	FC-AL, FC-SW	Y[7, 13, 14, 30]	See[40]

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
47	Proliant 8000: Pro, Xeon	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	QLogic: QLA2202F-EMC[18], **QLA2310F-E-SP[15, 16]**, **QLA2340-E-SP[15, 16]**, **QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	N	
48	**Proliant 850[9]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4**	**QLogic: QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	N	
49	Proliant ML370[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4], Server SP4	Emulex: LP9802-E[36], LP9802DC-E[16, 36], LP982-E[36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
50	Proliant: ML370(G2), ML370(G3)	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4], Server SP4	Emulex: LP9802-E[36], LP9802DC-E[16, 36], LP982-E[36]	FC-AL, FC-SW	Y[7, 9, 13, 14, 37]	
51	**Proliant 7000[9, 12]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4], Server SP4**	**QLogic: QLA2300F-E-SP[15, 16], QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
52	Netserver LPR	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	Emulex: LP9802-E[21, 36], LP9802DC-E[16, 36], LP982-E[21, 36]	FC-AL, FC-SW	N	
53	Proliant 8000 Pro	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP7000E-EMC[19], LP8000-EMC[17, 20], LP850-EMC[17]; QLogic QLA2200F-EMC[18]	FC-AL, FC-SW	N	
54	Netserver LC 2000r	PCI	Microsoft Windows 2000 Advanced Server: SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9802-E[21, 36], LP9802DC-E[16, 36], LP982-E[21, 36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
55	Proliant DL580[9]	PCI	Microsoft Windows 2000 Advanced Server: SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex LP9002-E (LP9002L-E)[16]	FC-AL, FC-SW	Y[7, 13, 14]	
56	Proliant 8500	PCI	Microsoft Windows 2000 Advanced Server: SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP3[4, 5], Server SP4	Emulex: LP9802-E[21, 36], LP9802DC-E[16, 36], LP982-E[21, 36]	FC-AL, FC-SW	Y[7, 9, 13, 14, 37]	
57	Proliant ML370(G3)	PCI	Microsoft Windows 2000 Advanced Server: SP3[4], SP4 Microsoft Windows 2000. Datacenter SP4, Server SP3[4, 5] Server SP4	QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18], **QLA2300F-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 9, 13, 14]	
58	Netserver LXR 8500	PCI	Microsoft Windows 2000 Datacenter SP2[4, 5], SP3[4, 5]	HPQ D8602B (Agilent HHBA-5101C)[4, 31]	FC-AL, FC-SW	N	
59	Proliant 8500	PCI	Microsoft Windows 2000 Datacenter SP2[4, 5], SP3[4, 5], SP4	Emulex LP8000-EMC[20]; QLogic QLA2200F-EMC	FC-AL, FC-SW	Y	
60	Proliant 8500, **DL380(G3)**	PCI	Microsoft Windows 2000 Datacenter SP2[4, 5], SP3[4, 5] SP4	Emulex LP9002-E (LP9002L-E) LP9002DC-E[16, 17, 21, 22, 23]; QLogic **QLA2300F-E-SP[15, 16]** QLA2310F-E-SP	FC-AL, FC-SW	N	

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
61	**Proliant: 1600[8, 9], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 12], 6000[9, 12], 6400R[9], 6500[9, 12], 7000[9, 12], 8000[9, 12], DL320[9], DL360[9], DL360(G2)[9], DL380[9], DL380(G2)[9], DL580[9], DL580(G2)[9], ML350[9, 24], ML350(G2)[9, 24], ML370[9], ML370(G2), ML370(G3), ML530[9], ML530(G2)[9], ML570[9], ML750[26]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[15, 16]**	FC-AL, FC-SW	N	
62	**Netserver LC: 2000 U3, 2000r** **Netserver: LH 4, LP 2000r, LT 6000R, LXR 8000, LXR 8500**	PCI	**Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[15, 16, 30]**	FC-AL, FC-SW	N	
63	Proliant 6500[9, 12]	PCI	Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	Emulex LP9002-E (LP9002L-E)[16]	FC-AL, FC-SW	Y[7, 13, 14]	
64	Proliant 6500[9, 12]	PCI	Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	Emulex LP9802DC-E[36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
65	Proliant 8500[9]	PCI	Microsoft Windows 2000: Advanced Server SP2[4, 5], Server SP2[4, 5]	Emulex: LP9802-E[21, 36], LP9802DC-E[16, 36], LP982-E[21, 36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
66	Proliant ML370(G3)	PCI	Microsoft Windows 2000: Advanced Server SP2[4, 5], Server SP2[4, 5]	QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18], **QLA2300F-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 9, 13, 14, 38]	
67	Netserver LC 2000r	PCI	Microsoft Windows 2000: Advanced Server SP2[4, 5], Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9802-E[21, 36], LP9802DC-E[16, 36], LP982-E[21, 36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	See[1]
68	Proliant: DL560, **DL560 (G2)**	PCI-X	Microsoft Windows 2000 Advanced Server SP2[4, 5]	Emulex LP9002-E (LP9002L-E)[16, 17]	FC-AL, FC-SW	Y[7, 13, 14]	
69	Proliant: DL740, DL760[9], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4; Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	Emulex LP9802DC-E[16, 36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
70	Proliant DL740	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4; Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	Emulex: LP8000-EMC[17, 20], LP850-EMC[17], LP9002DC-E[16, 17, 21, 22, 23]	FC-AL, FC-SW	Y[7, 13, 14]	
71	Proliant: DL760[9], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4; Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	Emulex: LP8000-EMC[17, 20], LP850-EMC[17]; **QLogic QLA2300F-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
72	Proliant: DL760[9], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4, Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	Emulex LP7000E-EMC[19], QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18]	FC-AL, FC-SW	Y[7, 13, 14]	
73	Proliant DL740	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4, Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18]	FC-AL, FC-SW	Y[7, 13, 14]	
74	Proliant: DL760[9], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP3[4, 5] SP4, Microsoft Windows 2000 Server SP2[4, 5] SP3[4, 5] SP4	Emulex LP9002DC-E[16, 17, 21, 22, 23]	FC-AL, FC-SW	Y[7, 13, 14]	

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
75	Proliant: DL740, DL760[9], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP3[4, 5], SP4; Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	Emulex LP9802-E[21, 36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
76	Proliant: DL760[9], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	Emulex LP9002-E (LP9002L-E)[16, 17, 21, 25]; **QLogic: QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
77	Proliant DL740	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	Emulex LP9002-E (LP9002L-E)[16, 17]; **QLogic: QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
78	Proliant: DL740, DL760[9], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex LP982-E[21, 36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
79	Proliant: DL360(G3), ML570(G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20], LP850-EMC[28], LP9002-E (LP9002L-E)[16], LP9002DC-E[16, 17, 21, 22, 23]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18], **QLA2300F-E-SP[15, 16], QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
80	Proliant: DL560, **DL560 (G2)**	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20], LP850-EMC[28], LP9002DC-E[16, 17, 21, 22, 23]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18], **QLA2300F-E-SP[15, 16], QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
81	Proliant BL40p	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP8000-EMC[17, 20], LP9002-E (LP9002L-E)[16, 17, 21, 25], LP9002DC-E[16, 17, 21, 22, 23]; QLogic: QLA2200F-EMC[18], **QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
82	Proliant: BL40p, DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP9802-E[21, 36], LP9802DC-E[16, 36], LP982-E[21, 36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
83	**Proliant DL740**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4.** **Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4**	**QLogic QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
84	Proliant: DL560, **DL560 (G2)**	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex LP9002-E (LP9002L-E)[16]	FC-AL, FC-SW	Y[7, 13, 14]	
85	Proliant: DL740, DL760[9], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter SP2[4, 5]	Emulex LP9002DC-E	FC-AL FC-SW	Y[7, 13, 14]	
86	Proliant: DL740, DL760[9], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter SP2[4, 5]	Emulex LP9802-E[36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
87	Proliant: DL760[9], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5]	Emulex LP982-E[36]	FC-AL FC-SW	Y[7, 13, 14, 37]	
88	Proliant: DL760[9], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter SP2[4, 5], SP3[4, 5], SP4	Emulex LP9002-E (LP9002L-E), QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL FC-SW	Y[7, 13, 14, 37]	

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
89	Proliant DL740	PCI-X	Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4	Emulex LP9002-E (LP9002L-E); QLogic: QLA2310F-E-SP, QLA2342-E-SP	FC-AL, FC-SW	Y[7, 13, 14]	
90	Proliant DL740	PCI-X	Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4	Emulex LP982-E[36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
91	Proliant: DL760[9], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4	HPQ D8602A (Agilent HHBA-5101B)[4, 35]	FC-AL, FC-SW	N	
92	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[15, 16]**	FC-AL, FC-SW	N	
93	Proliant DL740	PCI-X	Microsoft Windows 2000 Datacenter: SP2[4], SP3[4, 5], SP4	QLogic QLA2340-E-SP	FC-AL, FC-SW	Y[7, 13, 14]	
94	Proliant DL740	PCI-X	Microsoft Windows 2000 Datacenter: SP3[4, 5], SP4	Emulex LP9002DC-E[17]	FC-AL, FC-SW	Y[7, 13, 14]	
95	Proliant BL20p (G2)[43, 44]	PCI-X[42]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4	HPQ Dual-port mezzanine controller card[45, 46]	FC-AL, FC-SW	Y[7, 13, 14, 47]	
96	Proliant DL580(G2)[9]	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex LP9802DC-E[16, 36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
97	Proliant: DL580(G2)[9], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[19, 28], LP8000-EMC[20], LP850-EMC[28], LP9002-E (LP9002L-E)[16, 17], LP9002DC-E[16, 17, 21, 22, 23]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[18], **QLA2300F-E-SP[15, 16], QLA2310F-E-SP[15, 16], QLA2340-E-SP[15, 16], QLA2342-E-SP[15, 16]**	FC-AL, FC-SW	Y[7, 13, 14]	
98	**Proliant DL580(G3)**	**PCI, PCI-X**	**Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4**	**Emulex: LP9802-E[21, 36], LP9802DC-E[16, 36], LP982-E[21, 36]**	**FC-AL, FC-SW**	Y[7, 13, 14, 37]	
99	Proliant DL580(G2)[9]	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4], Server SP4	Emulex: LP9802-E[21, 36], LP982-E[21, 36]	FC-AL, FC-SW	Y[7, 13, 14, 37]	
00	**Proliant: DL580(G2)[9], DL580(G3)**	PCI, PCI-X	**Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[15, 16]**	FC-AL, FC-SW	N	
101	**Proliant DL760[9]**	PCI, PCI-X	**Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[16]**	FC-AL, FC-SW	Y[7, 13, 14]	
102	**Proliant 8500**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4] SP3[4], SP4, Microsoft Windows 2000 Server: SP2[4] SP3[4], SP4**	HPQ: FCA2354 (LP9002)[16, 17, 21, 23] FCA2355 (LP9002DC)[16, 17, 21, 23]	FC-SW	N, Y	
103	Netserver LC, 2000 U3, 2000r: Proliant, 1600[8, 9], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 12], 6000[9, 12], 6400R[9], 6500[9, 12], 7000[9, 12], 8000[9, 12], 8500[9], DL320[9], DL360[9], **DL380[9], DL380(G2)[9]** DL580[9], DL580(G2)[9], ML350[9] ML370[9], ML530[9], ML570[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	Y[7]	
104	Netserver LH 6000, Proliant: 850[9] ML350(G2)[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec: ASC-29160[10, 11] ASC-39160[10, 11]	U2 LVD	N	

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
105	Netserver LH: 3, 3000	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	N	See[1]
106	Netserver LH: 4, III; Netserver LXR 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	Y[7]	See[1]
107	Netserver LT 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	N	See[27]
108	Netserver LXR 8000	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	Y[7]	See[27]
109	Proliant: ML370(G2), ML370(G3)	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	Y[7, 9]	
110	Proliant DL560	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	Y[7]	
111	Proliant: DL580(G2)[9], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	Y[7]	
112	Netserver LC: 2000 U3, 2000r; Netserver LH: 4, III; Netserver LXR: 8000, 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec AHA-2944UW[2, 3]	UWD	Y[7]	See[1]
113	Proliant: 1600[8, 9], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 12], 6000[9, 12], 6400R[9], 6500[9, 12], 7000[9, 12], 8000[9, 12], 8500[9], DL320[9], DL360[9], **DL380[9]**, DL580[9], ML350[9], ML370[9], ML530[9], ML570[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec AHA-2944UW[2, 3]	UWD	Y[7]	
114	Proliant: 850[9], ML350(G2)[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec AHA-2944UW[2, 3]	UWD	N	
115	Proliant: ML370(G2), ML370(G3)	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec AHA-2944UW[2, 3]	UWD	Y[7, 9]	
116	Netserver LH: 3, 3000, 6000 Netserver LT 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec AHA-2944UW[2, 3] HPQ: A5252A[3, 6], A5252B[6]	UWD	N	See

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
117	Netserver LC: 2000 U3, 2000r; Netserver LH: 4, II; Netserver LXR: 8000, 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	HPQ: A5252A[3, 6], A5252B[6]	UWD	N	See[1]
118	**Proliant DL380(G2)[9]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4,** **Microsoft Windows 2000 Datacenter SP4**	**Adaptec AHA-2944UW[2, 3, 39]**	UWD	N	
119	Proliant: DL580(G2)[9], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Adaptec AHA-2944UW[2, 3, 39]	UWD	Y[7]	
120	Proliant: DL580(G2)[9], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2000 Server: SP2[4, 5], SP3[4, 5], SP4	Adaptec AHA-2944UW[2, 3]	UWD	Y[7]	

1. Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B.
2. Requires Legacy PCI slot (not available on new servers.)
3. Requires BIOS version 2.20 and driver version 2.20b (native on Windows 2000 Advanced Server CD-ROM).
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
6. (Adaptec AHA-2944UW)
7. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
   This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
9. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
10. Requires BIOS version 3.10.0 and driver 4.10.4002 set V.1.02
11. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L).
12. Includes both Pentium PRO and XEON models
13. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.
14. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
15. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
16. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
17. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
18. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
19. Requires HBA driver revision 2.13a4 and firmware 3.30a7. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com
20. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
21. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
22. Host must be offline for interfamily Symmetrix microcode upgrade.
23. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
24. HPQ Proliant ML350 (1GHz) : D04,F04 (11/13/2000) , HPQ Proliant ML350(600,733,800,866,933 MHz) : D02, F04 (11/13/2000).
25. The LP9002-E now ships with the LP9002L-E low profile adapter.
26. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
27. Adaptec AHA-2944UW has been OEM'ed by HP as A5252A and A5252B.
28. Not supported with the HP NetServer LC-2000.
29. Not supported with the HP LC2000.
30. When used with the HP NetServer LC2000: 32 device maximum.
31. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
32. Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper motes/bsdmatrix/matrix213991.html
33. Does not support Connectrix DS-16M, DS-32M, or McData ED-5000
34. Requires manual intervention on bootup to clear "new hardware found" message box at boot time.
35. (HHBA-5101BK-01)
36. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
37. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
38. Requires driver 8.00.08.01 and BIOS 1.76.
39. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
40. AHA-2944UW has been OEM'ed as HP A5252A and A5252B
41. Dual port fibre Channel controller.
42. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.
43. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
44. Booting off of an EMC storage array is not currently supported with the HPQ BL20P
45. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
46. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
47. BIOS for the BL20p mezzanine card must be obtained from HP. Cannot use BIOS from Qlogic web site. EMC NVRAM settings must be configured manually. Refer to page 2-6 of the Readme document "EMC Fibre Channel with QLogic Host Bus Adapters in the Windows NT/Windows 2000 Environment" found at http://www.qlogic.com for the settings.

IBM

IBM – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity: 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic QLA2100F	FC-AL	N	See[13]
2	Netfinity: 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic QLA2200F-EMC[22]	FC-AL	N	
3	Netfinity 8500R, **xSeries x255[9]**	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4, Microsoft Windows 2000 Datacenter SP4, Server SP2[6, 7] Server SP3[6, 7], Server SP4	QLogic QLA2100F	FC-AL	N	See[13]

IBM – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
4	xSeries X342[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	QLogic QLA2100F-EMC	FC-AL	N	
5	Netfinity 8500R; **xSeries x255**[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	QLogic QLA2200F-EMC[22]	FC-AL	Y[1, 2, 3]	
6	Netfinity: 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic QLA2100F-EMC	FC-AL	N	
7	**xSeries x255**[9]	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6, 7], Server SP4**	**QLogic QLA2100F-EMC**	FC-AL	N	
8	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4	QLogic QLA2100F-EMC	FC-AL	N	
9	**xSeries x360**[9]	PCI, PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4**	**QLogic QLA2100F-EMC**	FC-AL	N	
10	**Netfinity: 6000R, 8500**	PCI	**Microsoft Windows 2000 Advanced Server SP2[6, 7]**	**Emulex: LP9802-E[5, 28, 35], LP982-E[5, 28, 35];** **QLogic: QLA2202F-EMC[22], QLA2310F-E-SP[4, 5]**	FC-AL, FC-SW	N	**See[13]**
11	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server SP2[6, 7]	IBM 19K1246(QLA2310)[30, 31]	FC-AL, FC-SW	N	
12	Netfinity 8500	PCI	Microsoft Windows 2000 Advanced Server: **SP2[6, 7]**, SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9802DC-E[5, 35]	FC-AL, FC-SW	N	See[16]
13	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP7000E-EMC[18, 20], LP8000-EMC[19, 24], LP850-EMC[18, 24], LP9002-E (LP9002L-E)[5, 24, 27, 28], LP9002DC-E[5, 24, 28, 29, 30]; HPQ: D8602A (Agilent HHBA-5101B)[6, 41, 42, 43], D8602B (Agilent HHBA-5101C)[6, 39, 40, 41, 42]; IBM: 00N6881 (QLA2200)[21, 22, 23], 24P0960(QLA2340)[30, 34]; NEC: N8103-200[29], N8503-200[29]; QLogic: QLA2200F-EMC[22], QLA2204F[22], **QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	N	
14	**xSeries x360**[9]	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Emulex: LP7000E-EMC[20], LP8000-EMC[19, 24], LP850-EMC[24];** **QLogic QLA2202F-EMC[22]**	FC-AL, FC-SW	Y[1, 2, 3]	
15	Netfinity 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4, Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[18, 24], LP9002-E (LP9002L-E)[5, 24, 27, 28]; HPQ: D8602A (Agilent HHBA-5101B)[6, 41, 42, 43], D8602B (Agilent HHBA-5101C)[6, 39, 40, 41, 42]; NEC: N8103-200[29], N8503-200[29]; QLogic: QLA2200F-EMC[22], QLA2204F[22]	FC-AL, FC-SW	N	
16	**Netfinity 6000R, 8500**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4,** **Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4**	**QLogic QLA2300F-E-SP[4, 5]**	FC-AL, FC-SW	N	
17	xSeries x370[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	IBM: 00N6881 (QLA2200)[21, 22, 23], 24P0960(QLA2340)[30, 34]; QLogic QLA2200F-EMC	FC-AL, FC-SW	Y[1, 2, 3]	
18	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	IBM: 00N6881 (QLA2200)[21, 22, 23], 24P0960(QLA2340)[30, 34]; QLogic QLA2200F-EMC[22]	FC-AL, FC-SW	Y[1, 2, 3]	
19	**xSeries x255**[9]	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4** **Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4**	**Emulex: LP7000E-EMC[18, 20], LP8000-EMC[19, 24], LP850-EMC[18, 24], LP9002-E (LP9002L-E)[5, 24, 27, 28], LP9002DC-E[5, 24, 28, 29, 30];** **IBM 00N6881 (QLA2200)[21, 22, 23]** **QLogic: QLA2200F-EMC[22], QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	

IBM – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
20	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP7000E-EMC[18, 20], LP8000-EMC[19, 24], LP850-EMC[18, 24], LP9002-E (LP9002L-E)[5, 24, 27, 28], LP9002DC-E[5, 24, 28, 29, 30]; **QLogic: QLA2300F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	
21	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[8], 7100	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP7000E-EMC[18, 20], LP8000-EMC[19], LP850-EMC[18]; IBM: 00N6881 (QLA2200)[21, 22, 23], 24P0960(QLA2340)[30, 34]; QLogic: QLA2200F-EMC, QLA2202F-EMC[22], **QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	
22	xSeries X342[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP7000E-EMC[18, 20], LP8000-EMC[19], LP850-EMC[18], LP9002-E (LP9002L-E)[5], LP9002DC-E[5, 24, 28, 29, 30]; IBM: 00N6881 (QLA2200)[21, 22, 23], 24P0960(QLA2340)[30, 34]; QLogic: QLA2200F-EMC, QLA2202F-EMC[22], **QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5, 25, 26], QLA2342-E-SP[4, 5, 25, 26]**	FC-AL, FC-SW	Y[1, 2, 3]	
23	Netfinity: 5600, 7600; xSeries: X330[9], X335, X340 (4500R)[9], x230, x232[9], x240[9], x250[9], x350 (6000R)[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP7000E-EMC[18, 20], LP8000-EMC[19], LP850-EMC[18], LP9002-E (LP9002L-E)[5], LP9002DC-E[5, 24, 28, 29, 30]; IBM: 00N6881 (QLA2200)[21, 22, 23], 24P0960(QLA2340)[30, 34]; QLogic: QLA2200F-EMC, QLA2202F-EMC[22], **QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	
24	xSeries x370[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP7000E-EMC[18, 20], LP8000-EMC[19], LP850-EMC[18], LP9002-E (LP9002L-E)[5], LP9002DC-E[5, 24, 28, 29, 30]; QLogic: QLA2202F-EMC[22], **QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	
25	Netfinity 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP7000E-EMC[18, 20], LP9002DC-E[5, 24, 28, 29, 30]; IBM: 00N6881 (QLA2200)[21, 22, 23], 24P0960(QLA2340)[30, 34]; **QLogic: QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	N	
26	Netfinity: 5600, 7600; xSeries: X330[9], X335, X340 (4500R)[9], X342[9], x230, x232[9], x240[9], x250[9], **x345[9]**, x350 (6000R)[9], x370[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP9802-E[28, 35], LP9802DC-E[5, 35], LP982-E[28, 35]	FC-AL, FC-SW	Y[1, 2, 3, 36]	
27	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP9802-E[5, 28, 35], LP982-E[5, 28, 35]	FC-AL, FC-SW	Y[1, 2, 3, 36]	See[16]
28	Netfinity 8500R; **xSeries x255[9]**	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	HPQ: D8602A (Agilent HHBA-5101B)[6, 41, 42, 43], D8602B (Agilent HHBA-5101C)[6, 39, 40, 41, 42]; NEC: N8103-200[29], N8503-200[29]; QLogic QLA2204F[22]	FC-AL, FC-SW	N	
29	**xSeries x255[9]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4**	**QLogic QLA2202F-EMC[22]**	FC-AL, FC-SW	Y[1, 2, 3]	**See[16]**
30	xSeries x360[9]	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4**	**QLogic QLA2310F-E-SP[4]**	FC-AL, FC-SW	Y[1, 2, 3]	
31	**xSeries x255[9]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6], Server SP4**	**Emulex LP9802DC-E[5, 35]**	FC-AL, FC-SW	Y[1, 2, 3, 36]	See[16]
32	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9802DC-E[5, 35]	FC-AL, FC-SW	N	See[16]
33	xSeries x345[9]	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4** **Microsoft Windows 2000 Datacenter SP4**	**QLogic QLA2202F-EMC[22]**	FC-AL, FC-SW	Y[1, 2, 3]	
34	xSeries x370[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Server SP2[6], SP3[6], SP4	IBM 19K1246(QLA2310)[31]	FC-AL, FC-SW	Y[1, 3]	

IBM – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
35	**xSeries x255[9]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6, 7], Server SP4**	**Emulex: LP9802-E[5, 28, 35], LP982-E[5, 28, 35]**	FC-AL, FC-SW	Y[1, 2, 3, 36]	**See[16]**
36	**xSeries x345[9]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4**	**Emulex LP7000E-EMC[20], IBM 24P0960(QLA2340)[34]**	FC-AL, FC-SW	Y[1, 2, 3]	
37	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4	Emulex LP9802DC-E[5, 35]	FC-AL, FC-SW	Y[1, 2, 3, 36]	See[16]
38	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600; xSeries: X330[9], X335, X340 (4500R)[9], X342[9], x230, x232[9], x240[9], x250[9], x350 (6000R)[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4	IBM 19K1246(QLA2310)[31]	FC-AL, FC-SW	Y[1, 3]	
39	**xSeries x255[9]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4**	**IBM 24P0960(QLA2340)[30, 34]**	FC-AL, FC-SW	Y[1, 2, 3]	
[illegible]	**Netfinity 8500R**	PCI	**Microsoft Windows 2000 Advanced Server: SP3[6], SP4**	**IBM 19K1246(QLA2310)[4, 30, 31]**	FC-AL, FC-SW	Y[1, 3]	
41	Netfinity: 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server: SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9802-E[5, 28, 35], LP982-E[5, 28, 35]; QLogic: QLA2202F-EMC[22], **QLA2310F-E-SP[4, 5]**	FC-AL, FC-SW	N	See[32]
42	**Netfinity: 6000R, 8500**	PCI	**Microsoft Windows 2000 Advanced Server: SP3[6], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**IBM 19K1246(QLA2310)[4, 30, 31]**	FC-AL, FC-SW	N	
43	**xSeries x255[9]**	PCI	**Microsoft Windows 2000 Advanced Server: SP3[6], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**IBM 19K1246(QLA2310)[4, 30, 31]**	FC-AL, FC-SW	Y[1, 3]	
44	**xSeries x345[9]**	PCI	**Microsoft Windows 2000 Advanced Server: SP3[6], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**IBM 19K1246(QLA2310)[4, 31]**	FC-AL, FC-SW	Y[1, 3]	
45	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic: QLA2202F-EMC[22], **QLA2310F-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	See[32]
46	Netfinity 8500R, xSeries x370[9]	PCI	Microsoft Windows 2000 Datacenter SP2[6]	IBM 00N6881 (QLA2200)[21, 22]	FC-AL, FC-SW	Y	
47	Netfinity 8500R; **xSeries x255[9]**	PCI	Microsoft Windows 2000 Datacenter SP2[6, 7]	QLogic QLA2340-E-SP	FC-AL, FC-SW	N	
48	Netfinity 8500R; xSeries x370[9]	PCI	Microsoft Windows 2000 Datacenter SP3[6, 7]	IBM 00N6881 (QLA2200)[21]	FC-AL, FC-SW	Y	
[illegible]	xSeries x370[9]	PCI	Microsoft Windows 2000 Datacenter SP4	IBM 00N6881 (QLA2200)[21, 22, 23]	FC-AL, FC-SW	Y	
50	Netfinity 8500R	PCI	Microsoft Windows 2000 Datacenter SP4	IBM 00N6881 (QLA2200)[21, 22, 23], **19K1246(QLA2310)[4, 30, 31]**	FC-AL, FC-SW	Y	
51	Netfinity 8500R; **xSeries x255[9]**	PCI	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7]	HPQ D8602B (Agilent HHBA-5101C)[6, 39]	FC-AL, FC-SW	N	
52	**Netfinity 8500R**	PCI	**Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7]**	**IBM 19K1246(QLA2310)[4, 31]**	FC-AL, FC-SW	Y	
53	**xSeries x345[9]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4**	**Emulex LP7000E-EMC[20], IBM 24P0960(QLA2340)[34]**	FC-AL, FC-SW	N	
54	**xSeries x255[9]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4**	**Emulex: LP8000-EMC[19], LP9002-E (LP9002L-E), LP9002DC-E[5, 24, 28, 29, 30];** **IBM 19K1246(QLA2310)[4, 31];** **QLogic: QLA2200F-EMC, QLA2300F-E-SP[4, 5], QLA2310F-E-SP**	FC-AL, FC-SW	N	
55	Netfinity 8500R	PCI	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP8000-EMC[19], LP9002-E (LP9002L-E), LP9002DC-E[5, 24, 28, 29, 30]; **QLogic: QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4]**	FC-AL, FC-SW	N	
56	Netfinity 8500R; xSeries x370[9]	PCI	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4	**IBM 24P0960(QLA2340)[4, 30, 34];** QLogic QLA2200F-EMC	FC-AL, FC-SW	Y	
57	**Netfinity 5000 5500 5500 M10 5500 M20, 5600 7000 7000 M10[8] 7100 7600** **xSeries X330[9] X335 X340 (4500R)[9] X342[9] x230 x232[9] x240[9] x250[9] x345[9, 48] x350 (6000R)[9] x370[9]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7] SP4**	**QLogic QLA2300F-E-SP[4, 5]**	FC-AL, FC-SW	N	
58	**xSeries x360[9]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4**	**QLogic QLA2300F-E-SP[5]**	FC-AL FC-SW	N	
59	**xSeries X342**	PCI	**Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4**	**QLogic: QLA2310F-E-SP[4], QLA2340-E-SP[4, 5, 25, 26], QLA2342-E-SP[4, 5, 25, 26]**	FC-AL FC-SW	N	

IBM – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
60	Netfinity 8500R	PCI	Microsoft Windows 2000 Datacenter: SP2[6], SP3[6, 7], SP4	Emulex: LP9802-E[35], LP9802DC-E[5, 35], LP982-E[28]	FC-AL, FC-SW	N	
61	**xSeries x370[9]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[6], SP3[6], SP4**	**IBM 19K1246(QLA2310)[4, 30, 31]**	FC-AL, FC-SW	Y	
62	**xSeries x255[9]**	PCI	**Microsoft Windows 2000 Datacenter: SP3[6, 7], SP4**	**IBM 00N6881 (QLA2200)[21]**	FC-AL, FC-SW	N	
63	**xSeries x345[9, 48]**	PCI	**Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4**	**Emulex LP850-EMC; QLogic QLA2200F-EMC**	FC-AL, FC-SW	Y[1, 2, 3]	
64	Netfinity 8500	PCI	Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP8000-EMC[19], LP850-EMC[18], LP9002-E (LP9002L-E)[5], LP9802-E[28, 35], LP9802DC-E[5, 35], LP982-E[28, 35]; QLogic: QLA2200F-EMC, QLA2202F-EMC[22]	FC-AL, FC-SW	N	
65	**xSeries x360[9]**	PCI	**Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4**	**QLogic QLA2200F-EMC**	FC-AL, FC-SW	Y[1, 2, 3]	
66	**xSeries x345[9, 48]**	PCI	**Microsoft Windows 2000 Server: SP2[6], SP3[6], SP4**	**Emulex LP8000-EMC[19], QLogic QLA2202F-EMC[22]**	FC-AL, FC-SW	Y[1, 2, 3]	
67	**xSeries x345[9]**	PCI	**Microsoft Windows 2000: Advanced Server SP2[6, 7], Server SP2[6, 7], Server SP3[6, 7], Server SP4**	**Emulex: LP9002-E (LP9002L-E)[5], LP9002DC-E[5, 24, 28, 29, 30]; QLogic: QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	
68	Netfinity 8500	PCI	Microsoft Windows 2000: Advanced Server SP2[6, 7], Server SP2[6, 7], Server SP3[6, 7], Server SP4	IBM 19K1246(QLA2310)[30, 31]	FC-AL, FC-SW	N	
69	Netfinity 8500R	PCI	Microsoft Windows 2000: **Advanced Server SP2[6, 7]**, Server SP2[6, 7], Server SP3[6, 7], Server SP4	QLogic: QLA2202F-EMC[22], **QLA2310F-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	See[13]
70	Netfinity 8500R; **xSeries x255[9]**	PCI	Microsoft Windows 2000: Advanced Server SP2[6], Server SP2[6], Server SP3[6], Server SP4	IBM 19K1246(QLA2310)[30, 31]	FC-AL, FC-SW	Y[1, 3]	
71	**xSeries x345[9]**	PCI	**Microsoft Windows 2000: Advanced Server SP2[6], Server SP2[6], Server SP3[6], Server SP4**	**IBM 19K1246(QLA2310)[31]**	FC-AL, FC-SW	Y[1, 3]	
72	**xSeries x360**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7]**	**QLogic QLA2310F-E-SP[4]**	FC-AL, FC-SW	Y[1, 2, 3]	**See[16]**
73	xSeries x235[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex LP9002DC-E[5, 24, 28, 29, 30]	FC-AL, FC-SW	Y[1, 2, 3]	
74	**xSeries x360[9]**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4**	**Emulex: LP9002-E (LP9002L-E)[5], LP9002DC-E[5, 24, 28, 29, 30]**	FC-AL, FC-SW	Y[1, 2, 3]	
75	xSeries x440[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP9002-E (LP9002L-E)[5], LP9002DC-E[5, 24, 28, 29, 30]; QLogic: QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]	FC-AL, FC-SW	Y[1, 2, 3]	
76	xSeries x235[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP9802-E[28, 35], LP9802DC-E[5, 35], LP982-E[28, 35]	FC-AL, FC-SW	Y[1, 2, 3, 36]	
77	**xSeries x360**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4**	**QLogic: QLA2340-E-SP[4, 5, 25, 26], QLA2342-E-SP[4, 5, 25, 26]**	FC-AL, FC-SW	Y[1, 2, 3]	
78	xSeries x235	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6] SP3[6], SP4. Microsoft Windows 2000 Datacenter SP4	QLogic QLA2200F-EMC[22]	FC-AL, FC-SW	Y[1, 2, 3]	
79	xSeries x440[9]	PCI-X	Microsoft Windows 2000 Advanced Server. SP2[6] SP3[6], SP4. Microsoft Windows 2000 Datacenter. SP2[6], SP3[6] SP4. Microsoft Windows 2000 Server SP2[6], SP3[6], SP4	IBM: 00N6881 (QLA2200)[21, 22], 24P0960(QLA2340)[34]	FC-AL, FC-SW	Y[1, 2, 3]	
80	xSeries x235[9]	PCI-X	Microsoft Windows 2000 Advanced Server SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4 Server SP2[6, 7] Server SP3[6, 7] Server SP4	Emulex LP850-EMC[24]	FC-AL, FC-SW	Y[1, 2, 3]	
81	xSeries x360 x440	PCI-X	Microsoft Windows 2000 Advanced Server SP2[6], SP3[6] SP4 Microsoft Windows 2000 Datacenter SP4 Server SP2[6, 7] Server SP3[6, 7] Server SP4	QLogic QLA2200F-EMC[22]	FC-AL, FC-SW	Y[1, 2, 3]	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
82	xSeries: **x360**[9], x440[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4. Microsoft Windows 2000 Datacenter SP4, Server SP2[6], Server SP3[6, 7], Server SP4	Emulex LP850-EMC[24]	FC-AL, FC-SW	Y[1, 2, 3]	
83	xSeries: **x360**[9], x440[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6] SP4. Microsoft Windows 2000 Datacenter SP4, Server SP2[6], Server SP3[6, 7], Server SP4	Emulex: LP9802-E[28, 35], LP9802DC-E[5, 35], LP982-E[28, 35]	FC-AL, FC-SW	Y[1, 2, 3, 36]	
84	xSeries: x235[9], **x360**[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4. Microsoft Windows 2000 Datacenter SP4, Server SP2[6] Server SP3[6], Server SP4	Emulex: LP7000E-EMC[20], LP8000-EMC[19, 24]; IBM: 00N6881 (QLA2200)[21, 22], 24P0960(QLA2340)[34]; QLogic QLA2202F-EMC[22]	FC-AL, FC-SW	Y[1, 2, 3]	
85	xSeries x440[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4 Microsoft Windows 2000 Datacenter SP4, Server SP2[6] Server SP3[6], Server SP4	Emulex: LP7000E-EMC[20], LP8000-EMC[19, 24]; QLogic QLA2202F-EMC[22]	FC-AL, FC-SW	Y[1, 2, 3]	
86	xSeries: **x360**[9], x440[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4 Microsoft Windows 2000 Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4	IBM 19K1246(QLA2310)[31]	FC-AL, FC-SW	Y[1, 3]	
87	xSeries x235[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[6], SP4, Microsoft Windows 2000 Datacenter SP4	Emulex LP9002-E (LP9002L-E)[24, 27, 28]	FC-AL, FC-SW	Y[1, 2, 3]	
88	**xSeries x235**[9]	PCI-X	**Microsoft Windows 2000 Advanced Server SP3[6], SP4,** **Microsoft Windows 2000 Datacenter SP4**	**IBM 19K1246(QLA2310)[4, 31]**	FC-AL, FC-SW	Y[1, 3]	
89	**xSeries x235**	PCI-X	**Microsoft Windows 2000 Advanced Server SP3[6], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**QLogic: QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	
90	xSeries x235[9]	PCI-X	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4	Emulex LP7000E-EMC[20]; IBM 24P0960(QLA2340)[34]; **QLogic QLA2300F-E-SP[4, 5]**	FC-AL, FC-SW	N	
91	xSeries x440[9]	PCI-X	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP7000E-EMC[20], LP850-EMC[24] LP9002-E (LP9002L-E), LP9002DC-E[5, 24, 28, 29, 30]; **IBM 19K1246(QLA2310)[4, 31]**; QLogic: **QLA2300F-E-SP[4, 5]**, QLA2310F-E-SP	FC-AL, FC-SW	N	
92	**xSeries x360**[9]	PCI-X	**Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4**	**QLogic QLA2300F-E-SP[4, 5]**	FC-AL, FC-SW	N	
93	**xSeries x360**	PCI-X	**Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4**	**QLogic: QLA2310F-E-SP[4], QLA2340-E-SP[4, 5, 25, 26], QLA2342-E-SP[4, 5, 25, 26]**	FC-AL, FC-SW	N	
94	xSeries x235[9]	PCI-X	Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	QLogic QLA2200F-EMC[22]	FC-AL, FC-SW	Y[1, 2, 3]	
95	**xSeries x360**	PCI-X	**Microsoft Windows 2000 Server. SP3[6], SP4**	**QLogic QLA2310F-E-SP[4]**	FC-AL, FC-SW	Y[1, 2, 3]	**See[12]**
96	xSeries x235[9]	PCI-X	Microsoft Windows 2000: Advanced Server SP2[6, 7], Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex LP9002-E (LP9002L-E)[5]; **QLogic: QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	
97	xSeries x235[9]	PCI-X	Microsoft Windows 2000: Advanced Server SP2[6], Server SP2[6], Server SP3[6], Server SP4	IBM 19K1246(QLA2310)[31]	FC-AL, FC-SW	Y[1, 3]	
98	**xSeries x360**[9]	PCI PCI-X	**Microsoft Windows 2000 Advanced Server SP2[6, 7], SP3[6], SP4,** **Microsoft Windows 2000** Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	**Emulex: LP7000E-EMC[20], LP8000-EMC[19, 24], LP850-EMC[24];** **QLogic: QLA2202F-EMC[22], QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5] QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	
99	xSeries x445	PCI, PCI-X	**Microsoft Windows 2000 Advanced Server SP2[6, 7], SP3[6], SP4;** **Microsoft Windows 2000.** Datacenter SP4 Server SP2[6, 7], Server SP3[6, 7] Server SP4	**Emulex: LP9002-E (LP9002L-E)[5], LP9002DC-E[5, 24, 28, 29, 30];** **QLogic: QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	**FC-AL, FC-SW**	Y[1, 2, 3]	
100	xSeries x360[9]	PCI, PCI-X	**Microsoft Windows 2000 Advanced Server SP2[6, 7], SP3[6], SP4,** **Microsoft Windows 2000** Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	**Emulex: LP9802-E[28, 35], LP9802DC-E[5, 35] LP982-E[28, 35]**	FC-AL, FC-SW	Y[1, 2, 3, 36]	
101	xSeries x445	PCI, PCI-X	**Microsoft Windows 2000 Advanced Server SP2[6], SP3[6] SP4** **Microsoft Windows 2000** Datacenter SP4	QLogic QLA2200F-EMC[22]	FC-AL FC-SW	Y[1, 2, 3]	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
102	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter: SP2[6], SP3[6], SP4, Microsoft Windows 2000 Server: SP2[6], SP3[6], SP4	IBM: 00N6881 (QLA2200)[21, 22], 24P0960(QLA2340)[34]	FC-AL, FC-SW	Y[1, 2, 3]	
103	xSeries x345[9]	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex LP850-EMC[24]	FC-AL, FC-SW	Y[1, 2, 3]	
104	xSeries x345	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	QLogic QLA2200F-EMC[22]	FC-AL, FC-SW	Y[1, 2, 3]	
105	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6, 7], Server SP4	Emulex LP850-EMC[24]	FC-AL, FC-SW	Y[1, 2, 3]	
106	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6, 7], Server SP4	Emulex: LP9802-E[28, 35], LP9802DC-E[5, 35], LP982-E[28, 35]	FC-AL, FC-SW	Y[1, 2, 3, 36]	
107	xSeries x345[9]	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4	Emulex: LP7000E-EMC[20], LP8000-EMC[19, 24]; IBM 00N6881 (QLA2200)[21, 22]; QLogic QLA2202F-EMC[22]	FC-AL, FC-SW	Y[1, 2, 3]	
108	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4	Emulex: LP7000E-EMC[20], LP8000-EMC[19, 24]; QLogic QLA2202F-EMC[22]	FC-AL, FC-SW	Y[1, 2, 3]	
109	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4	IBM 19K1246(QLA2310)[31]	FC-AL, FC-SW	Y[1, 3]	
110	xSeries x345[9]	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9002-E (LP9002L-E)[24, 27, 28], LP9002DC-E[5, 24, 28, 29, 30]	FC-AL, FC-SW	Y[1, 2, 3]	
111	xSeries x345	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic: QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]	FC-AL, FC-SW	Y[1, 2, 3]	
112	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4	Emulex: LP7000E-EMC[20], LP850-EMC[24], LP9002-E (LP9002L-E), LP9002DC-E[5, 24, 28, 29, 30]; IBM 19K1246(QLA2310)[4, 31], QLogic: QLA2300F-E-SP[4, 5], QLA2310F-E-SP	FC-AL, FC-SW	N	
113	xSeries x345, x360[9]	PCI, PCI-X	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4	QLogic QLA2300F-E-SP[4, 5]	FC-AL, FC-SW	N	
114	xSeries x440[9]	PCI, PCI-X	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4	QLogic QLA2300F-E-SP[5]	FC-AL, FC-SW	N	
115	xSeries: x440[9], x445	PCI, PCI-X	Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	QLogic QLA2200F-EMC	FC-AL, FC-SW	Y[1, 2, 3]	
116	xSeries x440[9]	PCI, PCI-X	Microsoft Windows 2000 Server: SP2[6], SP3[6], SP4	Emulex LP8000-EMC[19]; QLogic QLA2202F-EMC[22]	FC-AL, FC-SW	Y[1, 2, 3]	
117	Netfinity 8500R; xSeries x255[9]	PCI	Microsoft Windows 2000 Advanced Server SP2[6, 7]	QLogic QLA2310F-E-SP[4, 25, 26]	FC-AL[37]	Y[1, 2, 3]	
118	Netfinity 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server SP2[6, 7]	QLogic QLA2310F-E-SP[4, 25, 26]	FC-AL[37]	N	
119	Netfinity 8500R; xSeries x255[9]	PCI	Microsoft Windows 2000 Advanced Server: SP3[6], SP4, Microsoft Windows 2000 Datacenter SP4	QLogic QLA2310F-E-SP[4, 25]	FC-AL[37]	Y[1, 2, 3]	
120	Netfinity 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server: SP3[6], SP4 Microsoft Windows 2000 Datacenter SP4	QLogic QLA2310F-E-SP[4, 25]	FC-AL[37]	N	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
121	**eServer BladeCenter HS20 (Model 8678)[53]**	**PCI-X[54]**	**Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4;** **Microsoft Windows 2000 Datacenter: SP2[6], SP3[6], SP4;** **Microsoft Windows 2000 Server: SP2[6], SP3[6], SP4**	**IBM HS20 FC Expansion card 48P7061[49, 50, 51, 52]**	**FC-SW**	**Y**	
122	Netfinity: 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server SP2[6, 7]	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	N	See[12]
123	**xSeries x255[9]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7]**	**Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]**	U2 LVD	Y[3, 33]	**See[16]**
124	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600; xSeries: X330[9], X335, X340 (4500R)[9], X342[9], x230, x240[9], x250[9], x350 (6000R)[9], x370[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	Y[3]	
125	**xSeries x345[9]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Adaptec ASC-29160[10, 11]**	U2 LVD	Y[3, 33]	
126	Netfinity: 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server: SP3[6] SP4; Microsoft Windows 2000 Datacenter SP4	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	N	See[16]
127	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP3[6, 7], Server SP4	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	Y[3]	See[16]
128	**xSeries x345[9, 48]**	PCI	**Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4**	**Adaptec ASC-29160[10, 11]**	U2 LVD	Y[3, 33]	
129	**xSeries x255[9]**	PCI	**Microsoft Windows 2000 Server: SP3[6, 7], SP4**	**Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]**	U2 LVD	Y[3, 33]	**See[12]**
130	Netfinity 8500R	PCI	Microsoft Windows 2000: Advanced Server SP2[6, 7], Server SP2[6, 7]	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	Y[3]	See[12]
131	xSeries: **x360**, x440	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Adaptec ASC-29160[10, 11]	U2 LVD	Y[3, 33]	See[16]
132	xSeries: **x360**, x440	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7]	Adaptec ASC-39160[10, 11]	U2 LVD	Y[3, 33]	See[16]
133	xSeries x235[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Adaptec: ASC-29160[10, 11], ASC-39160[10, 11]	U2 LVD	Y[3, 33]	
134	xSeries x440[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4	Adaptec ASC-29160[10, 11]	U2 LVD	Y[3, 33]	
135	xSeries x235[9]	PCI-X	Microsoft Windows 2000 Datacenter: SP2[6, 7], SP3[6, 7], SP4	Adaptec ASC-39160[10, 11]	U2 LVD	N	
136	xSeries, **x360**, x440	PCI-X	Microsoft Windows 2000 Server SP2[6, 7], SP3[6, 7], SP4	Adaptec ASC-29160[10, 11]	U2 LVD	Y[3, 33]	See[12]
137	xSeries **x360**, x440	PCI-X	Microsoft Windows 2000 Server SP3[6, 7], SP4	Adaptec ASC-39160[10, 11]	U2 LVD	Y[3, 33]	See[12]
138	**xSeries x345, x445**	PCI, PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Adaptec ASC-29160[10, 11]**	U2 LVD	Y[3, 33]	See[16]
139	**xSeries x345, x445**	PCI, PCI-X	**Microsoft Windows 2000 Advanced Server SP2[6, 7], SP3[6], SP4;** **Microsoft Windows 2000 Datacenter SP4, Server SP2[6, 7]**	**Adaptec ASC-39160[10, 11]**	U2 LVD	Y[3, 33]	See[16]
140	**xSeries x360[9]**	PCI, PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4;** **Microsoft Windows 2000 Datacenter SP4 Server SP2[6, 7], Server SP3[6, 7] Server SP4**	**Adaptec ASC-29160[10, 11]**	U2 LVD	Y[3, 33]	
141	xSeries x440[9]	PCI, PCI-X	Microsoft Windows 2000 Server SP2[6, 7], SP3[6, 7] SP4	Adaptec ASC-29160[10, 11]	U2 LVD	Y[3, 33]	See[12]
142	**xSeries x345, x445**	PCI, PCI-X	**Microsoft Windows 2000 Server SP2[6, 7] SP3[6, 7] SP4**	**Adaptec ASC-29160[10, 11]**	U2 LVD	Y[3, 33]	See[12]
143	**xSeries x345, x445**	PCI, PCI-X	**Microsoft Windows 2000 Server SP3[6, 7], SP4**	**Adaptec ASC-39160[10, 11]**	U2 LVD	Y[3, 33]	See[12]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
144	Netfinity: 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server SP2[6, 7]	Adaptec AHA-3944AUWD[45, 46, 47]	UWD	N	See[44]
145	Netfinity: 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Adaptec AHA-2944UW[14, 15, 17]; HPQ: A5252A[14, 38], A5252B[38]	UWD	N	See[16]
146	Netfinity: 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic QLA1041D	UWD	N	
147	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Adaptec AHA-2944UW[14, 15]	UWD	Y[3]	
148	xSeries: X330[9], X335, X340 (4500R)[9], X342[9], x230, x240[9], x250[9], x350 (6000R)[9], x370[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Adaptec AHA-2944UW[14, 15]	UWD	N	
149	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Adaptec AHA-2944UW[14, 15, 17]	UWD	Y[3]	See[16]
150	Netfinity 8500R; **xSeries x255**[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	HPQ: A5252A[14, 38], A5252B[38]	UWD	N	See[16]
151	Netfinity 8500R; **xSeries x255**[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	QLogic QLA1041D	UWD	N	
152	Netfinity: 6000R, 8500, 8500R; **xSeries x255**[9]	PCI	Microsoft Windows 2000 Advanced Server: SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Adaptec AHA-3944AUWD[47]	UWD	N	See[32]
153	Netfinity 8500R; **xSeries x255**[9]	PCI	Microsoft Windows 2000: Advanced Server SP2[6, 7], Server SP2[6, 7], Server SP3[6, 7], Server SP4	Adaptec AHA-3944AUWD[45, 46, 47]	UWD	N	See[44]
154	xSeries x235[9]	PCI-X	Microsoft Windows 2000: Advanced Server SP2[6, 7], Server SP2[6, 7], Server SP3[6, 7], Server SP4	Adaptec AHA-2944UW[14, 15]	UWD	N	

1. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.
2. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
3. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
4. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
5. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
6. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
7. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
8. This server only supports 5 Volt HBAs. qLogic 22XX family (if applicable), qLogic 23XX family. Emulex LP8000, and Emulex LP850 (if applicable).
9. For IBM xSeries Servers running Windows NT and Windows 2000 with IBM ServerRaid controller 4M, the ServerRaid Driver must be 6.00 or above for use with EMC PowerPath 3.0 and above. IBM driver can be downloaded at: http://www-3.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-39723
10. Requires BIOS version 3.10.0 and driver 4.10.4002 set V.1.02
11. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L).
12. Adaptec AHA-2944UW has been OEM'ed by HP as A5252A and A5252B
13. Cables to be ordered from Fujitsu Services (ICL).
14. Requires BIOS version 2.20 and driver version 2.20b (native on Windows 2000 Advanced Server CD-ROM).
15. Requires Legacy PCI slot (not available on new servers.)
16. Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B.
17. Requires BIOS version 2.11.0 and driver 2.20b (native on Windows 2000 Advanced Server CD-ROM).
18. Not supported with the HP NetServer LC-2000
19. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
20. Requires HBA driver revision 2.13a4 and firmware 3.30a7. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com
21. (QLA2200) For IBM xSeries and Netfinity servers only.
22. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
23. For IBM Netfinity and xSeries Intel servers only.
24. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
25. **Qlogic SANSurfer/SANBlade Manager is not supported.**
26. **Qlogic SanBlade Manager is not supported.**
27. The LP9002-E now ships with the LP9002L-E low profile adapter
28. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces
29. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC
30. Host must be offline for interfamily Symmetrix microcode upgrade
31. This HBA is equivalent to the qLogic QLA2310
32. EMC requires and supports only one port of the dual-channel adapter
33. Adaptec AHA-2944UW is not supported
34. This HBA is equivalent to the qLogic QLA2340
35. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com
36. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only
37. Supported by direct attach only
38. (Adaptec AHA-2944UW)
39. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
40. Requires manual intervention on bootup to clear "new hardware found" message box at boot time
41. Does not support Connectrix DS-16M, DS-32M, or McData ED-5000
42. Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper_rnotes/bsdmatrix/matrix213991.html
43. (HHBA-5101BK-01)

44. HP OEMs Adaptec AHA-2944UW AS A52524 AND A5252B.
45. Supported via RPQ and only one of the two ports can be used.
46. Requires BIOS version 1.31 and HBA driver 2.20b (native on Windows 2000 Advanced Server CD-ROM).
47. BIOS 2.20.0, driver 5.00.2144.1 aic78xx.sys Drivers for Adaptec are available at http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=drivenndex
48. It is recommended that the QLogic QLA2340 is not installed in Slot 1.
49. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"**

    This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.
50. **Due to the HS20's embedded FC-SW design, EMC Volume Logix is required to assign LUNS to each individual blade server.**
51. **This server has a built-in FC-SW and must be direct-attached to the external storage.**
52. **IBM BIOS 1.34, EMC Approved Qlogic Driver Version 8.2.2.25. Available at http://www.qlogic.com.**
53. **EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.**
54. **IBM HS20 Fibre Channel Expansion Card (48P7061)**

NCR

NCR – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	QLogic QLA2200F-EMC	FC-AL	Y[1, 7, 8]	
2	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Emulex: LP7000E-EMC[6], LP8000-EMC[9], LP850-EMC; QLogic: QLA2202F-EMC[10], **QLA2300F-E-SP[11, 12], QLA2310F-E-SP[11, 12], QLA2340-E-SP[11, 12], QLA2342-E-SP[11, 12]**	FC-AL, FC-SW	Y[1, 7, 8]	
3	Worldmark 4455	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	QLogic: QLA2202F-EMC[10], QLA2204F[10]	FC-AL, FC-SW	N	
4	**Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50**	PCI	**Microsoft Windows 2000 Datacenter: SP2[4, 5], SP3[4, 5], SP4**	**QLogic QLA2300F-E-SP[11, 12]**	FC-AL, FC-SW	N	
5	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5, 17], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec ASC-29160[14, 15]	U2 LVD	Y[1]	See[16]
6	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5]	Adaptec ASC-39160[14, 15]	U2 LVD	Y[1]	See[13]
7	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows 2000 Server: SP3[4, 5], SP4	Adaptec ASC-39160[14, 15]	U2 LVD	Y[1]	See[16]
8	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows 2000 Advanced Server: SP2[4, 5], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4, 5], Server SP3[4, 5], Server SP4	Adaptec AHA-2944UW[2, 3]	UWD	Y[1]	

1. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
2. Requires Legacy PCI slot (not available on new servers.)
3. Requires BIOS version 2.20 and driver version 2.20b (native on Windows 2000 Advanced Server CD-ROM).
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
6. Requires HBA driver revision 2.13a4 and firmware 3.30a7. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com
7. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.
8. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
10. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
11. **QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).**
12. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
13. Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B.
14. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L)
15. Requires BIOS version 3.10.0 and driver 4.10.4002 set V.1.02
16. Adaptec AHA-2944UW has been OEM'ed by HP as A5252A and A5252B.
17. Symmetrix 8000 Series & 66/67 support at MPRAS 3.02, Windows 2000 SP2

NE

NE – Microsoft Windows 2000							
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	P7000	PCI	Microsoft Windows 2000 Advanced Server SP2[5, 6], SP3[5], SP4, Microsoft Windows 2000, Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	QLogic QLA2202F-EMC[7]	FC-AL, FC-SW	N	
2	P7000	PCI	Microsoft Windows 2000 Advanced Server SP2[5, 6]	Adaptec ASC-29160[9, 10]	U2 LVD	Y[2]	See[8]
3	P7000	PCI	Microsoft Windows 2000 Advanced Server SP2[5, 6] SP3[5], SP4; Microsoft Windows 2000 Datacenter SP4 Server SP2[5, 6]	Adaptec ASC-39160[9, 10]	U2 LVD	Y[2]	See[8]
4	P7000	PCI	Microsoft Windows 2000 Advanced Server SP3[5], SP4 Microsoft Windows 2000 Datacenter SP4 Server SP2[5, 6] Server SP3[5, 6], Server SP4	Adaptec ASC-29160[9, 10]	U2 LVD	Y[2]	See[11]
5	P7000	PCI	Microsoft Windows 2000 Server: SP3[5, 6] SP4	Adaptec ASC-39160[9, 10]	U2 LVD	Y[2]	See[11]

NE – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
6	P7000	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Adaptec AHA-2944UW[3, 4]	UWD	Y[1, 2]	

1. Requires BIOS version 2.20 and driver version 2.20b (native on Windows 2000 Advanced Server CD-ROM).
2. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
3. Requires Legacy PCI slot (not available on new servers.)
4. Requires BIOS version 2.11.0 and driver 2.20b (native on Windows 2000 Advanced Server CD-ROM).
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
7. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
8. Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B.
9. Requires BIOS version 3.10.0 and driver 4.10.4002 set V.1.02
10. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L).
11. Adaptec AHA-2944UW has been OEM'ed by HP as A5252A and A5252B

NEC

NEC – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Express 5800: 140Ma, 180Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic QLA2200F-EMC[5]	FC-AL	N	
2	**Express 5800: 320La[14], 320La-R[14], 320Lb[14], 320Lb-R[14], 330Ma-R[14], 330Mb-R[14], 340Ha-R[14]**	**PCI**	**Microsoft Windows 2000 Advanced Server SP3[3]**	**NEC N8190-105[27]**	**FC-AL, FC-SW**	Y	
	Express 5800: 320La[14], 320La-R[14], 320Lb[14], 320Lb-R[14], 330Ma-R[14], 330Mb-R[14], 340Ha-R[14]	**PCI**	**Microsoft Windows 2000 Advanced Server SP3[3]**	**NEC N8803-031 (QLA2310F)[6, 7, 17, 28]**	**FC-AL, FC-SW**	**N**	**See[29, 30]**
4	Express 5800: 120Rd-1, 120Rd-2, 120Rf-2, 140Hd, 140Rb-4, 140Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	NEC N8190-105[6, 19, 27]	FC-AL, FC-SW	N	
5	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha, 180Rc-4**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4;** **Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4**	**QLogic QLA2300F-E-SP[6, 7]**	FC-AL, FC-SW	N	
6	Express 5800 140Ra-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4]	Emulex LP9002DC-E[5, 11, 19, 21, 26]	FC-AL, FC-SW	Y[8, 9, 10]	See[22]
7	Express 5800 180Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4]	Emulex LP9002DC-E[6, 11, 19, 21, 26]	FC-AL, FC-SW	N	See[22]
8	Express 5800 120Md	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4: Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP7000E-EMC[13], LP8000-EMC[12, 21], LP850-EMC[21], LP9002-E (LP9002L-E)[6], LP9002DC-E[6, 11, 19, 21, 26]; NEC N8190-105[6, 19, 27]; QLogic: QLA2200F-EMC[5], QLA2202F-EMC[5], **QLA2300F-E-SP[6, 7], QLA2310F-E-SP[6, 7], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	Y[8, 9, 10]	
9	Express 5800 180Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP7000E-EMC[13], LP8000-EMC[12, 21], LP850-EMC[21], LP9002-E (LP9002L-E)[6] LP9802-E[18, 19], LP9802DC-E[6, 18], LP982-E[18, 19]; NEC: N8190-105[6, 19, 27], N8503-200[11], QLogic QLA2202F-EMC[5] **QLA2310F-E-SP[6, 7], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	N	
10	Express 5800: 120Ra-2, 140Ha, 180Ha	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4, Microsoft Windows 2000, Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP7000E-EMC[13], LP8000-EMC[12], LP850-EMC, LP9002-E (LP9002L-E)[6], LP9002DC-E[6, 11, 19, 21, 26], LP9802-E[18, 19] LP9802DC-E[6, 18], LP982-E[18, 19]; NEC: N8190-105[6, 19, 27], N8503-200[11] QLogic QLA2200F-EMC QLA2202F-EMC[5], **QLA2310F-E-SP[6, 7], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	N	
11	Express 5800: 120Rc-2, 140Hb, 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4 Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4] Server SP3[3, 4], Server SP4	Emulex: LP7000E-EMC[13], LP8000-EMC[12], LP850-EMC, LP9002-E (LP9002L-E)[6], LP9002DC-E[6, 11, 19, 21, 26]; NEC N8190-105[6, 19, 27] QLogic QLA2200F-EMC QLA2202F-EMC[5], **QLA2300F-E-SP[6, 7], QLA2310F-E-SP[6, 7], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL FC-SW	Y[8, 9, 10]	

NEC – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
12	Express 5800 140Ra-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP7000E-EMC[13], LP8000-EMC[12], LP850-EMC, LP9002-E (LP9002L-E)[6]; NEC N8190-105[6, 19, 27]; QLogic: QLA2200F-EMC, QLA2202F-EMC[5], **QLA2300F-E-SP[6, 7], QLA2310F-E-SP[6, 7], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	Y[8, 9, 10]	
13	Express 5800: 120Rd-1, 120Rd-2, 120Rf-2, 140Hd, 140Rb-4, 140Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP7000E-EMC[13], LP8000-EMC[12], LP850-EMC; NEC: N8103-200[11], N8503-200[11]; QLogic: QLA2200F-EMC, QLA2202F-EMC[5]	FC-AL, FC-SW	N	
14	Express 5800 180Rb-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP7000E-EMC[13], LP8000-EMC[12], LP850-EMC; NEC: N8190-105[6, 19, 27], N8503-200[11]; QLogic: QLA2200F-EMC, QLA2202F-EMC[5]	FC-AL, FC-SW	N	
15	Express 5800 140Ma	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9002-E (LP9002L-E)[6], LP9002DC-E[6, 11, 19, 21, 26], LP9802-E[18, 19], LP9802DC-E[6, 18], LP982-E[18, 19]; NEC: N8190-105[6, 19, 27], N8503-200[11]; QLogic: QLA2202F-EMC[5], **QLA2310F-E-SP[6, 7], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]**	FC-AL, FC-SW	N	
16	Express 5800: 120Md, 120Rc-2, 140Hb, 140Ra-4, 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9802-E[18, 19], LP9802DC-E[6, 18], LP982-E[18, 19]	FC-AL, FC-SW	Y[8, 9, 10, 20]	
17	Express 5800: 120Md, 120Rc-2 140Hb 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	NEC N8503-200[11]	FC-AL, FC-SW	N	
18	Express 5800 140Ra-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	NEC: N8103-200, N8503-200[11]	FC-AL, FC-SW	N	
19	**Express 5800: 120Ra-2, 120Rd-1, 120Rd-2, 120Rf-2, 140Ha, 140Hd, 140Ma, 140Rb-4, 140Rc-4, 180Ha, 180Rb-7, 180Rc-4**	**PCI**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4**	**Emulex LP850-EMC; NEC: N8190-105[27], N8503-200**	**FC-AL, FC-SW**	Y	
20	**Express 5800: 120Md, 120Rc-2, 140Hb 140Ra-4, 140Ra-7**	**PCI**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4**	**NEC N8503-200**	**FC-AL, FC-SW**	Y	
21	Express 5800 180Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	NEC N8103-200	FC-AL, FC-SW	N	
22	Express 5800 180Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP3[3, 4], Server SP4	QLogic QLA2200F-EMC[5]	FC-AL, FC-SW	N	
23	**Express 5800: 120Rd-1, 120Rf-2, 140Hd, 140Rc-4**	PCI	**Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4**	**QLogic QLA2300F-E-SP[6]**	FC-AL, FC-SW	N	
24	**Express 5800: 120Md, 120Rc-2 140Hb 140Ra-4, 140Ra-7**	PCI	**Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4**	**QLogic QLA2300F-E-SP[6, 7]**	FC-AL, FC-SW	N	
25	Express 5800 140Ra-4	PCI	Microsoft Windows 2000 Server SP3[3, 4], SP4	Emulex LP9002DC-E[6, 11, 19, 21, 26]	FC-AL, FC-SW	Y[8, 9, 10]	See[25]
26	Express 5800 180Rc-4	PCI	Microsoft Windows 2000 Server, SP3[3, 4], SP4	Emulex LP9002DC-E[6, 11, 19, 21, 26]	FC-AL FC-SW	N	See[25]
27	Express 5800 180Rc-4	PCI	Microsoft Windows 2000 Advanced Server SP2[3, 4], Server SP2[3, 4]	QLogic QLA2200F-EMC	FC-AL, FC-SW	N	
28	Express 5800 180Rc-4	PCI	Microsoft Windows 2000: Advanced Server SP2[3, 4], Server SP2[3, 4], Server SP3[3, 4], Server SP4	NEC N8103-200[11]	FC-AL, FC-SW	N	
29	**Express 5800 180Rc-4**	PCI	**Microsoft Windows 2000 Advanced Server SP2[3, 4]**	**QLogic QLA2310F-E-SP[7, 17, 28]**	FC-AL[15]	N	
30	**Express 5800 180Rc-4**	PCI	**Microsoft Windows 2000 Advanced Server: SP3[3], SP4; Microsoft Windows 2000** Datacenter SP4	**QLogic QLA2310F-E-SP[7, 17]**	FC-AL[15]	N	
31	Express 5800: 320La[14] 320La-R[14] 320Lb[14] 320Lb-R[14] 330Ma-R[14] 330Mb-R[14] 340Ha-R[14]	PCI	**Microsoft Windows 2000 Advanced Server SP2[3, 4]**	**QLogic QLA2310F-E-SP[16, 17]**	FC-AL[15] FC-SW	N	
32	Express 5800: 320La[14] 320La-R[14] 320Lb[14] 320Lb-R[14] 330Ma-R[14] 330Mb-R[14] 340Ha-R[14]	PCI	**Microsoft Windows 2000 Advanced Server SP3[3]**	**QLogic QLA2310F-E-SP[7, 16, 17]**	FC-AL[15] FC-SW	See[29, 30]	
33	Express 5800 120Md 140Ra-4	PCI	Microsoft Windows 2000 Advanced Server SP2[3, 4]	Adaptec ASC-29160[23, 24]	U2 LVD	Y[8]	See[22]

NEC – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
34	Express 5800 180Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Adaptec ASC-29160[23, 24]	U2 LVD	N	See[22]
35	Express 5800: 120Rc-2, 140Hb, 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Adaptec ASC-29160[23, 24]	U2 LVD	Y[8]	See[22]
36	Express 5800 180Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4, Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4]	Adaptec ASC-39160[23, 24]	U2 LVD	N	See[22]
37	Express 5800: 120Md, 120Rc-2, 140Hb, 140Ra-4, 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4, Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4]	Adaptec ASC-39160[23, 24]	U2 LVD	Y[8]	See[22]
38	Express 5800: 120Md, 140Ra-4	PCI	Microsoft Windows 2000 Advanced Server: SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec ASC-29160[23, 24]	U2 LVD	Y[8]	See[25]
39	Express 5800 180Rc-4	PCI	Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4	Adaptec ASC-29160[23, 24]	U2 LVD	N	See[25]
40	Express 5800: 120Rc-2, 140Hb, 140Ra-7	PCI	Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4	Adaptec ASC-29160[23, 24]	U2 LVD	Y[8]	See[25]
41	Express 5800 180Rc-4	PCI	Microsoft Windows 2000 Server: SP3[3, 4], SP4	Adaptec ASC-39160[23, 24]	U2 LVD	N	See[25]
42	Express 5800: 120Md, 120Rc-2, 140Hb, 140Ra-4, 140Ra-7	PCI	Microsoft Windows 2000 Server: SP3[3, 4], SP4	Adaptec ASC-39160[23, 24]	U2 LVD	Y[8]	See[25]
43	Express 5800: 120Md, 120Rc-2, 140Hb, 140Ra-4, 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4, Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec AHA-2944UW[1, 2]	UWD	Y[8]	
44	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha, 180Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec AHA-2944UW[1, 2]	UWD	N	

1. Requires Legacy PCI slot (not available on new servers.)
2. Requires BIOS version 2.20 and driver version 2.20b (native on Windows 2000 Advanced Server CD-ROM).
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
5. Requires driver 8 1 5 20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
6. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
7. **Requires driver 8.2.2.25. and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
8. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
9. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.
10. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
11. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
13. Requires HBA driver revision 2.13a4 and firmware 3.30a7. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com
    Bus Enumeration Issue Causes Problems using SYMCLI SCSI bus enumeration of disks will change depending on cold boot or warm boot. This causes symcli commands to fail because the path is changed and SYMCLI can no longer communicate with the Symmetrix.

    By "shutdown" and booting system, internal disks are assigned first, followed by Symmetrix disks.
    By "restart" the system, Symmetrix disks are assigned first, followed by internal disks. Drive letter are not changed in both cases.
    The workaround is to perform "symcfg discover" after rebooting.
15. Supported by direct attach only
16. **Requires driver 8.2.1.20. and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**
17. **Qlogic SANSurfer/SANBlade Manager is not supported.**
18. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1 Supports SNIA HBA API Drivers available at http://www.emulex.com.
19. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
20. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
21. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
22. Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B
23. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L)
24. Requires BIOS version 3.10 0 and driver 4.10 4002 set V.1.02
25. Adaptec AHA-2944UW has been OEM'ed by HP as A5252A and A5252B
26. Host must be offline for interfamily Symmetrix microcode upgrade.
27. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.
28. **Qlogic SanBlade Manager is not supported.**
29. Windows 2000 Professional is supported as the management workstation
30. CX200 available through selected channels

SUPERMICRO

SUPERMICRO – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Super P3TDL3[6]	PCI	Microsoft Windows 2000 Advanced Server SP2[7, 8], SP3[8], SP4 Microsoft Windows 2000 Datacenter SP4	QLogic QLA2300F-E-SP[4, 5]	FC-AL, FC-SW	Y[1, 2, 5]	See[16]

SUPERMICRO – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
2	Super: P3TDL3, S2DL3	PCI	Microsoft Windows 2000 Advanced Server: SP2[7, 8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[7, 8]	Emulex: LP9802-E[22], LP9802DC-E[4, 22]	FC-AL, FC-SW	Y[1, 2, 3, 21]	See[17]
3	Super S2DL3	PCI	Microsoft Windows 2000 Advanced Server: SP2[7, 8], SP3[8], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[7, 8], Server SP3[7, 8], Server SP4	Emulex LP982-E[10]	FC-AL, FC-SW	Y[1, 2, 3, 21, 22]	See[17]
4	Super S2DL3[6]	PCI	Microsoft Windows 2000 Advanced Server: SP2[7, 8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[7, 8], Server SP3[7, 8], Server SP4	Emulex: LP7000E-EMC[14], LP8000-EMC[9, 15], LP850-EMC[9], LP9002-E (LP9002L-E)[4, 9], LP9002DC-E[4, 9, 10, 11, 12]; QLogic: QLA2200F-EMC[13], QLA2202F-EMC[13], **QLA2300F-E-SP[4, 5], QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	
5	Super P3TDL3[6]	PCI	Microsoft Windows 2000 Advanced Server: SP2[7, 8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[7, 8], Server SP3[7, 8], Server SP4	Emulex: LP7000E-EMC[14], LP8000-EMC[9, 15], LP850-EMC[9], LP9002-E (LP9002L-E)[4, 9], LP9002DC-E[4, 9, 10, 11, 12]; QLogic: QLA2200F-EMC[13], QLA2202F-EMC[13], **QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	
6	Super P3TDL3	PCI	Microsoft Windows 2000 Advanced Server: SP3[8], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP982-E[10]	FC-AL, FC-SW	Y[1, 2, 3, 21, 22]	See[16]
7	**Super P3TDL3[6]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[7, 8], SP3[7, 8], SP4**	**QLogic QLA2300F-E-SP[4, 5]**	FC-AL, FC-SW	N	**See[16]**
8	**Super S2DL3[6]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[7, 8], SP3[7, 8], SP4**	**QLogic QLA2300F-E-SP[4, 5]**	FC-AL, FC-SW	N	
9	**Super P3TDL3**	PCI	**Microsoft Windows 2000 Server: SP2[7, 8], SP3[7, 8], SP4**	**QLogic QLA2300F-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]	**See[16]**
10	Super: P3TDL3, S2DL3	PCI	Microsoft Windows 2000 Server: SP3[7, 8], SP4	Emulex: LP9802-E[22], LP9802DC-E[4, 22]	FC-AL, FC-SW	Y[1, 2, 3, 21]	See[20]
11	Super P3TDL3	PCI	Microsoft Windows 2000: Advanced Server SP2[7, 8], Server SP2[7, 8], Server SP3[7, 8], Server SP4	Emulex LP982-E[10]	FC-AL, FC-SW	Y[1, 2, 3, 21, 22]	See[17]
12	Super: P3TDL3, S2DL3	PCI	Microsoft Windows 2000 Advanced Server SP2[7, 8]	Adaptec ASC-29160[18, 19]	U2 LVD	Y[3]	See[17]
13	Super: P3TDL3, S2DL3	PCI	Microsoft Windows 2000 Advanced Server: SP2[7, 8], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[7, 8]	Adaptec ASC-39160[18, 19]	U2 LVD	Y[3]	See[17]
14	Super: P3TDL3, S2DL3	PCI	Microsoft Windows 2000 Advanced Server: SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[7, 8], Server SP3[7, 8], Server SP4	Adaptec ASC-29160[18, 19]	U2 LVD	Y[3]	See[20]
15	Super: P3TDL3, S2DL3	PCI	Microsoft Windows 2000 Server: SP3[7, 8], SP4	Adaptec ASC-39160[18, 19]	U2 LVD	Y[3]	See[20]

1. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.
2. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
3. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
4. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
5. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
6. 64-bit slots for 3.3v HBAs only.
7. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
8. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
9. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
10. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
11. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
12. Host must be offline for interfamily Symmetrix microcode upgrade
13. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
14. Requires HBA driver revision 2.13a4 and firmware 3.30a7. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com
15. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
16. AHA-2944W is no longer available in distribution channels
17. Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B
18. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L)
19. Requires BIOS version 3.10.0 and driver 4.10.4002 set V.1.02
20. Adaptec AHA-2944UW has been OEM'ed by HP as A5252A and A5252B.
21. CLARiiON CX200 NOTE. Requires 1.00x3 for direct-connect configurations only
22. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.

Stratus

Stratus – Microsoft Windows 2000							
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**ftServer: 3210[6], 3220[6], 3300[6], 5200[6]**	PCI	**Microsoft Windows 2000 Advanced Server SP2[4, 5]**	**QLogic QLA2310F-E-SP[1, 2, 3]**	**FC-AL, FC-SW**	**N**	
2	**ftServer 3210[6], 3220[6], 3300[6] 5200[6], 5240[6], 6500[6]**	PCI	**Microsoft Windows 2000 Advanced Server SP3[4, 5, 8, 9]**	**QLogic QLA2310F-E-SP[1, 2, 3]**	**FC-AL, FC-SW**	**N**	**See[7]**

1. **Qlogic SANSurfer/SANBlade Manager is not supported.**
2. **Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**
3. **FC-AL supported for direct attach only. No support for hubs or Quickloop at this time.**
4. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
5. **Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.**
6. **Bus Enumeration Issue Causes Problems using SYMCLI SCSI bus enumeration of disks will change depending on cold boot or warm boot. This causes symcli commands to fail because the path is changed and SYMCLI can no longer communicate with the Symmetrix.**

By "shutdown" and booting system, internal disks are assigned first, followed by Symmetrix disks.

By "restart" the system, Symmetrix disks are assigned first, followed by internal disks. Drive letter are not changed in both cases. The workaround is to perform "symcfg discover" after rebooting.

7. Windows 2000 Professional is supported as the management workstation.
8. Requires Stratus ftServer 1.2.2.x.
   Requires Microsoft HotFix Q327477. available from Microsoft customer support.
   Requires VxVM 2.7 HotFix 5A. available from http://support.veritas.com/index.htm choose support downloads, choose Volume Manager, choose Volume Manager for Windows 2000. Choose VM2K27HF05aENU 248733.exe Patch – VERITAS Volume Manager 2.7 for Windows 2000 HotFix05a, English Version Size: 5892Kb
   Requires PowerPath 3.0.0 or higher.
9. Refer to the Stratus, Bull or NEC documentation for hardware, software and non-storage related setup and configuration.

Unisys

Unisys – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	ES2023; ES2024; ES2043; ES2044; ES2045; ES2085; ES5024; ES5043; ES5044; ES5045; ES5085	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)[6]	FC-AL	Y[5]	
2	**Libra Model 185**	**Mainframe Bus, PCI**	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4**	**QLogic QLA2202F-EMC[15]**	**FC-AL, FC-SW**	**N**	
3	**Libra Model 180[11, 12]**	Mainframe Bus, PCI	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4**	**QLogic QLA2202F-EMC[15]**	FC-AL, FC-SW	N	
4	**Libra Model: 180[11, 12], 185**	Mainframe Bus, PCI	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4**	**Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)**	FC-AL, FC-SW	N	
	Libra Model 185	**Mainframe Bus, PCI**	**Microsoft Windows 2000: Advanced Server SP2[3, 4], Datacenter SP2[3, 4], Datacenter SP3[3, 4], Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E[6, 13, 14, 22, 23]**	**FC-AL, FC-SW**	**N**	
6	ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Server SP2[3, 4]	Unisys FCH732213-P64 (LP9002L-F2)[6]	FC-AL, FC-SW	N	See[16]
7	ES7000/230	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4]	Unisys FCH732213-P64 (LP9002L-F2)[6]	FC-AL, FC-SW	N	See[16]
8	ES2025	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)[6]	FC-AL, FC-SW	N	
9	ES7000/230	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)[6]	FC-AL, FC-SW	Y[5, 7]	
10	ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)[6]	FC-AL, FC-SW	Y[5]	
11	CS7101[11]	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4, Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4	Emulex: LP8000-EMC[10], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP982-E; QLogic: QLA2202F-EMC, QLA2340-E-SP	FC-AL, FC-SW	N	
12	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Emulex: LP9802-E[13], LP9802DC-E[13, 21], LP982-E[13, 14]; QLogic QLA2202F-EMC[15]	FC-AL, FC-SW	N	
13	ES7000/520; ES7000/530; ES7000/540	PCI	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4	Unisys FCH732213-P64 (LP9002L-F2)[6]	FC-AL, FC-SW	N	
14	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic QLA2202F-EMC[15]	FC-AL, FC-SW	N	
15	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Unisys FCH732213-P64 (LP9002L-F2)[6]	FC-AL, FC-SW	N	See[16]
16	ES7000/100 ES7000/200 ES7000/230	PCI	Microsoft Windows 2000 Datacenter: SP2[3, 4] SP3[3, 4]	Unisys FCH732213-P64 (LP9002L-F2)[6]	FC-AL, FC-SW	N	
17	ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4	Emulex LP8000-EMC[6, 10], QLogic QLA2200F-EMC[15]	FC-AL, FC-SW	Y	
18	ES7000/200	PCI	Microsoft Windows 2000 Datacenter, SP2[3, 4], SP3[3, 4], SP4	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N	
19	ES7000/100	PCI	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4	Emulex: LP8000-EMC[6, 10] LP9002-E (LP9002L-E)	FC-AL, FC-SW	N	
20	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E[6, 13, 14, 22, 23]	FC-AL, FC-SW	N	
21	ES7000/230	PCI	Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4	Unisys: FCH20111-P64 (LP8000-D1)[6], FCH20113-P64 (LP8000-EMC, LP8000-F1)[6]	FC-AL, FC-SW	Y[5, 7]	See[20]
22	ES7000/500	PCI	Microsoft Windows 2000 Server, SP2[3], SP3[3] SP4	Unisys FCH20111-P64 (LP8000-D1)[6], FCH20113-P64 (LP8000-EMC, LP8000-F1)[6]	FC-AL, FC-SW	Y[5]	See[20]
23	ES7000/230 ES7000/500	PCI	Microsoft Windows 2000 Server: SP3[3, 4] SP4	Unisys FCH732213-P64 (LP9002L-F2)[6]	FC-AL, FC-SW	N	See[19]
24	ES7000/100 ES7000/200	PCI	Microsoft Windows 2000 Advanced Server SP2[3, 4], Datacenter SP2[3, 4] Datacenter SP3[3, 4], Datacenter SP4 Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex LP9002DC-E[6, 13, 14, 22, 23]	FC-AL, FC-SW	N	

Unisys – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
25	CS7201[11]; **CS7211: Libra Model 180[11, 12]**	PCI	Microsoft Windows 2000: Advanced Server SP2[3, 4], Datacenter SP2[3, 4], Datacenter SP3[3, 4], Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E[6, 13, 14, 22, 23]	FC-AL, FC-SW	N	
26	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000: Advanced Server SP2[3, 4], Server SP2[3, 4], Server SP3[3, 4] Server SP4	Emulex LP9002-E (LP9002L-E)[6]	FC-AL, FC-SW	N	
27	CS7201[11]; **CS7211: Libra Model 180[11, 12]**	PCI	Microsoft Windows 2000: Advanced Server SP2[3, 4], Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic QLA2202F-EMC[15]	FC-AL, FC-SW	N	
28	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000: Advanced Server SP2[3, 4], Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic QLA2202F-EMC[15]; Unisys FCH732213-P64 (LP9002L-F2)[6]	FC-AL, FC-SW	N	See[9]
29	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4: Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)[6]	FC-AL[8], FC-SW	Y[5, 7]	
30	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server SP2[3, 4]	Adaptec ASC-29160[17, 18]	U2 LVD	Y[5]	See[16]
31	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4]	Adaptec ASC-39160[17, 18]	U2 LVD	Y[5]	See[16]
32	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4]	Adaptec ASC-29160[17, 18]	U2 LVD	Y[5]	See[19]
33	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec ASC-29160[17, 18]	U2 LVD	Y[5]	See[19]
34	ES7000/100; ES7000/200, ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Server: SP3[3, 4], SP4	Adaptec ASC-39160[17, 18]	U2 LVD	Y[5]	See[19]
35	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Server. SP3[3], SP4	Adaptec ASC-29160[17, 18]	U2 LVD	Y[5]	See[20]
36	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Unisys PCI 400-2UD[1, 2]	UWD	N	
37	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000: Advanced Server SP2[3, 4], Server SP2[3, 4], Server SP3[3, 4], Server SP4	Adaptec AHA-3944AUWD[1, 2]	UWD	N	See[9]

1. Supported via RPQ and only one of the two ports can be used.
2. Requires BIOS version 1.31 and HBA driver 2.20b (native on Windows 2000 Advanced Server CD-ROM).
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
5. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
6. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
   NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
7. The boot path should be zoned so that the boot device on a FA port should only be visible to one HBA.
8. Supported by direct attach only
9. HP OEMs Adaptec AHA-2944UW AS A52524 AND A5252B.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. Hardware and adapters similar to Unisys ES7000-100, ES7000-200.
12. **The Libra 18x includes native MCP,and Virtual Machine for MCP (Windows MCPvm) partitions**
13. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
14. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
15. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
16. Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B.
17. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L).
18. Requires BIOS version 3.10.0 and driver 4.10.4002 set V 1.02
    Adaptec AHA-2944UW has been OEM'ed by HP as A5252A and A5252B.
19. Cables to be ordered from Fujitsu Services (ICL).
21. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
22. Host must be offline for interfamily Symmetrix microcode upgrade.
23. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

Microsoft Windows 2003

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Dell

Dell – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	PowerEdge 6400, 6450, 8450	PCI	Microsoft Windows 2003 DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5] Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1] LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6] QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-SW	

Dell – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
2	PowerEdge: 2600, 2650, 4600, 6600, 6650	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. PowerPath is not supported.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Primergy: B210, C200, E200, F200, H200, H400, K400, L200, N200, N400, P200, P250, R450, RX100, T850	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	Primergy: F250[8], H250[8], H450, N800, RX200, RX300	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. PowerPath is not supported.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
8. Must use standard PCI 32bit/33MHz slot for SCSI

HPQ

HPQ – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Proliant: **8500**, DL320[6], DL360[6], DL360(G2)[6], **DL380**[6], **DL380(G2)**[6], **DL380(G3)**, DL580[6], ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML750[6]	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7], QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N
2	Proliant: BL40p, DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7], QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N
3	Proliant BL20p (G2)[10, 11]	PCI-X[12]	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	HPQ Dual-port mezzanine controller card[8, 9]	FC-AL, FC-SW	N
4	Proliant: DL580(G2)[6], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[7], LP9802DC-E[7], LP982-E[7], QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N
5	Proliant: **8500**, DL320[6], DL360[6], DL360(G2)[6], **DL380**[6], **DL380(G2)**[6], **DL380(G3)**, DL580[6], ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML750[6]	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	HPQ: FCA2354 (LP9002)[1], FCA2355 (LP9002DC)[1]	FC-SW	N
6	Proliant: BL40p, DL360(G3), DL560, **DL560 (G2)**, DL740 DL760[6], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	HPQ: FCA2354 (LP9002)[1], FCA2355 (LP9002DC)[1]	FC-SW	N
7	Proliant: DL580(G2)[6], **DL580(G3)**	PCI PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	HPQ: FCA2354 (LP9002)[1], FCA2355 (LP9002DC)[1]	FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. PowerPath is not supported.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
6. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
7. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
8. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
9. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com
10. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.

11. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
12. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.

IBM

IBM – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	xSeries: X330, X335, X340 (4500R) X342, x230, x232, x240, x250, x350 (6000R), x370	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; IBM: 19K1246(QLA2310)[7, 9], 24P0960(QLA2340)[7, 8]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	xSeries: x235, **x255, x360**, x440	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; IBM: 19K1246(QLA2310)[7, 9], 24P0960(QLA2340)[7, 8]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
3	**xSeries: x345, x445**	PCI, PCI-X	**Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]**	**Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6];** **IBM: 19K1246(QLA2310)[7, 9], 24P0960(QLA2340)[7, 8];** **QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]**	FC-AL, FC-SW	N
4	**eServer BladeCenter HS20 (Model 8678)[14]**	**PCI-X[15]**	**Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]**	**IBM HS20 FC Expansion card 48P7061[10, 11, 12, 13]**	**FC-SW**	**Y**

1. Requires STORPort driver version 1.00a15 and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. PowerPath is not supported.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
8. This HBA is equivalent to the qLogic QLA2340.
9. This HBA is equivalent to the qLogic QLA2310.
10. **Due to the HS20's embedded FC-SW design, EMC Volume Logix is required to assign LUNS to each individual blade server.**
11. **This server has a built-in FC-SW and must be direct-attached to the external storage.**
12. **IBM BIOS 1.34, EMC Approved Qlogic STORPort Driver Version 8.2.2.20. Available at http://www.qlogic.com.**
13. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"**

    This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.
14. **EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.**
15. **IBM HS20 Fibre Channel Expansion Card (48P7061)**

NCR

NCR – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Worldmark 45xx	MCA	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	Worldmark: 4500, 4700, 47XX, 4850, 48XX, 4900, 4950, 5100 Series, 5150, 5250, 52XX, 5300, 5350, 8550, S50	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
2. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
3. PowerPath is not supported
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Requires STORPort driver version 1.00a15 and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

NEC

NEC – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Express 5800: 120Rd-1, 120Rf-2, 140Hd, 140Rc-4, 180Rc-4	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[6], LP9802DC-E[6], LP982-E[6] QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	**Express 5800: 320La[12], 320La-R[12], 320Lb[12], 320Lb-R[12], 330Ma-R[12], 330Mb-R[12], 340Ha-R[12]**	PCI	**Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]**	**NEC N8803-031 (QLA2310F)**	FC-AL, FC-SW	Y

NEC – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
3	**Express 5800: 320La[12], 320La-R[12], 320Lb[12], 320Lb-R[12], 330Ma-R[12], 330Mb-R[12], 340Ha-R[12]**	**PCI**	**Microsoft Windows 2003: DataCenter[3, 4, 5] Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]**	**NEC N8803-031 (QLA2310F)[8, 9, 10, 11]**	**FC-AL, FC-SW**	**N**

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
3. PowerPath is not supported.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
8. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
9. **Qlogic SANSurfer/SANBlade Manager is not supported.**
10. **Qlogic SanBlade Manager is not supported.**
11. **QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).**
12. **Bus Enumeration Issue Causes Problems using SYMCLI SCSI bus enumeration of disks will change depending on cold boot or warm boot. This causes symcli commands to fail because the path is changed and SYMCLI can no longer communicate with the Symmetrix.**

By "shutdown" and booting system, internal disks are assigned first, followed by Symmetrix disks.
By "restart" the system, Symmetrix disks are assigned first, followed by internal disks. Drive letter are not changed in both cases.
The workaround is to perform "symcfg discover" after rebooting.

Unisys

Unisys – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2003, DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]; Unisys: FCH20111-P64 (LP8000-D1)[1], FCH20113-P64 (LP8000-EMC, LP8000-F1)[1], FCH732213-P64 (LP9002L-F2)[1]	FC-AL, FC-SW	N

1. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. PowerPath is not supported.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

Microsoft Windows NT

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.NOTE: Windows NT installation will fail immediately after installing Network Services for hosts that use an Intel Network Interface Card (NIC).

Bull

Bull – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Express 5800: 140Hb, 140Ra4, HV8600, HX4600, MH4500	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex: LP7000E-EMC, LP8000-EMC[6], LP850-EMC. QLogic: QLA2200F-EMC[7], QLA2202F-EMC[7]	FC-AL, FC-SW	N
2	Express 5800: HV8600, HX4600, MH4500	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Adaptec AHA-2944UW[1, 2, 3]	FWD	N

1. Driver for Adaptec available at: http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
2. Requires Legacy PCI slot (not available on new servers.)
3. Requires BIOS version 2.20 and driver version 2.12s4.
4. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A. 5568 support at Windows NT 4.0 SP6A.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
7. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.

DG

DG – Microsoft Windows NT							
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON AV8950[5]	PCI	Microsoft Windows NT 4.0 SP6A[4]	QLogic QLA2200F-EMC[15]	FC-AL	Y[7, 16, 17]	
2	AViiON AV8950	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP7000E-EMC, QLogic QLA2340-E-SP[21, 22, 23, 24] QLA2342-E-SP[21, 22, 23, 24]	FC-AL, FC-SW	[7, 16, 17]	

DG – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
3	AViiON AV8600	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP7000E-EMC[20]; QLogic QLA2202F-EMC[14, 15]	FC-AL, FC-SW	Y[7, 16, 17]	See[11]
4	AViiON AV8950[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP8000-EMC[18, 19]; QLogic: QLA2202F-EMC[15], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[22]	FC-AL, FC-SW	Y[7, 16, 17]	See[11]
5	AViiON AV8950[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP850-EMC	FC-AL, FC-SW	Y[7, 16, 17]	
6	AViiON AV3704	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP850-EMC; QLogic: QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	N	
7	AViiON: AV2300, AV2700, AV3600, AV3700, AV8700	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP850-EMC; QLogic: QLA2340-E-SP[21, 22, 23, 24], QLA2342-E-SP[21, 22, 23, 24]	FC-AL, FC-SW	Y[7, 16, 17]	
8	AViiON AV8950R	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[18, 19], LP850-EMC; QLogic: QLA2200F-EMC[15], QLA2202F-EMC[14, 15], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	N	
9	AViiON AV3704[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[18, 19]; QLogic QLA2200F-EMC[15]	FC-AL, FC-SW	N	
10	AViiON: AV1400, AV3704R, AV3800	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[18], LP850-EMC; QLogic: QLA2200F-EMC[15], QLA2202F-EMC[14, 15], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	Y[7, 16, 17]	
11	AViiON: AV2800, AV8900	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[18], LP850-EMC; QLogic: QLA2200F-EMC[15], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	Y[7, 16, 17]	
12	AViiON: AV2300[5], AV2700[5], AV3600[5], AV3700[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[18]; QLogic QLA2200F-EMC[15]	FC-AL, FC-SW	Y[7, 16, 17]	
13	AViiON AV8700[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[18]; QLogic: QLA2200F-EMC[15], QLA2202F-EMC[14, 15], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[22]	FC-AL, FC-SW	Y[7, 16, 17]	
14	AViiON AV8600	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[18], LP850-EMC; QLogic: QLA2200F-EMC[15], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22, 23, 24], QLA2342-E-SP[21, 22, 23, 24]	FC-AL, FC-SW	Y[7, 16, 17]	
15	AViiON AV3704[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[14, 15]	FC-AL, FC-SW	N	See[11]
16	AViiON: AV2800, AV8900	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[14, 15]	FC-AL, FC-SW	Y[7, 16, 17]	See[11]
17	AViiON: AV4900, AV5900	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[15]	FC-AL, FC-SW	N	
18	AViiON: AV2300[5], AV2700[5], AV3600[5], AV3700[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic: QLA2202F-EMC[14, 15], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[22]	FC-AL, FC-SW	Y[7, 16, 17]	See[11]
19	AViiON: AV1400, AV2300, AV2700, AV2800, AV3600, AV3700, AV3704R, AV3800, AV8700, AV8950	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[18, 19]	FC-AL, FC-SW	N	
20	AViiON AV8950R	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP9002-E (LP9002L-E)[25, 26]	FC-AL, FC-SW	N	
21	AViiON AV8900	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex: LP8000-EMC[18, 19], LP9002-E (LP9002L-E)[25, 26]	FC-AL, FC-SW	N	
22	AViiON: AV2300[5], AV2700[5], AV2800[5], AV3600[5], AV3700[5], AV3704[5], AV8600[5], AV8900[5], AV8950[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944W[8, 9]	FWD	N	See[11]
23	AViiON: AV2800, AV4900, AV5900	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	DG 7444 (Symbios C825)	FWD	Y	
24	AViiON AV8950[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[8, 9, 10]	UWD	Y[6, 7]	
25	AViiON: AV2300[5], AV2700[5], AV2800[5], AV3600[5], AV3700[5], AV3704[5], AV8600[5], AV8900[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[8, 9, 10]; BusLogic BT958D[1, 2]; QLogic QLA1041[12], QLA1240D[13]; Symbios SYM22802	UWD	N	
26	AViiON AV8950[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	BusLogic BT958D[1, 2]; QLogic QLA1041[12], QLA1240D[13]; Symbios SYM22802	UWD	N	

1 BusLogic Driver available at http://www.mylex.com/support/prodoctgd/index.html
2 Requires HBA driver 5.01 and HBA BIOS 5.96F
3 Symmetrix 8000 Series 6G/67 support at Windows NT 4.0 SP6A, 5568 support at Windows NT 4.0 SP6A
4 EMC strongly recommends that HBAs of different vendors not be used in the same host server
5 Data General servers that are rack-mountable (designated with an "R") are supported
6 Adaptec AHA-2944UW driver v2.12s4 and BIOS 2.11.0
7 Data General servers that are rack-mountable (designated by Data General with an "R") are supported
8 Requires BIOS version 2.20 and driver version 2.12s4
9 Driver for Adaptec available at http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
10 Requires Legacy PCI slot (not available on new servers.)
11 AHA-2944W is no longer available in distribution channels.
12 Requires HBA driver 2.36 and HBA BIOS 6.26 available at http://www.qlogic.com

13. Requires HBA driver 1.3.00 and HBA BIOS 1.26, available at http://www.qlogic.com
14. Dual port fibre Channel controller.
15. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
16. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
17. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
18. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
19. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
20. Requires HBA driver revision 2.13a4 and firmware 3.30a7. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com
21. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
22. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
23. Qlogic SanBlade Manager is not supported.
24. Qlogic SANSurfer/SANBlade Manager is not supported.
25. The LP9002-E now ships with the LP9002L-E low profile adapter
26. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.

Dell

Dell – Microsoft Windows NT

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerEdge: 1550, 1650, 2300, 2400, 2500, 2550[6], 6100, 6300, 6350, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[3]	QLogic QLA2100F-EMC[31]	FC-AL	N	
2	PowerEdge: 1750, 2600, 2650, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	QLogic QLA2100F-EMC[31]	FC-AL	N	
3	PowerEdge: 2450, 2550[5, 6], 4400	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP8000-EMC[19, 20]	FC-AL, FC-SW	N	
4	PowerEdge: 1550, 2300, 2400, 2500, 6100, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP8000-EMC[19, 20]; HPQ: A5246A (Agilent HHBA-5000A)[3, 25], D8602A (Agilent HHBA-5101B)[3, 26, 27], D8602B (Agilent HHBA-5101C)[3, 26, 28, 29]	FC-AL, FC-SW	N	
	PowerEdge: 6300, 6350	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex: LP8000-EMC[19, 20], LP9002-E (LP9002L-E)[23, 30]; HPQ: A5246A (Agilent HHBA-5000A)[3, 25], D8602A (Agilent HHBA-5101B)[3, 26, 27], D8602B (Agilent HHBA-5101C)[3, 26, 28, 29]	FC-AL, FC-SW	N	
6	PowerEdge: 1650, 2550[6]	PCI	Microsoft Windows NT 4.0 SP6A[3]	HPQ: A5246A (Agilent HHBA-5000A)[3, 25], D8602A (Agilent HHBA-5101B)[3, 26, 27], D8602B (Agilent HHBA-5101C)[3, 26, 28, 29]	FC-AL, FC-SW	N	
7	PowerEdge 2550[6]	PCI	Microsoft Windows NT 4.0 SP6A[3]	QLogic QLA2202F-EMC[18]	FC-AL, FC-SW	Y[14, 15]	
8	PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[5, 6], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP850-EMC	FC-AL, FC-SW	Y[14, 15]	
9	PowerEdge: 1650, 4300	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP850-EMC	FC-AL, FC-SW	N	
10	PowerEdge: 1550[16], 2500[16], 4600[16], 6600[16], 6650[16]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP9002DC-E[20, 21, 23]	FC-AL, FC-SW	N	
11	PowerEdge: 2300[16], 2400[16], 2450[16], 2550[5, 6, 16], 4400[16], 6100[16], 6300[16], 6350[16], 6400[16], 6450[16], 8450[16]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP9002DC-E[20, 21, 23]	FC-AL, FC-SW	N	See[11]
12	PowerEdge 4350	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[19, 20], LP850-EMC; QLogic: QLA2200F-EMC[18], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	N	
13	PowerEdge 1650[16]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[19, 20]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[17, 18], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	N	
14	PowerEdge 4300[16]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[19, 20]; QLogic: QLA2200F-EMC[18], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	N	
15	PowerEdge: 1550[16], 2500[16]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[19], LP9002-E (LP9002L-E)[21], LP9802-E[23, 24], LP9802DC-E[23, 24], LP982-E[23, 24]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[17, 18], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	Y[14, 15]	
16	PowerEdge: 2400[16], 2450[16], 2550[5, 6, 16], 4400[16], 6400[16], 6450[16], 8450[16]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[19], LP9002-E (LP9002L-E)[21], LP9802-E[23, 24], LP9802DC-E[23, 24], LP982-E[23, 24]; QLogic: QLA2200F-EMC[18], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	Y[14, 15]	
17	PowerEdge: 2300[16], 6100[16], 6300[16], 6350[16]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[19]; QLogic: QLA2200F-EMC[18], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	Y[14, 15]	
18	PowerEdge 1650[16]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP9002-E (LP9002L-E)[21], LP9802-E[23, 24], LP9802DC-E[23, 24], LP982-E[23, 24]	FC-AL, FC-SW	Y[14, 15]	
19	PowerEdge: 2600[16], 2650[16], 4600[16], 6600[16], 6650[16]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP9002-E (LP9002L-E)[21], LP9802-E[23, 24], LP9802DC-E[23, 24], LP982-E[23, 24]; QLogic: QLA2202F-EMC[18]	FC-AL, FC-SW	Y[14, 15]	
20	PowerEdge: 2300[16], 2400[16], 2450[16], 2550[5, 6, 16], 4400[16], 6100[16], 6300[16], 6350[16], 6400[16], 6450[16], 8450[16]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[17, 18]	FC-AL, FC-SW	Y[14, 15]	

Dell – Microsoft Windows NT

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
21	PowerEdge: 4300[16], 4350	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[17, 18]	FC-AL, FC-SW	N	See[11]
22	PowerEdge 4600	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP8000-EMC[19, 20]	FC-AL, FC-SW	N	
23	PowerEdge. 2600, 2650, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP8000-EMC[19, 20]; HPQ: A5246A (Agilent HHBA-5000A)[3, 25], D8602A (Agilent HHBA-5101B)[3, 26, 27], D8602B (Agilent HHBA-5101C)[3, 26, 28, 29]	FC-AL, FC-SW	N	
24	PowerEdge 1750	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	HPQ: A5246A (Agilent HHBA-5000A)[3, 25], D8602A (Agilent HHBA-5101B)[3, 26, 27], D8602B (Agilent HHBA-5101C)[3, 26, 28, 29]	FC-AL, FC-SW	N	
25	PowerEdge: 2650, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	QLogic QLA2202F-EMC[18]	FC-AL, FC-SW	Y[14, 15]	
26	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP850-EMC	FC-AL, FC-SW	Y[14, 15]	
27	PowerEdge 2600[16]	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP9002DC-E[20, 21, 23]	FC-AL, FC-SW	Y	
28	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP9002DC-E[20, 21, 23]	FC-AL, FC-SW	N	See[11]
29	PowerEdge 1750	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[19, 20], LP850-EMC: QLogic: QLA2200F-EMC[18], QLA2202F-EMC[17, 18], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	N	
	PowerEdge 1750	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP9002-E (LP9002L-E)[21], LP9802-E[23, 24], LP9802DC-E[23, 24], LP982-E[23, 24]	FC-AL, FC-SW	Y[14, 15]	
31	PowerEdge: 2600, 4600, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[18]	FC-AL, FC-SW	Y[14, 15]	See[11]
32	PowerEdge: 4600[16], 6600[16], 6650[16]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP9002DC-E[20, 21, 23]	FC-AL, FC-SW	N	
33	PowerEdge 2600[16]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[19], LP850-EMC: QLogic: QLA2200F-EMC[18], QLA2202F-EMC[17, 18], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	Y[14, 15]	
34	PowerEdge: 4600[16], 6600[16], 6650[16]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[19]; QLogic: QLA2200F-EMC[18], QLA2202F-EMC[17, 18], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	Y[14, 15]	
35	PowerEdge 2650[16]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[19, 20], LP9002DC-E[20, 21, 23]	FC-AL, FC-SW	N	
36	PowerEdge 2650[16]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic: QLA2200F-EMC[18], QLA2202F-EMC[17, 18], QLA2300F-E-SP[21, 22], QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 22], QLA2342-E-SP[21, 22]	FC-AL, FC-SW	Y[14, 15]	
37	PowerEdge. 2300, 2400. 2450, 2550[5, 6], 4300, 4350 4400, 6100, 6300. 6350, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944W[7, 9]	FWD	N	See[11]
38	PowerEdge: 2600, 4600, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944W[7, 9]	FWD	N	See[11]
39	PowerEdge. 2300, 2400. 2450. 4400. 6100, 6300. 6350, 6400, 6450. 8450	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[7, 8, 9]	UWD	Y[10]	
40	PowerEdge: 2550[5, 6], 4300, 4350	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[7, 8, 9]; BusLogic BT958D[1, 2]; QLogic: QLA1041[12], QLA1240D[13]; Symbios SYM22802	UWD	N	
41	PowerEdge: 2300, 2400, 2450 4400 6100, 6300 6350, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	BusLogic BT958D[1, 2] QLogic. QLA1041[12], QLA1240D[13], Symbios SYM22802	UWD	N	
42	PowerEdge. 4600. 6600. 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[7, 8, 9]	UWD	Y[10]	
43	PowerEdge 2600	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[7, 8, 9]; BusLogic BT958D[1, 2], QLogic. QLA1041[12], QLA1240D[13], Symbios SYM22802	UWD	N	
44	PowerEdge. 4600. 6600 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	BusLogic BT958D[1, 2]; QLogic: QLA1041[12], QLA1240D[13]; Symbios SYM22802	UWD	N	

1 Requires HBA driver 5.01 and HBA BIOS 5.06F
2 BusLogic Driver available at: http://www.mylex.com/support/productgd/index.html
3 EMC strongly recommends that HBAs of different vendors not be used in the same host server
4 Symmetrix 8000 Series. 66/67 support at Windows NT 4.0 SP6A. 5568 support at Windows NT 4.0 SP6A
5 Dell PowerEdge supports a maximum of 2 Emulex HBAs at one time and the total power cannot exceed 20 Watts
6 PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
7 Driver for Adaptec available at: http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverinde
8. Requires Legacy PCI slot (not available on new servers.)
9. Requires BIOS version 2.20 and driver version 2.12s4
10 Adaptec AHA-2944UW driver v2.12s4 and BIOS 2.11.0
11 AHA-2944W is no longer available in distribution channels
12 Requires HBA driver 2.36 and HBA BIOS 6.26 available at http://www.qlogic.com

13. Requires HBA driver 1.3.00 and HBA BIOS 1.26. available at http://www.qlogic.com
14. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
15. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
16. If using Dell PERC Controller, requires PERC 3 with OpenManager 3.0 and Array Manager 3.1. The afamgt.sys must be version 2.6.0.3486 (or above)..
17. Dual port fibre Channel controller.
18. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
19. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
20. Requires driver version 2.20a12. firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
21. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
22. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
23. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
24. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
25. Requires HBA driver revision 2.09D
26. Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper_rnotes/bsdmatrix/matrix213991.html
27. (HHBA-5101BK-01)
28. Requires manual intervention on bootup to clear "new hardware found" message box at boot time.
29. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
30. The LP9002-E now ships with the LP9002L-E low profile adapter
31. Requires HBA BIOS revision 1.37 and HBA driver revision 6.16. available at http://www.qlogic.com. Note that EMC will support driver version 7.02.01 for RPQ only. Supports SNIA HBA API.

Fuji Serv (ICL)

Fuji Serv (ICL) - Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	DL; P2000	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2100F-EMC[2]	FC-AL	N	See[1]
2	Trimetra Nova	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2100F-EMC[2]	FC-AL	N	
3	Trimetra Nova	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP8000-EMC[9]; QLogic QLA2202F-EMC[5]	FC-AL, FC-SW	N	
4	DL; P2000[6]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[5]	FC-AL, FC-SW	N	See[1]
5	XtraSERVER P1000[6]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4, 12]	QLogic QLA2202F-EMC[5]	FC-AL, FC-SW	N	
6	P2000	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2200F-EMC[5]	FC-SW	N	See[1]
7	Trimetra Nova	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-3944AUWD[7, 8]	UWD	N	
8	P2000[6]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA1041D	UWD	N	
9	XtraSERVER P1000[6]	PCI	Microsoft Windows NT 4.0: SP3[4, 12], SP4[4, 12], SP5[4, 12], SP5A[4, 12], SP6[4, 12], SP6A[3, 4, 12]	Adaptec AHA-2944UW[7, 10, 11]	UWD	N	

1. Cables to be ordered from Fujitsu Services (ICL).
2. Requires HBA BIOS revision 1.37 and HBA driver revision 6.16, available at http://www.qlogic.com. Note that EMC will support driver version 7.02.01 for RPQ only. Supports SNIA HBA API.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A, 5568 support at Windows NT 4.0 SP6A.
5. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
6. Requires Fujitsu Services (ICL) BN550/260 to connect the Fujitsu Services (ICL) Management Control Station to the Symmetrix for ECC use.
7. Driver for Adaptec available at: http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
8. BIOS 2.20.0, driver 2.21 (4.0.1431) aic78xx.sys.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
10. Requires BIOS version 2.20 and driver version 2.12s4.
11. Requires Legacy PCI slot (not available on new servers.)
12. Trimetra XtraSERVER Windows NT Additions package BN553205

Fujitsu Siemens

Fujitsu Siemens - Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Primergy: B210, E200, N200	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP8000-EMC[15]	FC-AL, FC-SW	Y[13, 14]	
2	Primergy: F200, H200, H400, K400, L200 N400, P200, P250, RX100	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[15], LP9002-E (LP9002L-E)[16], LP9802-E[17, 18], LP9802DC-E[17, 18], LP982-E[17, 18]	FC-AL, FC-SW	Y[13, 14]	
3	Primergy C200	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[15], LP9002-E (LP9002L-E)[16], LP9802-E[18], LP9802DC-E[18], LP982-E[18]	FC-AL, FC-SW	Y[13, 14]	
4	Primergy R450	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP9802-E[17, 18], LP9802DC-E[17, 18], LP982-E[17, 18]	FC-AL FC-SW	Y[13, 14]	
5	GranPower 5000 380; Primergy: B210, C200, E200, F200, H200, L200, N200, P200, P250, R450, RX100	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[19]	FC-AL, FC-SW	N	
6	Primergy: H400, K400, N400	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[19]	FC-AL, FC-SW	N	See[9]
7	Primergy: H250[12] N800	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[15], LP9002-E (LP9002L-E)[16], LP9802-E[17, 18], LP9802DC-E[17, 18], LP982-E[17, 18]	FC-AL, FC-SW	Y[13, 14]	
8	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[15], LP9002-E (LP9002L-E)[16], LP9802-E[17, 18], LP9802DC-E[17, 18], LP982-E[17, 18]; QLogic QLA2202F-EMC[19]	FC-AL, FC-SW	N	
9	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP850-EMC[16, 17, 20], LP9002DC-E[16, 17, 20]	FC-AL FC-SW	Y[13, 14]	
10	Primergy: F250[12] H450	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP9002-E (LP9002L-E)[16], LP9802-E[17, 18], LP9802DC-E[17, 18], LP982-E[17, 18]	FC-AL, FC-SW	Y[13, 14]	
11	Primergy: F250[12], H250[12] H450, N800	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[19]	FC-AL FC-SW	N	
12	Primergy: F250[12] H450	PCI-X	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[15]	FC-AL, FC-SW	Y[13, 14]	
13	Primergy R450	PCI PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[15], LP9002-E (LP9002L-E)[16]	FC-AL, FC-SW	Y[13, 14]	

Fujitsu Siemens – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
14	Primergy R450	PCI PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[19]	FC-AL, FC-SW	N	
15	GranPower 5000 380	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[6, 7, 8]	FWD	N	
16	Primergy: H400, K400, N400	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944W[6, 8]	FWD	N	See[9]
17	Primergy: H400, K400, N400	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[6, 7, 8]	UWD	Y[5]	
18	Primergy: H400, K400, N400	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	BusLogic BT958D[1, 2]; QLogic: QLA1041[10], QLA1240D[11]; Symbios SYM22802	UWD	N	
19	Primergy H250[12]	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[6, 7, 8]	UWD	Y[5]	

1. BusLogic Driver available at: http://www.mylex.com/support/productgd/index.html
2. Requires HBA driver 5.01 and HBA BIOS 5.96F
3. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A. 5568 support at Windows NT 4.0 SP6A.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Adaptec AHA-2944UW driver v2.12s4 and BIOS 2.11.0.
6. Driver for Adaptec available at: http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
7. Requires Legacy PCI slot (not available on new servers.)
8. Requires BIOS version 2.20 and driver version 2.12s4.
9. AHA-2944W is no longer available in distribution channels.
10. Requires HBA driver 2.36 and HBA BIOS 6.26 available at http://www.qlogic.com
11. Requires HBA driver 1.3.00 and HBA BIOS 1.26, available at http://www.qlogic.com
12. Must use standard PCI 32bit/33MHz slot for SCSI
13. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
14. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
15. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
16. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
17. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
18. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
19. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
20. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

HPQ

HPQ – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Proliant: 1600[5, 7], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6500[5, 6], 7000[5, 6], 850R[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	HPQ 223180-B21[36]	FC-AL	N	
2	Netserver LC: 2000 U3, 2000r, Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LPR, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2100F-EMC[18]	FC-AL	N	
3	Proliant: 1600[5, 7], 1850[5], 2500[5], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6400R[5], 6500[5, 6], 7000[5, 6], 8000[5, 6], 850[5], 8500, DL320[5], DL360[5], DL360(G2)[5], **DL380[5], DL380(G2)[5], DL380(G3)**, DL580[5], ML350[5], ML370[5], ML370(G2), **ML370(G3)**, ML530[5], ML530(G2)[5], ML570[5], ML750[5]	PCI	Microsoft Windows NT 4.0 SP6A[4]	QLogic QLA2100F-EMC[18]	FC-AL	N	
4	Proliant: DL360(G3), DL760[5], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[4]	QLogic QLA2100F-EMC[18]	FC-AL	N	
5	Proliant: DL580(G2)[5], **DL580(G3)**	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[4]	QLogic QLA2100F-EMC[18]	FC-AL	N	
6	Proliant 1850[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP8000-EMC[27, 28]	FC-AL, FC-SW	Y[23, 24, 30]	
7	Netserver LX PRO	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP8000-EMC[28]; QLogic QLA2200F-EMC[26]	FC-AL, FC-SW	Y[23, 24]	
8	Netserver LH III	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP850-EMC; QLogic QLA2200F-EMC[26]	FC-AL, FC-SW	Y[23, 24]	
9	**Proliant DL380(G3)**	PCI	**Microsoft Windows NT 4.0 SP6A[3, 4]**	**Emulex: LP7000E-EMC, LP8000-EMC[27, 28], LP850-EMC; HPQ: 176479-B21[27], KGPSA-CB[27], KGPSA-CY[27]**	FC-AL, FC-SW	N	
10	Netserver LH 3	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[27, 28], LP850-EMC; HPQ: A5246A (Agilent HHBA-5000A)[4, 17], D8602A (Agilent HHBA-5101B)[4, 21, 22], D8602B (Agilent HHBA-5101C)[4, 19, 20, 21]; QLogic: QLA2200F-EMC[26], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	N	

HPQ – Microsoft Windows NT

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
11	Proliant ML370(G3)	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[27, 28], LP850-EMC, LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; HPQ: 176479-B21[27], KGPSA-CB[27], KGPSA-CY[27]; QLogic: QLA2200F-EMC[26], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	N	
12	Netserver LC, 2000 U3, 2000r, Netserver LPR	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[27, 28], LP850-EMC, LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; HPQ: A5246A (Agilent HHBA-5000A)[4, 17], D8602A (Agilent HHBA-5101B)[4, 21, 22], D8602B (Agilent HHBA-5101C)[4, 19, 20, 21]; QLogic: QLA2200F-EMC[26], QLA2202F-EMC[26, 29], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	N	
13	Netserver LH: 3000, 6000	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[27, 28], LP850-EMC, LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; HPQ: A5246A (Agilent HHBA-5000A)[4, 17], D8602A (Agilent HHBA-5101B)[4, 21, 22], D8602B (Agilent HHBA-5101C)[4, 19, 20, 21]; QLogic: QLA2200F-EMC[26], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	N	
14	Netserver LP 2000r	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[28], LP850-EMC, LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; HPQ: A5246A (Agilent HHBA-5000A)[4, 17], D8602A (Agilent HHBA-5101B)[4, 21, 22], D8602B (Agilent HHBA-5101C)[4, 19, 20, 21]; QLogic: QLA2200F-EMC[26], QLA2202F-EMC[26, 29], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	N	
15	Proliant: DL360(G2)[5], ML350(G2)[5], ML530(G2)[5], ML750[25]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[28], LP850-EMC, LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; QLogic: QLA2200F-EMC[26], QLA2202F-EMC[26, 29], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[23, 24]	
16	Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 2500[5], 6400R[5], DL320[5], DL360[5], **DL380[5]**, **DL380(G2)[5]**, DL580[5], ML350[5], ML370[5], ML530[5], ML570[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[28], LP850-EMC, LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; QLogic: QLA2200F-EMC[26], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[23, 24]	
17	Proliant: ML370(G2) **ML370(G3)**	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[28], LP850-EMC, LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; QLogic: QLA2200F-EMC[26], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[5, 23, 24]	
18	Netserver LH: (LH Pro), II; Netserver LXR: PRO, PRO8; Proliant: 850[5], 8500[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[28], LP850-EMC; QLogic QLA2200F-EMC[26]	FC-AL, FC-SW	Y[23, 24]	
19	Netserver LH 4; Proliant: 1600[5, 7], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6500[5, 6], 7000[5, 6], 8000[5, 6]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[28], LP850-EMC; QLogic: QLA2200F-EMC[26], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[23, 24]	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
20	Proliant 1850[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP850-EMC; QLogic: QLA2200F-EMC[26], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[23, 24]	
21	Netserver LH III	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC[31], LP8000-EMC[27, 28]; QLogic QLA2202F-EMC[26, 29]	FC-AL, FC-SW	Y[23, 24]	See[15]
22	Netserver LX PRO	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC[31], LP850-EMC[27]; QLogic QLA2202F-EMC[26, 29]	FC-AL, FC-SW	Y[23, 24]	See[15]
23	**Proliant DL380(G3)**	PCI	**Microsoft Windows NT 4.0 SP6A[3, 4]**	**Emulex: LP9002-E (LP9002L-E)[33] LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35];** **QLogic: QLA2200F-EMC[26], QLA2202F-EMC[26, 29] QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]**	FC-AL, FC-SW	Y[23, 24]	
24	Proliant DL580(G2)[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP9002-E (LP9002L-E)[33] LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; QLogic: QLA2200F-EMC[26], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[23, 24]	
25	Proliant 8500	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP9002-E (LP9002L-E)[33] LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; QLogic: QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[5, 23, 24]	
26	Proliant: 1600[5, 7], 1850[5], 2500[5], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6400R[5], 6500[5, 6], 7000[5, 6], 8000[5, 6], 850[5], 8500[5], DL320[5], DL360[5], DL360(G2)[5], **DL380[5], DL380(G2)[5]**, DL580[5], DL580(G2)[5], ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML530[5], ML530(G2)[5], ML570[5], ML750[25]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	HPQ: 176479-B21[27], KGPSA-CB[27], KGPSA-CY[27]	FC-AL, FC-SW	N	
27	Netserver LH: (LH Pro), 4, II; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	HPQ: A5246A (Agilent HHBA-5000A)[4, 17], D8602A (Agilent HHBA-5101B)[4, 21, 22], D8602B (Agilent HHBA-5101C)[4, 19, 20, 21]	FC-AL, FC-SW	N	
28	Netserver LH III	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	HPQ: A5246A (Agilent HHBA-5000A)[4, 17], D8602A (Agilent HHBA-5101B)[4, 21, 22], D8602B (Agilent HHBA-5101C)[4, 19, 20, 21]; QLogic: QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	N	
29	Proliant 850R[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[26]	FC-AL, FC-SW	N	
30	Netserver LH: (LH Pro), 4, II; Netserver: LT 6000R, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[26, 29]	FC-AL, FC-SW	Y[23, 24]	See[15]
31	Netserver LH: 3, 3000, 6000	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[26, 29]	FC-AL, FC-SW	N	See[15]
32	Proliant ML370(G3)	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[26, 29]	FC-AL, FC-SW	N	See[12]
33	Proliant: 1600[5, 7], 1850[5], 2500[5], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6400R[5], 6500[5, 6], 7000[5, 6], 8000[5, 6], 850[5], 8500[5], DL320[5], DL360[5], **DL380[5], DL380(G2)[5]**, DL580[5], DL580(G2)[5], ML350[5], ML370[5], ML530[5], ML570[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[26, 29]	FC-AL, FC-SW	Y[23, 24]	See[12]
34	Proliant: ML370(G2), **ML370(G3)**	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[26, 29]	FC-AL, FC-SW	Y[5, 23, 24]	See[12]
35	Netserver LH: 4, PRO, III; Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: DL360(G2)[5, 40], ML350(G2)[5], ML750[25]	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[27, 28]	FC-AL, FC-SW	N	
36	Proliant 1600[5, 7]	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[27, 28], HPQ: A5246A (Agilent HHBA-5000A)[4, 17], D8602A (Agilent HHBA-5101B)[4, 19, 20, 21, 22]	FC-AL, FC-SW	N	
37	Proliant: 2500[5], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6400R[5], 6500[5, 6], 7000[5, 6], 8000[5, 6], 8500, DL320[5], DL360[5], **DL380[5], DL380(G2)[5]**, DL580[5], ML350[5], ML370[5], ML370(G2), ML530[5], ML530(G2)[5], ML570[5]	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[27, 28], HPQ: A5246A (Agilent HHBA-5000A)[4, 17], D8602A (Agilent HHBA-5101B)[4, 21, 22], D8602B (Agilent HHBA-5101C)[4, 19, 20, 21]	FC-AL, FC-SW	N	
38	Proliant 850[5]	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[27, 28], HPQ: A5246A (Agilent HHBA-5000A)[4, 17], D8602A (Agilent HHBA-5101B)[4, 21, 22], D8602B (Agilent HHBA-5101C)[4, 19, 20, 21]; QLogic QLA2310F-E-SP[32, 33]	FC-AL, FC-SW	N	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
39	Proliant 8000: Pro, Xeon	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[27, 28]; QLogic QLA2202F-EMC[26]	FC-AL, FC-SW	N	
40	Netserver: LH II, LX PRO, LXR PRO, LXR PRO8	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[27, 28]; QLogic QLA2310F-E-SP[32, 33]	FC-AL, FC-SW	N	
41	Proliant: 1850[5], DL360(G2)[5], **ML370(G3)**, ML750[5]	PCI	Microsoft Windows NT 4.0 SP6A[4]	HPQ: A5246A (Agilent HHBA-5000A)[4, 17]; D8602A (Agilent HHBA-5101B)[4, 21, 22]; D8602B (Agilent HHBA-5101C)[4, 19, 20, 21]	FC-AL, FC-SW	N	
42	Proliant ML750[5]	PCI	Microsoft Windows NT 4.0 SP6A[4]	QLogic QLA2202F-EMC[26]	FC-AL, FC-SW	Y[23, 24, 25]	
43	Netserver LH (LH Pro)	PCI	Microsoft Windows NT 4.0 SP6A[4]	QLogic QLA2310F-E-SP[32, 33]	FC-AL, FC-SW	N	
44	Proliant: DL360(G3), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[28], LP850-EMC, LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; QLogic: QLA2200F-EMC[26], QLA2202F-EMC[26, 29], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[23, 24]	
45	Proliant DL760 (G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[28], LP850-EMC, LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; QLogic: QLA2200F-EMC[26], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[23, 24]	
46	Proliant: DL560, **DL560 (G2)**	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[28], LP850-EMC, LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; QLogic: QLA2200F-EMC[26], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[23, 24]	
47	Proliant DL740	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[28], LP850-EMC, LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; QLogic: QLA2200F-EMC[26], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[23, 24]	
48	Proliant DL760[5]	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]	FC-AL, FC-SW	Y[23, 24]	
49	Proliant: DL360(G3), DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	HPQ: 176479-B21[27], KGPSA-CB[27], KGPSA-CY[27]	FC-AL, FC-SW	N	
50	Proliant DL760[5]	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[26]	FC-AL, FC-SW	Y[23, 24]	See[12]
51	Proliant: DL740, DL760 (G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[26, 29]	FC-AL, FC-SW	Y[23, 24]	See[12]
52	Proliant: DL560, **DL560 (G2)**, DL740	PCI-X	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[27, 28]	FC-AL, FC-SW	N	
53	Proliant: DL360(G3), DL760[5], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[27, 28]; HPQ: A5246A (Agilent HHBA-5000A)[4, 17]; D8602A (Agilent HHBA-5101B)[4, 21, 22]; D8602B (Agilent HHBA-5101C)[4, 19, 20, 21]	FC-AL, FC-SW	N	
54	Proliant: DL580(G2)[5], **DL580(G3)**	PCI PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[28], LP850-EMC, LP9002-E (LP9002L-E)[33], LP9802-E[34, 35], LP9802DC-E[34, 35], LP982-E[34, 35]; QLogic: QLA2200F-EMC[26], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[23, 24]	
55	Proliant DL760[5]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[28], LP850-EMC; QLogic: QLA2200F-EMC[26], QLA2202F-EMC[26, 29], QLA2300F-E-SP[32, 33], QLA2310F-E-SP[32, 33], QLA2340-E-SP[32, 33], QLA2342-E-SP[32, 33]	FC-AL, FC-SW	Y[23, 24]	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
56	Proliant: DL580(G2)[5], **DL580(G3)**, DL760[5]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	HPQ: 176479-B21[27], KGPSA-CB[27], KGPSA-CY[27]	FC-AL, FC-SW	N	
57	Proliant: DL580(G2)[5], **DL580(G3)**	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[26, 29]	FC-AL, FC-SW	Y[23, 24]	See[12]
58	Proliant: DL580(G2)[5], **DL580(G3)**	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[27, 28]; HPQ: A5246A (Agilent HHBA-5000A)[4, 17], D8602A (Agilent HHBA-5101B)[4, 21, 22], D8602B (Agilent HHBA-5101C)[4, 19, 20, 21]	FC-AL, FC-SW	N	
59	Proliant: 1600[5, 7], 1850[5], 2500[5], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6400R[5], 6500[5, 6], 7000[5, 6], 8000[5, 6], 850[5], 8500[5], DL320[5], DL360[5], **DL380[5]**, **DL380(G2)[5]**, DL580[5], DL580(G2)[5], ML350[5], ML370[5], ML370(G2)[5], ML370(G3), ML530[5], ML570[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944W[9, 11]	FWD	N	See[12]
60	Proliant: DL760[5], DL760 (G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944W[9, 11]	FWD	N	See[12]
61	Proliant: DL580(G2)[5], **DL580(G3)**	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944W[9, 11]	FWD	N	See[12]
62	Netserver LH: (LH Pro), 4, II; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[9, 10, 11]	UWD	Y[8]	See[15]
63	Proliant: 1600[5, 7], 1850[5], 2500[5], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6400R[5], 6500[5, 6], 7000[5, 6], 850[5], 8500[5], DL320[5], DL360[5], **DL380[5]**, DL580[5], ML350[5], ML370[5], ML370(G2)[5], **ML370(G3)**, ML530[5], ML570[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[9, 10, 11]	UWD	Y[8]	
64	Proliant: 8000[5, 6], ML370(G3)	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[9, 10, 11]; BusLogic BT958D[1, 2]; QLogic: QLA1041[13], QLA1240D[14]; Symbios SYM22802	UWD	N	
65	Netserver LH: 3, 3000, 6000; Netserver LT 6000R	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[9, 10, 11]; HPQ: A5252A[16], A5252B[16]	UWD	N	See[15]
66	Proliant: 1600[5, 7], 1850[5], 2500[5], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6400R[5], 6500[5, 6], 7000[5, 6], 850[5], 8500[5], DL320[5], DL360[5], **DL380[5]**, **DL380(G2)[5]**, DL580[5], DL580(G2)[5], ML350[5], ML370[5], ML370(G2)[5], ML530[5], ML570[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	BusLogic BT958D[1, 2]; QLogic: QLA1041[13], QLA1240D[14]; Symbios SYM22802	UWD	N	
67	Netserver LH: (LH Pro), 4, II; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	HPQ: A5252A[16], A5252B[16]	UWD	N	See[15]
68	Netserver LH III	PCI	Microsoft Windows NT 4.0 SP6A[4]	Adaptec AHA-2944UW[9, 10, 11, 37]	UWD	Y[8]	See[15]
69	Proliant 8000, Pro, Xeon	PCI	Microsoft Windows NT 4.0 SP6A[4]	Adaptec AHA-2944UW[10, 37]	UWD	N	
70	**Proliant DL380(G2)[5]**	PCI	**Microsoft Windows NT 4.0 SP6A[4]**	**Adaptec AHA-2944UW[10, 38, 39]**	UWD	N	
71	Netserver LH III	PCI	Microsoft Windows NT 4.0 SP6A[4]	HPQ: A5252A[16, 37], A5252B[16, 37]	UWD	N	See[15]
72	Proliant: DL760[5], DL760 (G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[9, 10, 11]; BusLogic BT958D[1, 2]; QLogic: QLA1041[13], QLA1240D[14]; Symbios SYM22802	UWD	N	
73	Proliant: DL580(G2)[5], **DL580(G3)**	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	BusLogic BT958D[1, 2]; QLogic: QLA1041[13], QLA1240D[14]; Symbios SYM22802	UWD	N	
74	Proliant: DL580(G2)[5], **DL580(G3)**	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[4]	Adaptec AHA-2944UW[9, 10, 11, 38, 39]	UWD	Y[8]	

1 BusLogic Driver available at: http://www.mylex.com/support/productgd/index.html
2 Requires HBA driver 5.01 and HBA BIOS 5.96F
3 Symmetrix 8000 Series. 66/67 support at Windows NT 4.0 SP6A, 5568 support at Windows NT 4.0 SP6A.
4 EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5 Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
6. Includes both Pentium PRO and XEON models
7 This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
8. Adaptec AHA-2944UW driver v2.12s4 and BIOS 2.11.0.
9 Requires BIOS version 2.20 and driver version 2.12s4
10 Requires Legacy PCI slot (not available on new servers.)
11 Driver for Adaptec available at: http://www.adaptec.com/worldwide/support/supportproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
12 AHA-2944W is no longer available in distribution channels
13 Requires HBA driver 2.36 and HBA BIOS 6.26, available at http://www.qlogic.com
14 Requires HBA driver 1.3.00 and HBA BIOS 1.26, available at http://www.qlogic.com
15 AHA-2944UW has been OEM'ed as HP A5252A and A5252B
16 (Adaptec AHA-2944UW)
17 Requires HBA driver revision 2.09D
18 Requires HBA BIOS revision 1.37 and HBA driver revision 6.16, available at http://www.qlogic.com. Note that EMC will support driver version 7.02.01 for RPQ only. Supports SNIA HBA API

19. Requires manual intervention on bootup to clear "new hardware found" message box at boot time.
20. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
21. Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper_rnotes/bsdmatrix/matrix213991.html
22. (HHBA-5101BK-01)
23. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
24. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
25. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
26. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
27. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
28. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
29. Dual port fibre Channel controller.
30. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
31. Requires HBA driver revision 2.13a4 and firmware 3.30a7. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com
32. Requires driver 8 1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
33. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
34. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
35. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
36. Requires Driver revision 4.04.
37. Adaptec AHA-2944UW driver v2.12s4 and BIOS 2.20.
38. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
39. Requires BIOS version 2.20 and driver version 2.20b (native on Windows 2000 Advanced Server CD-ROM).
40. Requires BIOS v4.01 rev A (5/17/2002) for use with Emulex HBAs.

IBM

IBM – Microsoft Windows NT

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity 8500R; **xSeries x255**[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2100F-EMC[39]	FC-AL	N	See[30]
2	Netfinity 8500R; **xSeries x255**[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP9002DC-E[24, 27, 32]	FC-AL, FC-SW	N	See[14]
3	Netfinity 6000R	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[21, 24], LP850-EMC, LP9002-E (LP9002L-E)[27], LP9802-E[31, 32], LP9802DC-E[31, 32], LP982-E[31, 32]; IBM: 00N6881 (QLA2200)[19, 22, 23], 19K1246(QLA2310)[26, 34, 35], 24P0960(QLA2340)[26, 34, 36]; QLogic: QLA2200F-EMC[19], QLA2300F-E-SP[26, 27], QLA2340-E-SP[26, 27], QLA2342-E-SP[26, 27]	FC-AL, FC-SW	N	
4	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[6], 7100	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[21], LP850-EMC; IBM: 00N6881 (QLA2200)[19, 22, 23], 19K1246(QLA2310)[26, 34, 35], 24P0960(QLA2340)[26, 34, 36]; QLogic: QLA2200F-EMC[19], QLA2300F-E-SP[26, 27], QLA2310F-E-SP[26, 27], QLA2340-E-SP[26, 27], QLA2342-E-SP[26, 27]	FC-AL, FC-SW	Y[17, 18]	
5	xSeries x232[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[21], LP850-EMC, LP9002-E (LP9002L-E)[27], LP9802-E[31, 32], LP9802DC-E[31, 32], LP982-E[31, 32]; IBM: 00N6881 (QLA2200)[19, 22, 23], 19K1246(QLA2310)[26, 34, 35], 24P0960(QLA2340)[26, 34, 36]; QLogic: QLA2200F-EMC[19], QLA2202F-EMC[19, 20], QLA2300F-E-SP[26, 27], QLA2310F-E-SP[26, 27], QLA2340-E-SP[26, 27], QLA2342-E-SP[26, 27]	FC-AL, FC-SW	Y[17, 18]	
6	Netfinity: 5600, 7600; xSeries: X330[5], X335, X340 (4500R)[5], x230, x240[5], x250[5], **x255**[5], x350 (6000R)[5], x370[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[21], LP850-EMC, LP9002-E (LP9002L-E)[27], LP9802-E[31, 32], LP9802DC-E[31, 32], LP982-E[31, 32]; IBM: 00N6881 (QLA2200)[19, 22, 23], 19K1246(QLA2310)[26, 34, 35], 24P0960(QLA2340)[26, 34, 36]; QLogic: QLA2200F-EMC[19], QLA2300F-E-SP[26, 27], QLA2310F-E-SP[26, 27], QLA2340-E-SP[26, 27], QLA2342-E-SP[26, 27]	FC-AL, FC-SW	Y[17, 18]	
7	xSeries X342[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[21], LP850-EMC, LP9002-E (LP9002L-E)[27], LP9802-E[31, 32], LP9802DC-E[31, 32], LP982-E[31, 32]; IBM: 00N6881 (QLA2200)[19, 22, 23], 19K1246(QLA2310)[26, 34, 35], 24P0960(QLA2340)[26, 34, 36]; QLogic: QLA2200F-EMC[19], QLA2300F-E-SP[26, 27], QLA2340-E-SP[26, 27, 28, 29], QLA2342-E-SP[26, 27, 28, 29]	FC-AL, FC-SW	Y[17, 18]	
8	Netfinity 8500R	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[21], LP850-EMC, LP9002-E (LP9002L-E)[27], LP9802-E[31, 32], LP9802DC-E[31, 32], LP982-E[31, 32]; IBM: 00N6881 (QLA2200)[19, 22, 23], 19K1246(QLA2310)[26, 34, 35], 24P0960(QLA2340)[26, 34, 36]; QLogic: QLA2200F-EMC[19], QLA2300F-E-SP[26, 27], QLA2340-E-SP[26, 27], QLA2342-E-SP[26, 27]	FC-AL, FC-SW	Y[17, 18]	
9	xSeries x345[5, 33]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC[25], LP8000-EMC[21], LP850-EMC, LP9002-E (LP9002L-E)[27], LP9802-E[31, 32], LP9802DC-E[31, 32], LP982-E[31, 32]; IBM 00N6881 (QLA2200)[19, 22, 23]; QLogic QLA2200F-EMC[19], QLA2202F-EMC[19, 20], QLA2300F-E-SP[26, 27], QLA2310F-E-SP[26, 27], QLA2340-E-SP[26, 27], QLA2342-E-SP[26, 27]	FC-AL, FC-SW	Y[17, 18]	
10	xSeries x360[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC[25], LP8000-EMC[21], LP850-EMC[24]; IBM: 00N6881 (QLA2200)[19, 22, 23], 19K1246(QLA2310)[26, 34, 35], 24P0960(QLA2340)[26, 34, 36]; QLogic: QLA2200F-EMC[19], QLA2202F-EMC[19, 20], QLA2300F-E-SP[26, 27], QLA2310F-E-SP[26]	FC-AL, FC-SW	Y[17, 18]	

IBM – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
11	Netfinity 8500R; **xSeries x255**[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	HPQ: A5246A (Agilent HHBA-5000A)[4, 38], D8602A (Agilent HHBA-5101B)[4, 41, 43], D8602B (Agilent HHBA-5101C)[4, 40, 41, 42]	FC-AL, FC-SW	N	
12	Netfinity 6000R	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[19, 20]	FC-AL, FC-SW	N	See[14]
13	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600; xSeries: X330[5], X335, X340 (4500R)[5], x230, x240[5], x250[5], x350 (6000R)[5], x370[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[19, 20]	FC-AL, FC-SW	Y[17, 18]	See[14]
14	**xSeries x255**[5]	PCI	**Microsoft Windows NT 4.0 SP6A**[3, 4]	**QLogic QLA2202F-EMC**[19, 20]	FC-AL, FC-SW	Y[17, 18]	**See**[30]
15	xSeries X342[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic: QLA2202F-EMC[19, 20], QLA2310F-E-SP[26, 27]	FC-AL, FC-SW	Y[17, 18]	See[14]
16	Netfinity 8500R	PCI	Microsoft Windows NT 4.0 SP6A[3, 4, 13]	QLogic QLA2202F-EMC[19, 20]	FC-AL, FC-SW	Y[17, 18]	See[14]
17	Netfinity 8500R	PCI	Microsoft Windows NT 4.0 SP6A[3, 4, 13]	QLogic QLA2310F-E-SP[26, 27]	FC-AL, FC-SW	Y[17, 18]	See[30]
18	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600, 8500R xSeries: X330[5], X335, X340 (4500R)[5], X342[5] x230, x232[5], x240[5], x250[5] **x255**[5], x350 (6000R)[5], x370[5]	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[21, 24]	FC-AL, FC-SW	N	
19	Netfinity 8500	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP9002-E (LP9002L-E)[32, 46]; IBM 00N6881 (QLA2200)[19, 22, 23], 19K1246(QLA2310)[26, 27, 35], 24P0960(QLA2340)[26, 27, 36]; QLogic: QLA2202F-EMC[19], QLA2310F-E-SP[26, 27]	FC-AL, FC-SW	N	
20	Netfinity 6000R	PCI	Microsoft Windows NT 4.0 SP6A[4]	QLogic QLA2310F-E-SP[26, 27]	FC-AL, FC-SW	N	
21	xSeries x235[5]	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC[25], LP8000-EMC[21], LP850-EMC, LP9002-E (LP9002L-E)[27], LP9802-E[31, 32], LP9802DC-E[31, 32], LP982-E[31, 32]; IBM: 00N6881 (QLA2200)[19, 22, 23], 19K1246(QLA2310)[26, 34, 35]; QLogic: QLA2200F-EMC[19], QLA2202F-EMC[19, 20], QLA2300F-E-SP[26, 27], QLA2310F-E-SP[26, 27], QLA2340-E-SP[26, 27], QLA2342-E-SP[26, 27]	FC-AL, FC-SW	Y[17, 18]	
22	**xSeries x360**[5]	PCI-X	**Microsoft Windows NT 4.0 SP6A**[3, 4]	**Emulex: LP7000E-EMC**[25], **LP850-EMC**[24], **LP9002-E (LP9002L-E)**[27], **LP9802-E**[31, 32], **LP9802DC-E**[31, 32], **LP982-E**[31, 32]; **QLogic: QLA2202F-EMC**[19], **QLA2300F-E-SP**[26, 27], **QLA2310F-E-SP**[26, 27], **QLA2340-E-SP**[26, 27, 28, 29], **QLA2342-E-SP**[26, 27, 28, 29]	FC-AL, FC-SW	Y[17, 18]	
23	xSeries x440[5]	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC[25], LP850-EMC[24], LP9002-E (LP9002L-E)[27], LP9802-E[31, 32], LP9802DC-E[31, 32], LP982-E[31, 32]; QLogic: QLA2202F-EMC[19], QLA2300F-E-SP[26, 27], QLA2310F-E-SP[26, 27], QLA2340-E-SP[26, 27], QLA2342-E-SP[26, 27]	FC-AL, FC-SW	Y[17, 18]	
24	xSeries: x235[5], **x360**[5], x440[5]	PCI-X	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[21, 24]	FC-AL, FC-SW	N	
25	xSeries x235[5]	PCI-X	Microsoft Windows NT 4.0 SP6A[4]	IBM 24P0960(QLA2340)[26, 36]	FC-AL, FC-SW	Y[17, 18]	
26	**xSeries x345**[5]	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A**[3, 4]	**Emulex LP7000E-EMC**[25]; **IBM 19K1246(QLA2310)**[26, 34, 35]; **QLogic QLA2202F-EMC**[19]	FC-AL, FC-SW	Y[17, 18]	
27	xSeries x440[5]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC[25], LP8000-EMC[21], LP850-EMC[24]; IBM: 00N6881 (QLA2200)[19, 22, 23], 19K1246(QLA2310)[26, 34, 35], 24P0960(QLA2340)[26, 34, 36]; QLogic: QLA2200F-EMC[19], QLA2202F-EMC[19, 20], QLA2300F-E-SP[26, 27]	FC-AL, FC-SW	Y[17, 18]	
28	xSeries x445	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A**[3, 4]	**Emulex**: LP7000E-EMC[25], LP8000-EMC[21], LP850-EMC[24], **LP9002-E (LP9002L-E)**[27], LP9802-E[31, 32], LP9802DC-E[31, 32], LP982-E[31, 32]; **IBM: 00N6881 (QLA2200)**[19, 22, 23], **19K1246(QLA2310)**[26, 34, 35], **24P0960(QLA2340)**[26, 34, 36]; QLogic: QLA2200F-EMC[19], QLA2202F-EMC[19, 20], QLA2300F-E-SP[26, 27], QLA2310F-E-SP[26, 27], QLA2340-E-SP[26, 27], QLA2342-E-SP[26, 27]	FC-AL, **FC-SW**	Y[17, 18]	
29	**xSeries**: x345[5], x445	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A**[4]	**Emulex LP8000-EMC**[21, 24]	FC-AL, FC-SW	N	
30	**xSeries x345**[5]	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A**[4]	**IBM 24P0960(QLA2340)**[26, 36]	FC-AL, FC-SW	Y[17, 18]	
31	Netfinity 8500R **xSeries x255**[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2200F-EMC[19]	FC-SW	Y[17, 18]	See[30]
32	Netfinity 8500R	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[7, 9, 10]	FWD	Y[11]	

IBM – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
33	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 6000R, 7000, 7000 M10[6], 7100, 7600, 8500R: xSeries: X330[5], X335, X340 (4500R)[5], X342[5], x230, x240[5], x250[5], **x255**[5], x350 (6000R)[5], x370[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944W[7, 8, 10]	FWD	N	See[14]
34	Netfinity 8500R: **xSeries x255**[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	DG 7444 (Symbios C825): NCR 53C720-Q720	FWD	N	
35	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[7, 8, 9, 10]	UWD	Y[11]	
36	Netfinity 6000R: xSeries: X330[5], X335, X340 (4500R)[5], X342[5], x230, x240[5], x250[5], x350 (6000R)[5], x370[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[7, 8, 9, 10]; BusLogic BT958D[1, 2]; QLogic: QLA1041[15]; QLA1240D[16]; Symbios SYM22802	UWD	N	
37	Netfinity 8500R; **xSeries x255**[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-3944AUWD[10, 45]; BusLogic BT958D[1, 2]; NCR PQS2.1[44]; QLogic: QLA1041[15], QLA1041D, QLA1240D[16]; Symbios SYM22802	UWD	N	
38	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	BusLogic BT958D[1, 2]; QLogic: QLA1041[15], QLA1240D[16]; Symbios SYM22802	UWD	N	
39	Netfinity 8500R: **xSeries x255**[5]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	HPQ: A5252A[37], A5252B[37]	UWD	N	See[12]
40	Netfinity 8500R	PCI	Microsoft Windows NT 4.0 SP6A[3, 4, 13]	Adaptec AHA-2944UW[7, 8, 9, 10]	UWD	Y[11]	See[12]

1. BusLogic Driver available at: http://www.mylex.com/support/productgd/index.html
2. Requires HBA driver 5.01 and HBA BIOS 5.96F.
3. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A, 5568 support at Windows NT 4.0 SP6A.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. For IBM xSeries Servers running Windows NT and Windows 2000 with IBM ServerRaid controller 4M, the ServerRaid Driver must be 6.00 or above for use with EMC PowerPath 3.0 and above. IBM driver can be downloaded at: http://www-3.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-39723
6. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
7. Requires BIOS version 2.20 and driver version 2.12s4.
8. Driver V2.12S1 is required for Adaptec AHA-2944UW to work in IBM Netfinity 5000 and 7000-M10.
9. Requires Legacy PCI slot (not available on new servers.)
10. Driver for Adaptec available at: http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
11. Adaptec AHA-2944UW driver v2.12s4 and BIOS 2.11.0.
12. AHA-2944UW has been OEM'ed as HP A5252A and A5252B
13. Trimetra XtraSERVER Windows NT Additions package BN553205
14. AHA-2944W is no longer available in distribution channels.
15. Requires HBA driver 2.36 and HBA BIOS 6.26, available at http://www.qlogic.com
16. Requires HBA driver 1.3.00 and HBA BIOS 1.26, available at http://www.qlogic.com
17. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
18. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
19. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
20. Dual port fibre Channel controller.
21. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
22. (QLA2200) For IBM xSeries and Netfinity servers only.
23. For IBM Netfinity and xSeries Intel servers only.
24. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
25. Requires HBA driver revision 2.13a4 and firmware 3.30a7. Supports SNIA HBA API. Emulex drivers are available at http://www.emulex.com
26. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
27. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
28. Qlogic SANSurfer/SANBlade Manager is not supported
29. Qlogic SanBlade Manager is not supported.
30. Cables to be ordered from Fujitsu Services (ICL).
31. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
32. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
33. It is recommended that the QLogic QLA2340 is not installed in Slot 1.
34. Host must be offline for interfamily Symmetrix microcode upgrade
35. This HBA is equivalent to the qLogic QLA2310
36. This HBA is equivalent to the qLogic QLA2340
37. (Adaptec AHA-2944UW)
38. Requires HBA driver revision 2.09D
39. Requires HBA BIOS revision 1.37 and HBA driver revision 6.16, available at http://www.qlogic.com. Note that EMC will support driver version 7.02.01 for RPQ only. Supports SNIA HBA API.
40. Requires manual intervention on bootup to clear "new hardware found" message box at boot time.
41. Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper_rnotes/bsdmatrix/matrix213991.html
42. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
43. (HHBA-5101BK-01)
44. Requires NCR WorldMark Server and driver revision 4.15 or higher.
45. BIOS 2.20.0, driver 2.21 (4.0.1431) arc78xx.sys
46. The LP9002-E now ships with the LP9002L-E low profile adapter.

NCR

NCR – Microsoft Windows NT						
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Worldmark, 4300, 4380, 4400	PCI	Microsoft Windows NT 4.0 SP6A[5]	QLogic QLA2100F-EMC[21]	FC-AL	N
2	Worldmark, 4300, 4380, 4400, 47XX, 48XX, 5XXX, S50	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex LP7000E-EMC, LP8000-EMC[11], LP850-EMC, QLogic QLA2200F-EMC[10], QLA2202F-EMC[10, 12], QLA2300F-E-SP[13, 14], QLA2310F-E-SP[13, 14], QLA2340-E-SP[13, 14], QLA2342-E-SP[13, 14]	FC-AL, FC-SW	N
3	Worldmark, 3400, 8550	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	QLogic QLA2202F-EMC[10]	FC-AL, FC-SW	N

NCR – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
4	Worldmark: 4300, 4380, 4400	PCI	Microsoft Windows NT 4.0 SP6A[5]	HPQ: A5246A (Agilent HHBA-5000A)[5, 16], D8602A (Agilent HHBA-5101B)[5, 17, 18], D8602B (Agilent HHBA-5101C)[5, 17, 19, 20]	FC-AL, FC-SW	N
5	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	NCR 53C720-Q720	FWD	N
6	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Adaptec AHA-2944UW[1, 2, 3]	UWD	Y[7]
7	Worldmark 3400	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Adaptec AHA-2944UW[1, 2, 3]; HPQ A5252B[15]	UWD	N
8	Worldmark 8550	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	HPQ A5252B[15]	UWD	N
9	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	HPQ A5252B[15]; NCR PQS2.1[6]	UWD	N
10	Worldmark S50	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	NCR PQS2.1[6]	UWD	N

1. Driver for Adaptec available at: http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
2. Requires Legacy PCI slot (not available on new servers.)
3. Requires BIOS version 2.20 and driver version 2.12s4.
4. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A, 5568 support at Windows NT 4.0 SP6A.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Requires NCR WorldMark Server and driver revision 4.15 or higher.
7. Adaptec AHA-2944UW driver v2.12s4 and BIOS 2.11.0.
8. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
9. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
10. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
11. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
12. Dual port fibre Channel controller.
13. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
14. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
15. (Adaptec AHA-2944UW)
    Requires HBA driver revision 2.09D.
16. Requires driver version 2 0.25.44 available at http://h20004.www2.hp.com/keeper motes/bsdmatrix/matrix213991.html
17. (HHBA-5101BK-01)
18. Requires manual intervention on bootup to clear "new hardware found" message box at boot time.
19. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
20. Requires HBA BIOS revision 1.37 and HBA driver revision 6.16, available at http://www.qlogic.com. Note that EMC will support driver version 7.02.01 for RPQ only. Supports SNIA HBA API.

NE

NE – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	P7000	PCI	Microsoft Windows NT 4.0 SP6A[5, 6]	QLogic QLA2202F-EMC[7]	FC-AL, FC-SW	N
2	P7000	PCI	Microsoft Windows NT 4.0 SP6A[5, 6]	Adaptec AHA-2944UW[2, 3, 4]	UWD	Y[1]

1. Adaptec AHA-2944UW driver v2.12s4 and BIOS 2.11.0.
2. Requires BIOS version 2.20 and driver version 2.12s4.
3. Requires Legacy PCI slot (not available on new servers.)
4. Driver for Adaptec available at: http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A, 5568 support at Windows NT 4.0 SP6A.
7. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.

NEC

NEC – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Express 5800: 120Md, 120Ra-2, 120Rc-2, 120Rd-1, 120Rd-2, 120Rf-2, 140Ha, 140Hb, 140Hd, 140Ma, 140Ra-4, 140Ra-7, 140Rb-4, 140Rc-4, 180Ha, 180Rb-7, 180Rc-4**	**PCI**	**Microsoft Windows NT 4.0 SP6A[3]**	**Emulex LP850-EMC; NEC: N8190-105[18], N8503-200**	**FC-AL, FC-SW**	Y	
	Express 5800: 120Rd-1, 120Rf-2, 140Hb, 140Hd, 140Ra-4, 140Rc-4	PCI	Microsoft Windows NT 4.0 SP6A[3]	NEC N8503-200	FC-AL, FC-SW	N	
3	Express 5800: 140Hb, 140Ra-4	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[12], LP850-EMC, LP9002-E (LP9002L-E)[14], LP9802-E[16, 17], LP9802DC-E[16, 17], LP982-E[16, 17]; NEC N8190-105[14, 17, 18]; QLogic: QLA2200F-EMC[11], QLA2202F-EMC[11, 13], QLA2300F-E-SP[14, 15], QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15], QLA2342-E-SP[14, 15]	FC-AL, FC-SW	N	
4	Express 5800: 120Rd-1, 120Rf-2, 140Ha, 140Hd, 140Ma, 140Rc-4, 180Ha	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP7000E-EMC, LP8000-EMC[12], LP850-EMC, LP9002-E (LP9002L-E)[14], LP9802-E[16, 17], LP9802DC-E[16, 17], LP982-E[16, 17]; NEC N8190-105[14, 17, 18]; QLogic: QLA2200F-EMC[11], QLA2300F-E-SP[14, 15], QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15], QLA2342-E-SP[14, 15]	FC-AL, FC-SW	N	
5	Express 5800: 120Rd-1, 120Rf-2, 140Ha, 140Hd, 140Ma, 140Rc-4, 180Ha	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2202F-EMC[11, 13]	FC-AL, FC-SW	N	See[8]
6	Express 5800: 120Rd-1, 120Rf-2, 140Ha, 140Hd, 140Ma, 140Rc-4, 180Ha	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944W[5, 7]	FWD	N	See[8]
7	Express 5800: 120Rd-1, 120Rf-2, 140Ha, 140Hd, 140Ma, 140Rc-4, 180Ha	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Adaptec AHA-2944UW[5, 6, 7]; BusLogic BT958D[1, 2]; QLogic: QLA10419, QLA1240D[10]; Symbios SYM22802	UWD	N	

1. BusLogic Driver available at: http://www.mylex.com/support/productgd/index.html
2. Requires HBA driver 5.01 and HBA BIOS 5.96F.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A, 5568 support at Windows NT 4.0 SP6A.

5. Driver for Adaptec available at: http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
6. Requires Legacy PCI slot (not available on new servers.)
7. Requires BIOS version 2.20 and driver version 2.12s4.
8. AHA-2944W is no longer available in distribution channels.
9. Requires HBA driver 2.36 and HBA BIOS 6.26, available at http://www.qlogic.com
10. Requires HBA driver 1.3.00 and HBA BIOS 1.26, available at http://www.qlogic.com
11. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
13. Dual port fibre Channel controller.
14. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
15. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
16. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
17. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
18. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.

Unisys

Unisys – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	DR/2; DS/2; ES7000/100; ES7000/200; ES7000/230; ES7000/500; QR/2; QS/2	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	QLogic QLA2202F-EMC[11]	FC-AL, FC-SW	N	See[7]
2	HR/6[6]; HS/6; QR/6; QS/6[6]; SMP6400[3]; XR/6[6]; XS/6	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	QLogic QLA2202F-EMC[11]	FC-AL, FC-SW	N	
	ES2023; ES2024; ES2025; ES2043; ES2045; ES2085; ES5024; ES5044; ES5045; ES5085; ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys: FCH20111-P64 (LP8000-D1)[10], FCH20113-P64 (LP8000-EMC, LP8000-F1)	FC-AL, FC-SW	Y[8, 9]	See[7]
4	DR/2; DS/2; QR/2; QS/2	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys: FCH20111-P64 (LP8000-D1)[10], FCH20113-P64 (LP8000-EMC, LP8000-F1), PCI 1100-FC (QLA2100), PCI 1120-FC (QLA2100-EMC, QLA2100F)	FC-AL, FC-SW	Y[8, 9]	See[7]
5	ES5043	PCI	Microsoft Windows NT 4.0 SP6A[2]	Unisys: FCH20111-P64 (LP8000-D1)[10], FCH20113-P64 (LP8000-EMC, LP8000-F1)	FC-AL, FC-SW	N	
6	DR/2; DS/2; HS/6; QR/6; XS/6	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys PCI 400-1UD (AHA2944UW)	UWD	Y	
7	HR/6[6]; QS/6[6]; XR/6[6]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys PCI 400-1UD (AHA2944UW)	UWD	Y[3]	
8	XR/6[6]; XS/6	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys PCI 400-4UD (AHA4944UW)[4]	UWD	N	
9	HR/6[6]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys SFA 10201-SDW (Symbios 8751D)[4]	UWD	Y[3, 5]	
10	HS/6	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys SFA 10201-SDW (Symbios 8751D)[4]	UWD	Y[5]	
11	QR/6	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys SFA: 1001-QDW (Adaptec AHA4944)[4], 10201-SDW (Symbios 8751D)[4]	UWD	Y[5]	
12	QS/6[6]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys SFA: 1001-QDW (Adaptec AHA4944)[4], 10201-SDW (Symbios 8751D)[4]	UWD	Y[3, 5]	
13	SMP6400[3]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys: OSR2944-HBA (AHA-2944DW)[4], SFA 1001-QDW (Adaptec AHA4944)[4], SFA 1001-SDW (Symbios 825A)[4]	UWD	Y[5]	
14	XR/6[6]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys: OSR2944-HBA (AHA-2944DW)[4], SFA 1001-QDW (Adaptec AHA4944)[4], SFA 10201-SDW (Symbios 8751D)[4]	UWD	Y[3, 5]	
15	XS/6	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys: OSR2944-HBA (AHA-2944DW)[4], SFA 1001-QDW (Adaptec AHA4944)[4], SFA 10201-SDW (Symbios 8751D)[4]	UWD	Y[5]	
16	QR/2; QS/2	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys: PCI 400-1UD (AHA2944UW), SFA 1001-QDW (Adaptec AHA4944)[4], SFA 10201-SDW (Symbios 8751D)[4]	UWD	Y	
17	SMP6400[3]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Unisys: PCI 400-1UD (AHA2944UW), SFA 10201-SDW (Symbios 8751D)[5]	UWD	Y	

1. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A, 5568 support at Windows NT 4.0 SP6A
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server
3. Servers are not supported on Symmetrix 5.0.
4. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
5. Supported by Unisys only
6. Used in clustered environments only
7. Cables to be ordered from Fujitsu Services (ICL)
8. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported
9. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops
10. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC
11. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API

NCR UNIX SVR4 MPRAS
NCR

NCR – NCR UNIX SVR4 MPRAS							
No.	**Host System**	**Host Bus**	**Operating System**	**Host Bus Adapter**	**Adapter Type**	**External Boot**	**Comments**
1	Worldmark 4470	PCI	NCR UNIX SVR4 MPRAS 3.02	QLogic QLA2204F[7]	FC-AL	Y	See[6]
2	Worldmark: 4455, 4470, 4475	PCI	NCR UNIX SVR4 MPRAS 3.02	LSI ITI7004G2[9]; QLogic QLA2204F[8]	FC-AL, FC-SW	Y	
3	Worldmark: 3600AP, 41xx, 45xx	MCA	NCR UNIX SVR4 MPRAS: 3.01[2, 3], 3.02[3]	NCR 53C700-Q720	FWD	Y	See[1]
4	Worldmark 3600	MCA	NCR UNIX SVR4 MPRAS: 3.01[2, 3], 3.02[3]	NCR 53C720-Q720	FWD	Y	See[1]
5	Worldmark: 34xx, 35xx	MCA	NCR UNIX SVR4 MPRAS: 3.01[2, 3], 3.02[3]	NCR: 53C700-Q720, 53C720-Q720	FWD	Y	See[1]
6	Worldmark 4500	PCI	NCR UNIX SVR4 MPRAS 3.01[2, 3]	NCR HP-PQS	U2 LVD	Y	See[4]
7	Worldmark: 4300, 4380, 4500	PCI	NCR UNIX SVR4 MPRAS 3.02[3]	NCR HP-PQS	U2 LVD	Y	
8	Worldmark 4400	PCI	NCR UNIX SVR4 MPRAS: 3.01[2, 3], 3.02[3]	NCR HP-PQS	U2 LVD	Y	See[4]
9	Worldmark: 48XX, S50	PCI	NCR UNIX SVR4 MPRAS: 3.01[2, 3], 3.02[3]	NCR HP-PQS	U2 LVD	Y	See[4, 5]
10	Worldmark: 4300, 4380	PCI	NCR UNIX SVR4 MPRAS 3.02[3]	NCR PQS2.1	UWD	Y	See[4]
11	Worldmark: 4300, 4400, 4455, 4500, 48XX, 52XX, S50	PCI	NCR UNIX SVR4 MPRAS 3.02[3]	NCR: 4400-F280, 4400-F282	UWD	Y	See[5]
12	Worldmark: 4400, 4500	PCI	NCR UNIX SVR4 MPRAS: 3.01[2, 3], 3.02[3]	NCR PQS2.1	UWD	Y	See[4]

1. Limited support available from NCR – requires RPQ
2. Limited support available for MPARS 3.01.
3. Symmetrix 8000 Series & 66/67 support at MPRAS 3.02, Windows 2000 SP2.
4. Dual-port SCSI is not offered on the 4700
5. Qualified by NCR.
6. Requires package: PKERN302, PS MBAS302
7. BIOS requires driver version 1.08 and BIOS version 1.76, available at http://www.qlogic.com
8. Requires driver version 1.08 and BIOS version 1.76, available at http://www.qlogic.com. Packages PKERN302 and PS MBAS302 available from NCR.
9. Requires package PSCSI302 Ver.02.10.10.09 or higher available from NCR.

NEC UX4800
NEC

NEC – NEC UX4800						
No.	**Host System**	**Host Bus**	**Operating System**	**Host Bus Adapter**	**Adapter Type**	**External Boot**
1	UP4800: 660, 710, 740, 740AD, 760, 760AD, 760EX, 760R, 760RAD, 760REX, 780, 790, 860, 860AD, 860EX, 860R, 860RAD, 860REX, 880, 880AD, 890, 890AD	PCI	NEC UX4800: R13.5[1, 2], R13.6[1, 2], R14.1 Rev A[1, 2]	NEC N4209-54	UWD	N

1. Limited support is available for R13.5 and R13.6; requires an RPQ and a patch from NEC.
2. Symmetrix 8000 Series & 66/67 support at UX4800 R14.1.

Novell Netware
Dell

Dell – Novell Netware							
No.	**Host System**	**Host Bus**	**Operating System**	**Host Bus Adapter**	**Adapter Type**	**External Boot**	**Comments**
1	PowerEdge 2550[23]	PCI	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 24]	See[10]
2	PowerEdge 4300	PCI	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2]	See[10]
3	PowerEdge: 1550, 2500	PCI	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 24]	
4	PowerEdge: 2400, 2450, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2]	
5	**PowerEdge: 2450, 4400, 6100, 6300, 6350, 6450**	PCI	**Novell Netware 5.00 SP6A[5, 11, 32, 33]**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL	Y[2, 8, 9]	
6	PowerEdge: 2450, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 3]	
7	**PowerEdge: 2450, 4400, 6100, 6300, 6350, 6450**	PCI	**Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6**; **Novell Netware 6.0: SP1[5, 34], SP2[5], SP3**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL	Y[2, 3, 8, 9]	
8	PowerEdge: 1550, 2500, 2550[23]	PCI	Novell Netware 5.10: SP5[5], SP6	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 3, 24]	See[14]
9	PowerEdge: 2400, 4300	PCI	Novell Netware 5.10: SP5[5], SP6	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 3]	See[14]
10	**PowerEdge: 1550, 2500, 2550[23]**	PCI	**Novell Netware 5.10: SP5[5], SP6**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL	Y[2, 3, 8, 9, 24, 25]	
11	PowerEdge: 2400, 4300	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA2100F[4, 13]	FC-AL	N	
12	PowerEdge: 2300, 6400, 8450; PowerVault: 750N, 755N, 775N	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic: QLA2100F-EMC[4], **QLA2200F-EMC[6, 7]**	FC-AL	N	
13	PowerEdge: 1550, 2500, 2550[23]	PCI	Novell Netware: 5.10 SP2A[5, 11], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 3, 24]	
14	PowerEdge: 2400, 4300	PCI	Novell Netware: 5.10 SP2A[5, 11], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 3]	
15	PowerEdge 4600	PCI-X	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2]	See[14]
16	PowerEdge: 2600, 2650	PCI-X	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2]	
17	PowerEdge: 6600, 6650	PCI-X	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2]	
18	**PowerEdge 2650**	PCI-X	**Novell Netware 5.00 SP6A[5, 11, 32, 33]**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL	Y[2, 8, 9, 24, 25]	

Dell – Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
19	**PowerEdge: 6600, 6650**	PCI-X	**Novell Netware 5.00 SP6A[5, 11, 32, 33]**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL	Y[2, 8, 9]	
20	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 3, 24]	
21	**PowerEdge 2650**	PCI-X	**Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL	Y[2, 3, 8, 9, 24, 25]	
22	PowerEdge 4600	PCI-X	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 3]	See[14]
23	PowerEdge: 6600, 6650	PCI-X	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 3]	
24	**PowerEdge: 6600, 6650**	PCI-X	**Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL	Y[2, 3, 8, 9]	
25	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP5[5], SP6	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 3, 24]	See[14]
26	**PowerEdge 2600**	PCI-X	**Novell Netware 5.10: SP5[5], SP6**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL	Y[2, 3, 8, 9, 24, 25]	
27	PowerEdge 4600	PCI-X	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA2100F[4, 13]	FC-AL	N	
28	PowerEdge 2600	PCI-X	Novell Netware: 5.10 SP2A[5, 11], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 3, 24]	
29	**PowerEdge 2500**	PCI	**Novell Netware 5.00 SP6A[5, 11, 15, 32, 33]**	**QLogic QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	Y[2, 8, 9, 24, 25]	
30	**PowerEdge 2550[23]**	PCI	**Novell Netware 5.00 SP6A[5, 11, 15, 32, 33]**	**QLogic QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	Y[2, 8, 9, 24, 25]	**See[10]**
31	**PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450**	PCI	**Novell Netware 5.00 SP6A[5, 11, 15, 32, 33]**	**QLogic QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	Y[2, 8, 9]	**See[10]**
32	**PowerEdge: 2500, 2550[23]**	PCI	**Novell Netware 5.00 SP6A[5, 11, 32, 33]**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL, FC-SW	Y[2, 8, 9, 24, 25]	
33	**PowerEdge 1550**	PCI	**Novell Netware 5.00 SP6A[5, 11, 32, 33]**	**QLogic: QLA2200F-EMC[6, 7], QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	Y[2, 8, 9, 24, 25]	
34	PowerEdge 1650	PCI	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic: **QLA2200F-EMC[6, 7], QLA2202F-EMC[4, 6, 7]**, QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 8, 9]	See[14]
35	PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic: **QLA2200F-EMC[6, 7]**, QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 8, 9]	
36	PowerEdge: 1550, 2500, 2550[23]	PCI	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic: QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 8, 9, 24]	
37	**PowerEdge 2500**	PCI	**Novell Netware 5.10: SP2A[5, 11], SP5[5, 11], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3**	**QLogic QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	Y[2, 3, 8, 9, 24, 25]	
38	**PowerEdge 2550[23]**	PCI	**Novell Netware 5.10: SP2A[5, 11], SP5[5, 11], SP6, Novell Netware 6.0: SP1[5, 34], SP2[5], SP3**	**QLogic QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	Y[2, 3, 8, 9, 24, 25]	**See[10]**
39	**PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450**	PCI	**Novell Netware 5.10: SP2A[5, 11], SP5[5, 11], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3**	**QLogic QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	Y[2, 3, 8, 9]	**See[10]**
40	PowerEdge: 1550, 2500, 2550[23]	PCI	Novell Netware 5.10: SP2A[5, 11], SP5[5, 35], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2310F-E-SP[6, 12]	FC-AL, FC-SW	Y[2, 3, 8, 9, 24]	
41	**PowerEdge 1550**	PCI	**Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3**	**QLogic QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	Y[2, 3, 8, 9, 24, 25]	
42	PowerEdge 1650	PCI	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	QLogic: **QLA2200F-EMC[6, 7], QLA2202F-EMC[4, 6, 7]**, QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 3, 8, 9]	See[14]
43	PowerEdge: 2400, 4300	PCI	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6, Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	QLogic: **QLA2200F-EMC[6, 7]**, QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 3, 8, 9]	
44	PowerEdge: 2450, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP2A[5, 11], SP5[5] SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	QLogic: QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL FC-SW	Y[2, 3, 8, 9]	
45	PowerEdge: 1550, 2500, 2550[23]	PCI	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic: QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 3, 8, 9, 24]	
46	**PowerEdge: 2300, 8450**	PCI	**Novell Netware: 5.00 SP6A[5, 11, 15, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5, 11], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	N	**See[10]**
47	**PowerVault: 750N, 755N, 775N**	PCI	**Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5, 11, 15], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	N	**See[10]**
48	PowerEdge 2300	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5, 11], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic: QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	N	
49	PowerEdge: 1550, 1650, 2550[23]	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[21, 22]	FC-AL FC-SW	N	
50	PowerEdge: 2300, 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[21, 22], QLogic QLA2300F-E-SP[6, 12]	FC-AL, FC-SW	N	
51	PowerEdge 6400	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[21, 22], QLogic **QLA2202F-EMC[4, 6, 7]**, QLA2300F-E-SP[6, 12], QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	N	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
52	PowerEdge 8450	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[21, 22]; QLogic: QLA2300F-E-SP[6, 12], QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	N	
53	PowerEdge 1650	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA2300F-E-SP[6, 12]	FC-AL, FC-SW	N	See[14]
54	PowerVault: 750N, 755N, 775N	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic: QLA2300F-E-SP[6, 12], QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	N	
55	PowerEdge 2500	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[21]; QLogic QLA2300F-E-SP[6, 12]	FC-AL, FC-SW	N	
56	**PowerEdge: 2300, 6400, 8450**	PCI	**Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL, FC-SW	N	
57	PowerEdge: 1550, 2550[23]	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2300F-E-SP[6, 12]	FC-AL, FC-SW	N	
58	**PowerEdge: 1550, 2500, 2550[23]**	PCI	**Novell Netware: 5.10 SP2A[5, 11], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL, FC-SW	Y[2, 3, 8, 9, 24, 25]	
59	**PowerEdge: 2450, 4400, 6100, 6300, 6350, 6450**	PCI	**Novell Netware: 5.10 SP2A[5, 11], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL, FC-SW	Y[2, 3, 8, 9]	
60	**PowerEdge: 2600, 2650**	PCI-X	**Novell Netware 5.00 SP6A[5, 11, 32, 33]**	**QLogic: QLA2200F-EMC[6, 7], QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	Y[2, 8, 9, 24, 25]	
61	PowerEdge: 1750, 4600	PCI-X	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic: **QLA2200F-EMC[6, 7], QLA2202F-EMC[4, 6, 7]**, QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 8, 9]	See[14]
62	PowerEdge: 6600, 6650	PCI-X	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic: **QLA2200F-EMC[6, 7], QLA2202F-EMC[4, 6, 7]**, QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 8, 9]	
63	PowerEdge: 2600, 2650	PCI-X	Novell Netware 5.00 SP6A[5, 11, 32, 33]	QLogic: QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 8, 9, 24]	
64	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP2A[5, 11], SP5[5, 35], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2310F-E-SP[6, 12]	FC-AL, FC-SW	Y[2, 3, 8, 9, 24]	
65	**PowerEdge 2650**	PCI-X	**Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3**	**QLogic QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	Y[2, 3, 8, 9, 24, 25]	
66	PowerEdge 1750	PCI-X	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	QLogic: **QLA2200F-EMC[6, 7], QLA2202F-EMC[4, 6, 7]**, QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 3, 8, 9]	See[14]
67	PowerEdge 4600	PCI-X	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	QLogic: **QLA2202F-EMC[4, 6, 7]**, QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 3, 8, 9]	See[14]
68	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	QLogic: QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 3, 8, 9, 24]	
69	**PowerEdge 4600**	PCI-X	**Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL, FC-SW	Y[2, 3, 8, 9]	See[14]
70	**PowerEdge 2600**	PCI-X	**Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2202F-EMC[4, 6, 7]**	FC-AL, FC-SW	Y[2, 3, 8, 9, 24, 25]	
71	PowerEdge: 6600, 6650	PCI-X	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic: **QLA2202F-EMC[4, 6, 7]**, QLA2310F-E-SP[6, 12], QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 3, 8, 9]	
72	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic: QLA2340-E-SP[6, 12], **QLA2342-E-SP[6, 12, 36]**	FC-AL, FC-SW	Y[2, 3, 8, 9, 24]	
73	PowerEdge: 1750, 2600, 4600, 6600, 6650	PCI-X	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[21, 22]	FC-AL, FC-SW	N	
74	PowerEdge 2650	PCI-X	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[21, 22]; QLogic QLA2300F-E-SP[6, 12]	FC-AL, FC-SW	N	
75	PowerEdge: 1750, 4600	PCI-X	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA2300F-E-SP[6, 12]	FC-AL, FC-SW	N	See[14]
76	PowerEdge: 6600, 6650	PCI-X	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2300F-E-SP[6, 12]	FC-AL, FC-SW	N	
77	PowerEdge 2600	PCI-X	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2300F-E-SP[6, 12]	FC-AL, FC-SW	N	
78	**PowerEdge: 2600, 2650**	PCI-X	**Novell Netware: 5.10 SP2A[5, 11], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL, FC-SW	Y[2, 3, 8, 9, 24, 25]	
79	**PowerEdge: 6600, 6650**	PCI-X	**Novell Netware: 5.10 SP2A[5, 11], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2200F-EMC[6, 7]**	FC-AL, FC-SW	Y[2, 3, 8, 9]	
80	PowerEdge: 2300, 2400, 2450, 2550[23], 4300, 4400, 6100, 6300, 6350, 6450, 8450	PCI	Novell Netware: 5.00 SP6A[5, 11, 15, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5, 11], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944W[20]	FWD	N	See[10]
81	PowerVault: 750N, 755N, 775N	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5, 11, 15], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944W	FWD	N	See[10]
82	PowerEdge: 1550, 1650, 6400	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944W	FWD	N	
83	PowerEdge: 1750, 2600, 4600, 6600, 6650	PCI-X	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944W	FWD	N	
84	PowerEdge 2500	PCI	Novell Netware 5.00 SP6A[5, 11, 15, 32, 33]	Adaptec AHA-2944UW[17, 18, 19, 20, 26]	UWD	Y[2, 3, 8, 9, 24, 25, 27, 28, 29, 30, 31]	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
85	PowerEdge: 2400, 2450, 2550[23], 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.00 SP6A[5, 11, 15, 32, 33]	Adaptec AHA-2944UW[17, 18, 19, 20, 26]	UWD	Y[2, 24, 27, 28, 29, 30, 31]	See[10]
86	PowerEdge 1550	PCI	Novell Netware 5.00 SP6A[5, 11, 32, 33]	Adaptec AHA-2944UW[17, 18, 19, 20, 26]	UWD	Y[2, 15, 24, 27, 28, 29, 30, 31]	
87	PowerEdge 1650	PCI	Novell Netware 5.00 SP6A[5, 11, 32, 33]	Adaptec AHA-2944UW[17, 18, 19, 20, 26]	UWD	Y[2, 15, 24, 27, 28, 29, 30, 31]	See[14]
88	PowerEdge 2500	PCI	Novell Netware 5.10: SP2A[5, 11], SP5[5, 11], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	Adaptec AHA-2944UW[17, 18, 19, 20, 26]	UWD	Y[2, 3, 15, 24, 27, 28, 29, 30, 31]	
89	PowerEdge: 2400, 2450, 2550[23], 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP2A[5, 11], SP5[5, 11], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	Adaptec AHA-2944UW[17, 18, 19, 20, 26]	UWD	Y[2, 3, 15, 24, 27, 28, 29, 30, 31]	See[10]
90	PowerEdge 1550	PCI	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6, Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	Adaptec AHA-2944UW[17, 18, 19, 20, 26]	UWD	Y[2, 3, 15, 24, 27, 28, 29, 30, 31]	
91	PowerEdge 1650	PCI	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5] SP3	Adaptec AHA-2944UW[17, 18, 19, 20, 26]	UWD	Y[2, 3, 15, 24, 27, 28, 29, 30, 31]	See[14]
92	PowerEdge: 2400, 4300	PCI	Novell Netware 5.10: SP5[5, 11], SP6	QLogic QLA1041D	UWD	N	See[10]
93	PowerEdge: 2300, 8450	PCI	Novell Netware: 5.00 SP6A[5, 11, 15, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5, 11], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944UW[17, 18, 19, 20, 26]; QLogic QLA1041D[16]	UWD	N	See[10]
94	PowerEdge 2500	PCI	Novell Netware: 5.00 SP6A[5, 11, 15, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5, 11], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA1041D[16]	UWD	N	
95	PowerEdge: 2450, 2550[23], 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware: 5.00 SP6A[5, 11, 15, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5, 11], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA1041D[16]	UWD	N	See[10]
96	PowerEdge: 2400, 4300	PCI	Novell Netware: 5.00 SP6A[5, 11, 15, 32, 33], 5.10 SP2A[5, 11], 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA1041D[16]	UWD	N	See[10]
97	PowerVault: 750N, 755N, 775N	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5, 11, 15], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944UW[17, 18, 19, 20]; QLogic QLA1041D[16]	UWD	N	See[10]
98	PowerEdge 6400	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944UW[17, 18, 19, 20, 26]; QLogic QLA1041D	UWD	N	
99	PowerEdge 1550	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA1041D	UWD	N	
100	PowerEdge 1650	PCI	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA1041D	UWD	N	See[14]
101	PowerEdge: 1750, 4600	PCI-X	Novell Netware 5.00 SP6A[5, 11, 32, 33]	Adaptec AHA-2944UW[17, 18, 19, 20, 26]	UWD	Y[2, 15, 24, 27, 28, 29, 30, 31]	See[14]
102	PowerEdge: 2600, 6600, 6650	PCI-X	Novell Netware 5.00 SP6A[5, 11, 32, 33]	Adaptec AHA-2944UW[17, 18, 19, 20, 26]	UWD	Y[2, 15, 24, 27, 28, 29, 30, 31]	
103	PowerEdge: 1750, 4600	PCI-X	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	Adaptec AHA-2944UW[17, 18, 19, 20, 26]	UWD	Y[2, 3, 15, 24, 27, 28, 29, 30, 31]	See[14]
104	PowerEdge: 2600, 6600, 6650	PCI-X	Novell Netware 5.10: SP2A[5, 11], SP5[5], SP6; Novell Netware 6.0: SP1[5, 34], SP2[5], SP3	Adaptec AHA-2944UW[17, 18, 19, 20, 26]	UWD	Y[2, 3, 15, 24, 27, 28, 29, 30, 31]	
105	PowerEdge 2650	PCI-X	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944UW[17, 20]; QLogic QLA1041D	UWD	N	
106	PowerEdge: 1750, 4600	PCI-X	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA1041D	UWD	N	See[14]
107	PowerEdge: 2600, 6600, 6650	PCI-X	Novell Netware: 5.00 SP6A[5, 11, 32, 33], 5.10 SP2A[5, 11], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 34], 6.0 SP2[5], 6.0 SP3	QLogic QLA1041D	UWD	N	

1. Supports FC-AL point-to-point only
2. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditions exist where several LUNs are initially created and you perform your first install, NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs
3. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
4. Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.
5. Maximum number of NWFS volumes that can be mounted is 64
6. Driver installation with NetWare 5.0 SP6A. Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot
7. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
8. Edit config.sys with the following: Files=100 Buffers=99
9. To enable failover with fabric boot DOSFAT NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT C: partition will
10. AHA-2944W is no longer available in distribution channels
11. Symmetrix 8000 Series, 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1
12. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
13. EMC strongly recommends that HBAs of different vendors not be used in the same host server
14. Symmetrix 8000 Series 66/67 support at NetWare 5.x. 5568 support at Netware 5.1
15. Novell 5.00 OS only supports the Host Adapter Module (HAM) driver
16. Requires BIOS rev 6.26 and driver rev 1.27 available at http://www.qlogic.com
17. Requires Legacy PCI slot (not available on new servers.)
18. AHA-2944UW has been OEM'ed as HP A5252A and A5252B
19. Requires BIOS v2.20 and driver version 7.30S1
20. Driver for Adaptec available at http://www.adaptec.com/worldwide/support/supportbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
21. Requires driver version 2.02e and firmware 3.90a7
22. PowerPath not currently supported.
23. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.

24. DOS boot device maximum accessible capacity is 2GB. Netware SYS volume must be in LUN 0.
25. Supports FC-AL point-to-point and Fabric switch configurations.
26. Netware 5.1 SP4 and 6.0 SP1 require driver 8.1 and BIOS 2.20. Requires "SCAN ALL LUNS" in AUTOEXEC.NCF just before the Mount All statement.
27. Adaptec AHA-2944UW requires HAM driver version 7.30s1 and BIOS 2.20. The driver is available on the EMC intranet (http://iqweb.lss.emc.com).
28. EMC engineering recommends that customers do not combine or share a Netware SYS volume and data volumes on the same Symmetrix logical device.
29. Consult the EMC customer support center for a detailed Netware Symmetrix boot installation procedure.
30. Requires SP4 on Netware 5.1.
31. Requires "SCAN ALL LUNs" in AUTOEXEC.NCF just before the "Mount All" statement.
32. Requires NWPA.NLM V.3.07A update from Novell website.
33. NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.
34. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
35. Requires NetWare patches: NWPAPT2A and NSS5J.
36. **Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)**

Fujitsu Siemens

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Primergy 700	PCI	Novell Netware 5.00 SP6A[4, 31]	QLogic QLA2100F-EMC[26]	FC-AL	N	See[1]
2	Primergy: B210, C200, E200, F200, L200, N200, P200, R450	PCI	Novell Netware 5.00 SP6A[4, 5, 31, 32]	QLogic QLA2100F-EMC[26]	FC-AL	N	
3	Primergy: H400, K400, N400, P250	PCI	Novell Netware 5.00 SP6A[4, 5, 31, 32]	QLogic QLA2100F-EMC[26]	FC-AL	Y[14, 33]	
4	Primergy: H400, K400, N400, P250	PCI	Novell Netware 5.10: SP2A[4, 5, 31, 32], SP5[4], SP6; Novell Netware 6.0: SP1[4, 30], SP2[4], SP3	QLogic QLA2100F-EMC[26]	FC-AL	Y[14, 16, 33]	
5	Primergy H450	PCI-X	Novell Netware 5.00 SP6A[4, 31]	QLogic QLA2100F-EMC[26]	FC-AL	N	See[1]
6	Primergy R450	PCI-X	Novell Netware 5.00 SP6A[4, 5, 31, 32]	QLogic QLA2100F-EMC[26]	FC-AL	N	
7	Primergy: H250[17], N800	PCI-X	Novell Netware 5.00 SP6A[4, 5, 31, 32]	QLogic QLA2100F-EMC[26]	FC-AL	Y[14, 33]	
8	Primergy H250[17]	PCI-X	Novell Netware 5.10 SP2A[4, 5, 31, 32]	QLogic QLA2100F-EMC[26, 34]	FC-AL	Y[14, 16, 33]	See[1]
9	Primergy N800	PCI-X	Novell Netware 5.10: SP2A[4, 5, 31, 32], SP5[4], SP6; Novell Netware 6.0: SP1[4, 30], SP2[4], SP3	QLogic QLA2100F-EMC[26]	FC-AL	Y[14, 16, 33]	
10	Primergy H250[17]	PCI-X	Novell Netware 5.10: SP5[4], SP6; Novell Netware 6.0: SP1[4, 30], SP2[4], SP3	QLogic QLA2100F-EMC[26]	FC-AL	Y[14, 16, 33]	
11	Primergy F250[17]	PCI-X	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	QLogic QLA2100F-EMC[26]	FC-AL	N	
12	**Primergy H400**	PCI	**Novell Netware 5.00 SP6A[3, 4, 5, 31, 32]**	**QLogic QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	Y[13, 14, 15]	**See[1]**
13	**Primergy: K400, N400**	PCI	**Novell Netware 5.00 SP6A[3, 4, 5, 31, 32]**	**QLogic QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	Y[13, 14, 15]	**See[10]**
14	Primergy P250	PCI	Novell Netware 5.00 SP6A[4, 5, 31, 32]	QLogic: **QLA2200F-EMC[11, 12]**, **QLA2202F-EMC[11, 12, 26]**, QLA2310F-E-SP[12, 27], QLA2340-E-SP[12, 27], **QLA2342-E-SP[12, 27, 35]**	FC-AL, FC-SW	Y[13, 14, 15]	
15	Primergy: H400, K400, N400	PCI	Novell Netware 5.00 SP6A[4, 5, 31, 32]	QLogic: **QLA2200F-EMC[11, 12]**, QLA2310F-E-SP[12, 27]	FC-AL, FC-SW	Y[13, 14, 15]	See[1]
16	Primergy: H400, K400, N400	PCI	Novell Netware 5.00 SP6A[4, 5, 31, 32]	QLogic: QLA2340-E-SP[27], **QLA2342-E-SP[12, 27, 35]**	FC-AL, FC-SW	Y[13, 14, 15]	
17	Primergy P250	PCI	Novell Netware 5.10 SP2A[4, 5, 31, 32]	QLogic QLA2340-E-SP[12, 27]	FC-AL, FC-SW	Y[13, 14, 15, 16]	
18	**Primergy: H400, K400, N400, P250**	**PCI**	**Novell Netware 5.10: SP2A[4, 5, 31, 32], SP5[4], SP6;** **Novell Netware 6.0: SP1[4, 30], SP2[4], SP3**	**QLogic QLA2342-E-SP[12, 27, 35]**	**FC-AL, FC-SW**	Y[13, 14, 15, 16]	
19	**Primergy: H400, K400, N400**	PCI	**Novell Netware 5.10: SP2A[4, 5], SP5[4], SP6,** **Novell Netware 6.0: SP1[4, 30], SP2[4], SP3**	**QLogic QLA2200F-EMC[11, 12]**	FC-AL, FC-SW	Y[13, 14, 15, 16]	**See[1]**
20	**Primergy P250**	PCI	**Novell Netware 5.10: SP2A[4, 5], SP5[4], SP6,** **Novell Netware 6.0: SP1[4, 30], SP2[4], SP3**	**QLogic: QLA2200F-EMC[11, 12], QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	Y[13, 14, 15, 16]	
21	**Primergy 700**	PCI	**Novell Netware 5.10: SP5[3, 4, 5], SP6,** **Novell Netware 6.0 SP1[4, 30]**	**QLogic QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	N	**See[1]**
22	**Primergy H400**	PCI	**Novell Netware 5.10: SP5[4, 5], SP6**	**QLogic QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	Y[13, 14, 15, 16]	**See[10]**
23	**Primergy: K400, N400**	PCI	**Novell Netware 5.10: SP5[4, 5], SP6,** **Novell Netware 6.0: SP2[4], SP3**	**QLogic QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	Y[13, 14, 15, 16]	**See[10]**
24	Primergy P250	PCI	Novell Netware 5.10: SP5[4], SP6	QLogic QLA2310F-E-SP[27]	FC-AL, FC-SW	Y[13, 14, 15, 16]	
25	Primergy: H400, K400, N400	PCI	Novell Netware 5.10: SP5[4], SP6	QLogic: QLA2310F-E-SP[27], QLA2340-E-SP[27]	FC-AL, FC-SW	Y[13, 14, 15, 16]	
26	Primergy P250	PCI	Novell Netware 5.10: SP5[4], SP6; Novell Netware 6.0: SP1[4, 30], SP2[4], SP3	QLogic QLA2340-E-SP[27]	FC-AL, FC-SW	Y[13, 14, 15, 16]	
27	Primergy: B210, C200, E200, F200, L200, N200, P200, R450	PCI	Novell Netware 6.0 SP1[4, 30]	QLogic QLA2310F-E-SP[12, 27]	FC-AL, FC-SW	N	
28	Primergy 700	PCI	Novell Netware 6.0 SP1[4, 30] SP2[4], SP3	QLogic: QLA2310F-E-SP[12, 27], QLA2340-E-SP[12, 27], QLA2342-E-SP[12, 27, 35]	FC-AL, FC-SW	N	
29	**Primergy 700**	PCI	**Novell Netware 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3**	**QLogic QLA2200F-EMC[11, 12]**	FC-AL, FC-SW	N	See[1]
30	**Primergy R450**	PCI	**Novell Netware 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3**	**QLogic QLA2200F-EMC[11, 12], QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	N	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
31	**Primergy: E200, F200, L200, N200, P200**	PCI	**Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3**	**QLogic: QLA2200F-EMC[11, 12], QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	N	See[1]
32	**Primergy: B210, C200**	PCI	**Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 6.0 SP1[4], 6.0 SP2[4], 6.0 SP3**	**QLogic: QLA2200F-EMC[11, 12], QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	N	
33	**Primergy 700**	PCI	**Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 6.0 SP2[4], 6.0 SP3**	**QLogic QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	N	See[10]
34	Primergy P250	PCI	Novell Netware: 5.10 SP2A[4, 5, 31, 32], 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	QLogic QLA2310F-E-SP[12, 27]	FC-AL, FC-SW	Y[13, 14, 15, 16]	
35	Primergy: H400, K400, N400	PCI	Novell Netware: 5.10 SP2A[4, 5, 31, 32], 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	QLogic: QLA2310F-E-SP[12, 27], QLA2340-E-SP[12, 27]	FC-AL, FC-SW	Y[13, 14, 15, 16]	
36	**Primergy: K400, N400**	PCI	**Novell Netware: 5.10 SP2A[4, 5], 6.0 SP1[4, 30]**	**QLogic QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	Y[13, 14, 15, 16]	See[1]
37	**Primergy H400**	PCI	**Novell Netware: 5.10 SP2A[4, 5], 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3**	**QLogic QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	Y[13, 14, 15, 16]	See[1]
38	**Primergy N800**	PCI-X	**Novell Netware 5.00 SP6A[3, 4, 5, 31, 32]**	**QLogic QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	Y[13, 14, 15]	See[1]
39	**Primergy H250[17]**	PCI-X	**Novell Netware 5.00 SP6A[4, 5, 31, 32]**	**QLogic: QLA2200F-EMC[11, 12], QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	Y[13, 14, 15]	See[1]
40	Primergy N800	PCI-X	Novell Netware 5.00 SP6A[4, 5, 31, 32]	QLogic: **QLA2200F-EMC[11, 12]**, QLA2310F-E-SP[12, 27]	FC-AL, FC-SW	Y[13, 14, 15]	See[1]
41	Primergy H250[17]	PCI-X	Novell Netware 5.00 SP6A[4, 5, 31, 32]	QLogic: QLA2310F-E-SP[12, 27], QLA2340-E-SP[12, 27], **QLA2342-E-SP[12, 27, 35]**	FC-AL, FC-SW	Y[13, 14, 15]	
42	Primergy N800	PCI-X	Novell Netware 5.00 SP6A[4, 5, 31, 32]	QLogic: QLA2340-E-SP[27], **QLA2342-E-SP[12, 27, 35]**	FC-AL, FC-SW	Y[13, 14, 15]	
43	**Primergy: H250[17], N800**	**PCI-X**	**Novell Netware 5.10: SP2A[4, 5, 31, 32], SP5[4], SP6; Novell Netware 6.0: SP1[4, 30], SP2[4], SP3**	**QLogic QLA2342-E-SP[12, 27, 35]**	**FC-AL, FC-SW**	**Y[13, 14, 15, 16]**	
44	**Primergy N800**	PCI-X	**Novell Netware 5.10: SP2A[4, 5], SP5[4, 5], SP6; Novell Netware 6.0: SP1[4, 30], SP2[4], SP3**	**QLogic QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	Y[13, 14, 15, 16]	See[1]
45	**Primergy N800**	PCI-X	**Novell Netware 5.10: SP2A[4, 5], SP5[4], SP6; Novell Netware 6.0: SP1[4, 30], SP2[4], SP3**	**QLogic QLA2200F-EMC[11, 12]**	FC-AL, FC-SW	Y[13, 14, 15, 16]	See[1]
46	**Primergy H250[17]**	PCI-X	**Novell Netware 5.10: SP2A[4, 5], SP5[4], SP6; Novell Netware 6.0: SP1[4, 30], SP2[4], SP3**	**QLogic: QLA2200F-EMC[11, 12], QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	Y[13, 14, 15, 16]	See[1]
47	Primergy: RX200, RX300, TX200, TX300	PCI-X	Novell Netware 5.10: SP5[4], SP6	QLogic QLA2310F-E-SP[27]	FC-AL, FC-SW	N	
48	Primergy: H250[17], N800	PCI-X	Novell Netware 5.10: SP5[4], SP6	QLogic: QLA2310F-E-SP[27], QLA2340-E-SP[27]	FC-AL, FC-SW	Y[13, 14, 15, 16]	
49	**Primergy: RX200, RX300, TX200, TX300**	PCI-X	**Novell Netware: 5.00 SP6A[3, 4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4, 5], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3**	**QLogic QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	N	See[1]
50	**Primergy: RX200, RX300, TX200, TX300**	**PCI-X**	**Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5, 31, 32], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3**	**QLogic QLA2342-E-SP[12, 27, 35]**	**FC-AL, FC-SW**	**N**	
51	**Primergy: RX200, RX300, TX200, TX300**	PCI-X	**Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3**	**QLogic QLA2200F-EMC[11, 12]**	FC-AL, FC-SW	N	See[1]
52	**Primergy H450**	PCI-X	**Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3**	**QLogic: QLA2200F-EMC[11, 12], QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	N	See[1]
53	Primergy F250[17]	PCI-X	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	QLogic: **QLA2200F-EMC[11, 12], QLA2202F-EMC[11, 12, 26]**, QLA2300F-E-SP[12, 27], QLA2310F-E-SP[12, 27] QLA2340-E-SP[12, 27], **QLA2342-E-SP[12, 27, 35]**	FC-AL, FC-SW	N	
54	**Primergy R450**	PCI-X	**Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 6.0 SP1[4], 6.0 SP2[4], 6.0 SP3**	**QLogic: QLA2200F-EMC[11, 12], QLA2202F-EMC[11, 12, 26]**	FC-AL, FC-SW	N	
55	Primergy: RX200, RX300, TX200, TX300	PCI-X	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP5[4], 5.10 SP6	QLogic QLA2340-E-SP[27]	FC-AL, FC-SW	N	
56	Primergy: H250[17] N800	PCI-X	Novell Netware: 5.10 SP2A[4, 5, 31, 32], 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	QLogic: QLA2310F-E-SP[12, 27], QLA2340-E-SP[12, 27]	FC-AL, FC-SW	Y[13, 14, 15, 16]	
57	Primergy: RX200 RX300, TX200, TX300	PCI-X	Novell Netware: 5.10 SP2A[4, 5, 31, 32], 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	QLogic: QLA2310F-E-SP[12, 27], QLA2340-E-SP[12, 27]	FC-AL, FC-SW	N	
58	Primergy F250[17]	PCI-X	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[28, 29]	FC-SW	N	
59	Primergy: H400, K400, N400	PCI	Novell Netware: 5.00 SP6A[3, 4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4, 5], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	Adaptec AHA-2944W[9]	FWD	N	See[10]
60	Primergy 700	PCI	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[3, 4, 5], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	Adaptec AHA-2944W	FWD	N	See[10]
61	Primergy: H250[17] H450	PCI-X	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	Adaptec AHA-2944W, HPQ A5252A[6, 7, 8, 9, 24, 25]	FWD	N	
62	Primergy: H400, K400, N400	PCI	Novell Netware 5.00 SP6A[3, 4, 5, 31, 32]	Adaptec AHA-2944UW[6, 7, 8, 9, 24]	UWD	Y[14, 18, 19, 20, 21, 22, 23]	See[1]
63	Primergy P250	PCI	Novell Netware 5.00 SP6A[4, 5, 31, 32]	Adaptec AHA-2944UW[7, 9]	UWD	Y[3, 14, 18, 19, 20, 21, 22, 23]	
64	Primergy P250	PCI	Novell Netware 5.10: SP2A[4, 5], SP5[4], SP6; Novell Netware 6.0: SP1[4, 30], SP2[4], SP3	Adaptec AHA-2944UW[7, 9]	UWD	Y[3, 14, 16, 18, 19, 20, 21, 22, 23]	
65	Primergy 700	PCI	Novell Netware 5.10: SP5[3, 4, 5], SP6	Adaptec AHA-2944UW[6, 7, 8, 9]	UWD	N	See[10]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
66	Primergy: H400, K400, N400	PCI	Novell Netware 5.10: SP5[4, 5], SP6	Adaptec AHA-2944UW[6, 7, 8, 9, 24]	UWD	Y[3, 14, 16, 18, 19, 20, 21, 22, 23]	See[10]
67	Primergy: K400, N400	PCI	Novell Netware 5.10: SP5[4, 5], SP6	QLogic QLA1041D[2]	UWD	N	See[10]
68	Primergy H400	PCI	Novell Netware: 5.00 SP6A[3, 4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4, 5], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	QLogic QLA1041D[2]	UWD	N	See[10]
69	Primergy: K400, N400	PCI	Novell Netware: 5.00 SP6A[3, 4, 5, 31, 32], 5.10 SP2A[4, 5], 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	QLogic QLA1041D[2]	UWD	N	See[1]
70	Primergy 700	PCI	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[3, 4, 5], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	QLogic QLA1041D[2]	UWD	N	See[1]
71	Primergy R450	PCI	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	Adaptec AHA-2944UW[7, 9]; QLogic QLA1041D	UWD	N	
72	Primergy: E200, F200, L200, N200, P200	PCI	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	Adaptec AHA-2944UW[7, 9]; QLogic QLA1041D	UWD	N	See[1]
73	Primergy P250	PCI	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	QLogic QLA1041D	UWD	N	
74	Primergy 700	PCI	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	Adaptec AHA-2944UW[6, 7, 8, 9]	UWD	N	See[10]
75	Primergy: B210, C200	PCI	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 6.0 SP1[4], 6.0 SP2[4], 6.0 SP3	Adaptec AHA-2944UW[7, 9]; QLogic QLA1041D	UWD	N	
76	Primergy: H400, K400, N400	PCI	Novell Netware: 5.10 SP2A[4, 5], 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	Adaptec AHA-2944UW[6, 7, 8, 9, 24]	UWD	Y[3, 14, 16, 18, 19, 20, 21, 22, 23]	See[1]
77	Primergy N800	PCI-X	Novell Netware 5.00 SP6A[3, 4, 5, 31, 32]	Adaptec AHA-2944UW[7, 9]	UWD	Y[14, 18, 19, 20, 21, 22, 23]	See[1]
78	Primergy H250[17]	PCI-X	Novell Netware 5.00 SP6A[4, 5, 31, 32]	Adaptec AHA-2944UW[6, 7, 8, 9, 24]	UWD	Y[3, 14, 18, 19, 20, 21, 22, 23]	See[1]
79	Primergy N800	PCI-X	Novell Netware 5.10: SP2A[4, 5], SP5[4, 5], SP6; Novell Netware 6.0: SP1[4, 30], SP2[4], SP3	Adaptec AHA-2944UW[7, 9]	UWD	Y[3, 14, 16, 18, 19, 20, 21, 22, 23]	See[1]
80	Primergy H250[17]	PCI-X	Novell Netware 5.10: SP2A[4, 5], SP5[4], SP6; Novell Netware 6.0: SP1[4, 30], SP2[4], SP3	Adaptec AHA-2944UW[6, 7, 8, 9, 24]	UWD	Y[3, 14, 16, 18, 19, 20, 21, 22, 23]	See[1]
81	Primergy N800	PCI-X	Novell Netware: 5.00 SP6A[3, 4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4, 5], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	QLogic QLA1041D[2]	UWD	N	See[1]
82	Primergy H450	PCI-X	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	Adaptec AHA-2944UW[6, 7, 8, 9, 24]; QLogic QLA1041D	UWD	N	See[1]
83	Primergy F250[17]	PCI-X	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	Adaptec AHA-2944UW[7, 9]; QLogic QLA1041D	UWD	N	
84	Primergy H250[17]	PCI-X	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 5.10 SP5[4], 5.10 SP6, 6.0 SP1[4, 30], 6.0 SP2[4], 6.0 SP3	QLogic QLA1041D	UWD	N	See[1]
85	Primergy R450	PCI-X	Novell Netware: 5.00 SP6A[4, 5, 31, 32], 5.10 SP2A[4, 5], 6.0 SP1[4], 6.0 SP2[4], 6.0 SP3	Adaptec AHA-2944UW[7, 9]; QLogic QLA1041D	UWD	N	

1. Symmetrix 8000 Series: 66/67 support at NetWare 5.x, 5568 support at Netware 5.1.
2. Requires BIOS rev 6.26 and driver rev 1.27, available at http://www.qlogic.com
3. Novell 5.00 OS only supports the Host Adapter Module (HAM) driver.
4. Maximum number of NWFS volumes that can be mounted is 64.
5. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.
6. Requires BIOS v2.20 and driver version 7.30S1.
7. Requires Legacy PCI slot (not available on new servers.)
8. AHA-2944UW has been OEM'ed as HP A5252A and A5252B
9. Driver for Adaptec available at: http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
10. AHA-2944W is no longer available in distribution channels.
11. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
12. Driver installation with NetWare 5.0 SP6A. Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa nlm version 3.07a 5/3/01. Once the new nwpa nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot
13. Edit config.sys with the following: Files=100 Buffers=99
14. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditions exist where several LUNs are initially created and you perform your first install, NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.
15. To enable failover with fabric boot DOSFAT NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT C: partition will.
16. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
17. Must use standard PCI 32bit/33MHz slot for SCSI
18. DOS boot device maximum accessible capacity is 2GB. Netware SYS volume must be in LUN 0.
19. Adaptec AHA-2944UW requires HAM driver version 7.30s1 and BIOS 2.20. The driver is available on the EMC intranet (http://iqweb.lss.emc.com).
20. EMC engineering recommends that customers do not combine or share a Netware SYS volume and data volumes on the same Symmetrix logical device.
21. Consult the EMC customer support center for a detailed Netware Symmetrix boot installation procedure
22. Requires SP4 on Netware 5.1
23. Requires "SCAN ALL LUNs" in AUTOEXEC.NCF just before the "Mount All" statement
24. Netware 5.1 SP4 and 6.0 SP1 require driver 8.1 and BIOS 2.20. Requires "SCAN ALL LUNS" in AUTOEXEC.NCF just before the Mount All statement
25. (Adaptec AHA-2944UW)
26. Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com
27. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
28. Requires driver version 2.02e and firmware 3.90a7
29. PowerPath not currently supported.
30. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
31. Requires NWPA NLM V.3.07A update from Novell website
32. NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported
33. Supports FC-AL point-to-point only

34. Requires HBA firmware revision 1.83 and HBA driver revision 6.50v, available at http://www.qlogic.com
Requires SP4 or higher for NetWare 5.00.
35. **Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)**

HPQ

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netserver LC 2000r; Proliant: 8000[16, 18], 8500	PCI	Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]	QLogic QLA2100F-EMC[15]	FC-AL	N	See[1]
2	Proliant DL320[16]	PCI	Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]	QLogic QLA2100F-EMC[15]	FC-AL	Y[12, 13]	See[23]
3	Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 7000[16, 18], 850[16], DL360[16], **DL380[16], DL380(G2)[16], DL380(G3)**, DL580[16], DL580(G2)[16], ML350[16], ML370[16], ML530[16], ML570[16]	PCI	Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]	QLogic QLA2100F-EMC[15]	FC-AL	Y[12, 13]	See[1]
4	Netserver LH: (LH Pro), 4, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: DL360(G2)[16], **DL380(G3)**, ML350(G2)[16], ML530(G2)[16]	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39]	QLogic QLA2100F-EMC[15]	FC-AL	Y[12, 13]	
5	Proliant ML370(G3)	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39]	QLogic QLA2100F-EMC[15]	FC-AL	N	
6	Proliant ML370(G2), **ML370(G3)**, ML750[29]	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39]	QLogic QLA2100F-EMC[15]	FC-AL	Y[12, 13]	See[23]
7	**Netserver LH: 4, II;** **Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 850[16], DL360[16], DL360(G2)[16], DL380[16], DL380(G2)[16], DL380(G3), DL580[16], DL580(G2)[16], ML350[16], ML370[16], ML530[16], ML530(G2)[16], ML570[16]**	PCI	**Novell Netware 5.00 SP6A[7, 8, 38, 39]**	**QLogic QLA2200F-EMC[19, 20]**	FC-AL	Y[13, 21, 22]	
8	Netserver LC 2000r; Proliant 8000[16, 18]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic QLA2100F-EMC[15]	FC-AL	N	
9	Netserver LH: 4, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 850[16], DL360[16], DL360(G2)[16], **DL380[16], DL380(G2)[16], DL380(G3)**, DL580[16], DL580(G2)[16], ML350[16], ML350(G2)[16], ML370[16], ML530[16], ML530(G2)[16], ML570[16]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic QLA2100F-EMC[15]	FC-AL	Y[12, 13, 14]	
10	Proliant: DL320[16], ML370(G2), **ML370(G3)**, ML750[29]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic QLA2100F-EMC[15]	FC-AL	Y[12, 13, 14]	See[23]
11	**Netserver LH: 4, II;** **Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 850[16], DL360[16], DL360(G2)[16], DL380[16], DL380(G2)[16], DL380(G3), DL580[16], DL580(G2)[16], ML350[16], ML370[16], ML530[16], ML530(G2)[16], ML570[16]**	PCI	**Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6;** **Novell Netware 6.0: SP1[8, 40], SP2[8], SP3**	**QLogic QLA2200F-EMC[19, 20]**	FC-AL	Y[13, 14, 21, 22]	
12	Netserver LH (LH Pro)	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8], SP2[8], SP3	QLogic QLA2100F-EMC[15]	FC-AL	Y[12, 13, 14]	
13	Proliant 7000[16, 18]	PCI	Novell Netware 5.10: SP5[8], SP6	QLogic QLA2100F-EMC[15]	FC-AL	Y[12, 13, 14]	See[23]
14	Proliant 8500	PCI	Novell Netware 5.10: SP5[8], SP6	QLogic QLA2100F-EMC[15]	FC-AL	N	See[23]
15	**Netserver LH (LH Pro):** **Proliant 7000[16, 18]**	PCI	**Novell Netware 5.10: SP5[8], SP6**	**QLogic QLA2200F-EMC[19, 20]**	FC-AL	Y[13, 14, 21, 22]	
[illegible]	**Proliant 8500**	PCI	**Novell Netware 5.10: SP5[8], SP6**	**QLogic QLA2200F-EMC[19, 20]**	FC-AL	N	
17	Netserver LH: 4, II, III, Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	HPQ D8602A (Agilent HHBA-5101B)[24, 25, 26]	FC-AL	N	
18	Netserver LC 2000 U3, LT 6000R	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	HPQ D8602A (Agilent HHBA-5101B)[24, 25, 26]	FC-AL	N	See[23]
19	Netserver LH PRO	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	HPQ D8602A (Agilent HHBA-5101B)[24, 25, 26], QLogic: QLA2100F-EMC[15] QLA2200F-EMC[19, 20]	FC-AL	N	
20	Proliant ML750[29]	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	QLogic QLA2100F[15, 25]	FC-AL	N	
21	**Netserver LC 2000r** **Proliant 8000[16, 18]**	PCI	**Novell Netware 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3**	**QLogic QLA2200F-EMC[19, 20]**	FC-AL	N	
22	Netserver LC 2000 U3, LH 3, LH 3000, LH 6000	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	QLogic: QLA2100F-EMC[15] QLA2200F-EMC[19, 20]	FC-AL	N	
23	Netserver LH (LH Pro)	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3	HPQ D8602A (Agilent HHBA-5101B)[24, 25, 26]	FC-AL	N	
24	Proliant 7000[16, 18]	PCI	Novell Netware 5.10 SP2A[7, 8], 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3	QLogic QLA2100F-EMC[15]	FC-AL	Y[12, 13, 14]	

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
25	Proliant 8500	PCI	Novell Netware: 5.10 SP2A[7, 8], 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3	QLogic QLA2100F-EMC[15]	FC-AL	N	
26	Proliant: DL560, **DL560 (G2)**, DL760[16], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]	QLogic QLA2100F-EMC[15]	FC-AL	Y[12, 13]	See[1]
27	Proliant DL360(G3)	PCI-X	Novell Netware 5.00 SP6A[7, 8, 38, 39]	QLogic QLA2100F-EMC[15]	FC-AL	Y[12, 13]	
28	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Novell Netware 5.00 SP6A[7, 8, 38, 39]**	**QLogic QLA2200F-EMC[19, 20]**	FC-AL	Y[13, 21, 22]	
29	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL760[16], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic QLA2100F-EMC[15]	FC-AL	Y[12, 13, 14]	
30	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6;** **Novell Netware 6.0: SP1[8, 40], SP2[8], SP3**	**QLogic QLA2200F-EMC[19, 20]**	FC-AL	Y[13, 14, 21, 22]	
31	**Proliant DL580(G3)**	**PCI PCI-X**	**Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]**	**QLogic QLA2100F-EMC[15]**	**FC-AL**	**Y[12, 13]**	See[1]
32	**Proliant DL580(G3)**	**PCI PCI-X**	**Novell Netware 5.00 SP6A[7, 8, 38, 39]**	**QLogic QLA2200F-EMC[19, 20]**	**FC-AL**	**Y[13, 21, 22]**	
33	**Proliant DL580(G3)**	**PCI PCI-X**	**Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6;** **Novell Netware 6.0: SP1[8, 40], SP2[8], SP3**	**QLogic QLA2100F-EMC[15]**	**FC-AL**	**Y[12, 13, 14]**	
34	**Proliant DL580(G3)**	**PCI PCI-X**	**Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6;** **Novell Netware 6.0: SP1[8, 40], SP2[8], SP3**	**QLogic QLA2200F-EMC[19, 20]**	**FC-AL**	**Y[13, 14, 21, 22]**	
35	**Netserver LH: (LH Pro), 4, II, III;** **Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 7000[16, 18], 850[16], DL360[16], DL380[16], DL380(G2)[16], DL380(G3), DL580[16], DL580(G2)[16], ML350[16], ML370[16], ML530[16], ML570[16]**	PCI	**Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	Y[13, 21, 22]	See[1]
36	**Proliant: DL320[16], ML370(G2), ML370(G3)**	PCI	**Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	Y[13, 21, 22]	See[23]
37	Netserver LP 2000r; Proliant: DL360(G2)[16], **DL380(G3)**, ML350(G2)[16], ML530(G2)[16]	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39]	QLogic: **QLA2200F-EMC[19, 20]**, **QLA2202F-EMC[15, 19, 20]**, QLA2310F-E-SP[19, 27], QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 21, 22]	
38	Proliant ML750[29]	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39]	QLogic: **QLA2200F-EMC[19, 20]**, **QLA2202F-EMC[15, 19, 20]**, QLA2310F-E-SP[19, 27], QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 21, 22]	See[23]
39	Netserver LH: (LH Pro), 4, II, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 7000[16, 18], 850[16], DL360[16], **DL380[16], DL380(G2)[16]**, DL580[16], DL580(G2)[16], ML350[16], ML370[16], ML530[16], ML570[16]	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39]	QLogic: **QLA2200F-EMC[19, 20]**, QLA2310F-E-SP[19, 27], QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 21, 22]	
40	Proliant, DL320[16], ML370(G2), ML370(G3)	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39]	QLogic: **QLA2200F-EMC[19, 20]**, QLA2310F-E-SP[19, 27], QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 21, 22]	See[23]
41	**Netserver LH: (LH Pro), 4, II, III;** **Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 7000[16, 18], 850[16], DL360[16], DL380[16], DL380(G2)[16], DL380(G3), DL580[16], DL580(G2)[16], ML350[16], ML370[16], ML530[16], ML570[16]**	PCI	**Novell Netware 5.10: SP2A[7, 8], SP5[7, 8], SP6,** **Novell Netware 6.0: SP1[8, 40], SP2[8], SP3**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	See[1]
42	**Proliant: DL320[16], ML370(G2), ML370(G3)**	PCI	**Novell Netware 5.10: SP2A[7, 8], SP5[7, 8], SP6,** **Novell Netware 6.0: SP1[8, 40], SP2[8], SP3**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	See[23]
43	Proliant ML350(G2)[16]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8, 28], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic QLA2310F-E-SP[19, 27]	FC-AL, FC-SW	Y[13, 14, 21, 22]	
44	Proliant: ML370(G2), ML370(G3)	PCI	Novell Netware 5.10, SP2A[7, 8], SP5[8, 28], SP6. Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic QLA2310F-E-SP[19, 27]	FC-AL, FC-SW	Y[13, 14, 21, 22]	See[23]
45	Netserver LH: (LH Pro), 4, II, III; Netserver, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 7000[16, 18], 850[16], DL360[16], DL360(G2)[16], DL380[16], DL380(G2)[16], DL380(G3), DL580[16], ML350[16], ML370[16], ML530[16], ML530(G2)[16], ML570[16]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8, 28], SP6; Novell Netware 6.0: SP1[8], SP2[8], SP3	QLogic QLA2310F-E-SP[19, 27]	FC-AL, FC-SW	Y[13, 14, 21, 22]	
46	**Netserver LH III**	PCI	**Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6,** **Novell Netware 6.0: SP1[8, 40], SP2[8], SP3**	**QLogic QLA2200F-EMC[19, 20]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
47	**Proliant: DL360(G2)[16], DL380(G3), ML530(G2)[16]**	PCI	**Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	
48	Netserver LP 2000r	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6, Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic: **QLA2200F-EMC[19, 20]**, **QLA2202F-EMC[15, 19, 20]**, QLA2310F-E-SP[19, 27], QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	
49	Proliant ML750[29]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic: **QLA2200F-EMC[19, 20]**, **QLA2202F-EMC[15, 19, 20]**, QLA2310F-E-SP[19, 27], QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	See[23]
50	Proliant ML350(G2)[16]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic: **QLA2200F-EMC[19, 20]**, **QLA2202F-EMC[15, 19, 20]**, QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	
51	Proliant DL320[16]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic: **QLA2200F-EMC[19, 20]**, QLA2310F-E-SP[19, 27], QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	See[23]
52	Proliant: ML370(G2), ML370(G3)	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic: **QLA2200F-EMC[19, 20]**, QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	See[23]
53	Netserver LH: (LH Pro), 4, II, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 7000[16, 18], 850[16], DL360[16], DL360(G2)[16], **DL380[16]**, **DL380(G2)[16]**, **DL380(G3)**, DL580[16], ML350[16], ML370[16], ML530[16], ML530(G2)[16], ML570[16]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8], SP2[8], SP3	QLogic: QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	
54	**Netserver LC 2000 U3**	PCI	**Novell Netware 5.10: SP5[7, 8], SP6**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	N	See[23]
55	**Netserver LT 6000R**	PCI	**Novell Netware 5.10: SP5[7, 8], SP6**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	See[23]
56	Proliant ML750[16]	PCI	Novell Netware 5.10: SP5[8, 28], SP6	QLogic QLA2310F-E-SP[19, 27]	FC-AL, FC-SW	Y[13, 14, 21, 22, 29]	
57	Netserver LH (LH Pro)	PCI	Novell Netware 5.10: SP5[8], SP6	HPQ D8602A (Agilent HHBA-5101B)[24, 25, 26]	FC-AL, FC-SW	N	
58	Proliant ML750[16]	PCI	Novell Netware 5.10: SP5[8], SP6	QLogic: QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 14, 21, 22, 29]	
59	**Netserver LH 3**	PCI	**Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[6, 7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	N	See[1]
60	**Netserver: LC 2000r, LH 3000, LH 6000; Proliant: 8000[16, 18], 8500**	PCI	**Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	N	See[1]
61	**Netserver LC 2000 U3**	PCI	**Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	N	See[1]
62	**Netserver LH PRO**	PCI	**Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[6, 7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	N	See[1]
63	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 6000; Proliant: 8000[16, 18], 8500	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8, 28], 5.10 SP6, 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3	QLogic QLA2310F-E-SP[19, 27]	FC-AL, FC-SW	N	
64	Proliant: DL320[16], ML370(G2), ML370(G3), ML750[29]	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[30, 31]	FC-AL, FC-SW	N	
65	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[16, 17], 1850[16], 2500[16], 6400R[16], 6500[16, 18], 850[16], DL360[16], DL360(G2)[16], **DL380[16]**, **DL380(G2)[16]**, **DL380(G3)**, DL580[16], DL580(G2)[16], ML350[16], ML350(G2)[16], ML370[16], ML530[16], ML530(G2)[16], ML570[16]	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[30, 31], QLogic QLA2300F-E-SP[19, 27]	FC-AL, FC-SW	N	
66	Netserver LH: 3, 4, II, PRO, III; Netserver: LX PRO, LXR PRO, LXR PRO8; Proliant: 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 8000[16, 18]	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	QLogic QLA2300F-E-SP[19, 27]	FC-AL, FC-SW	N	
67	Proliant: DL320[16], ML370(G2) **ML370(G3)**, ML750[29]	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	QLogic QLA2300F-E-SP[19, 27]	FC-AL, FC-SW	N	See[23]
68	Netserver LC: 2000 U3, 2000r, Netserver LH: 3, 3000, 6000, PRO; Proliant: 8000[16, 18], 8500	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3	QLogic: QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	N	
69	Proliant 8500	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[30] QLogic **QLA2200F-EMC[19, 20]** QLA2300F-E-SP[19, 27]	FC-AL, FC-SW	N	
70	**Netserver LC: 2000 U3, 2000r Netserver LH: 3, 3000, 6000 Proliant 8000[16, 18]**	PCI	**Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3**	**QLogic QLA2200F-EMC[19, 20]**	FC-AL, FC-SW	N	

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
71	Netserver LH (LH Pro); Proliant 7000[16, 18]	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3	QLogic QLA2300F-E-SP[19, 27]	FC-AL, FC-SW	N	
72	Netserver LH PRO	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3	QLogic: **QLA2200F-EMC[19, 20]**, QLA2310F-E-SP[19, 27]	FC-AL, FC-SW	N	
73	**Netserver LT 6000R**	PCI	**Novell Netware: 5.10 SP2A[7, 8], 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	**See[1]**
74	**Netserver LH: (LH Pro), 4, II; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8, Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 7000[16, 18], 850[16], DL360[16], DL360(G2)[16], DL380[16], DL380(G2)[16], DL380(G3), DL580[16], ML350[16], ML370[16], ML530[16], ML530(G2)[16], ML570[16]**	PCI	**Novell Netware: 5.10 SP2A[7, 8], 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3**	**QLogic QLA2200F-EMC[19, 20]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	
75	Proliant DL580(G2)[16]	PCI	Novell Netware: 5.10 SP2A[7, 8], 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3	QLogic: **QLA2200F-EMC[19, 20]**, QLA2310F-E-SP[19, 27], QLA2340-E-SP[19, 27] **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	
76	**Proliant: DL560, DL560 (G2), DL760[16], DL760 (G2), ML570(G2)**	PCI-X	**Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	Y[13, 21, 22]	**See[1]**
77	Proliant DL360(G3)	PCI-X	Novell Netware 5.00 SP6A[7, 8, 38, 39]	QLogic: **QLA2200F-EMC[19, 20]**, **QLA2202F-EMC[15, 19, 20]**, QLA2310F-E-SP[19, 27], QLA2340-E-SP[19, 27] **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 21, 22]	
78	Proliant: DL560, **DL560 (G2)**, DL760[16], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.00 SP6A[7, 8, 38, 39]	QLogic: **QLA2200F-EMC[19, 20]**, QLA2310F-E-SP[19, 27], QLA2340-E-SP[19, 27] **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 21, 22]	
79	**Proliant: DL560, DL560 (G2), DL740, DL760[16], DL760 (G2), ML570(G2)**	PCI-X	**Novell Netware 5.10: SP2A[7, 8], SP5[7, 8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	**See[1]**
80	Proliant: DL740, DL760[16], DL760 (G2)	PCI-X	Novell Netware 5.10: SP2A[7, 8], SP5[8, 28], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic QLA2310F-E-SP[19, 27]	FC-AL, FC-SW	Y[13, 14, 21, 22]	
81	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Novell Netware 5.10: SP2A[7, 8], SP5[8, 28], SP6; Novell Netware 6.0: SP1[8], SP2[8], SP3	QLogic QLA2310F-E-SP[19, 27]	FC-AL, FC-SW	Y[13, 14, 21, 22]	
82	Proliant DL740	PCI-X	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	Emulex LP9002-E (LP9002L-E)[30, 31]	FC-AL, FC-SW	N	
83	**Proliant DL360(G3)**	PCI-X	**Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	
84	Proliant: DL740, DL760[16], DL760 (G2)	PCI-X	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	QLogic: **QLA2200F-EMC[19, 20]**, QLA2340-E-SP[19, 27] **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	
85	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8], SP2[8], SP3	QLogic: QLA2340-E-SP[19, 27], **QLA2342-E-SP[19, 27, 42]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	
86	Proliant, DL360(G3), DL560, **DL560 (G2)**, DL760[16], DL760 (G2), ML570(G2)	PCI-X	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[30, 31], QLogic QLA2300F-E-SP[19, 27]	FC-AL, FC-SW	N	
87	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Novell Netware: 5.10 SP2A[7, 8], 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3**	**QLogic QLA2200F-EMC[19, 20]**	FC-AL, FC-SW	Y[13, 14, 21, 22]	
88	**Proliant DL580(G3)**	PCI PCI-X	**Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]**	**QLogic QLA2202F-EMC[15, 19, 20]**	FC-AL, FC-SW	Y[13, 21, 22]	**See[1]**
89	**Proliant DL580(G3)**	PCI, PCI-X	**Novell Netware 5.00 SP6A[7, 8, 38, 39]**	**QLogic: QLA2200F-EMC[19, 20], QLA2310F-E-SP[19, 27], QLA2340-E-SP[19, 27] QLA2342-E-SP[19, 27, 42]**	**FC-AL, FC-SW**	Y[13, 21, 22]	
90	**Proliant DL580(G3)**	PCI, PCI-X	**Novell Netware 5.10: SP2A[7, 8], SP5[7, 8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3**	**QLogic QLA2202F-EMC[15, 19, 20]**	**FC-AL FC-SW**	Y[13, 14, 21, 22]	**See[1]**
91	**Proliant DL580(G3)**	PCI, PCI-X	**Novell Netware 5.10: SP2A[7, 8] SP5[8, 28], SP6; Novell Netware 6.0: SP1[8] SP2[8], SP3**	**QLogic QLA2310F-E-SP[19, 27]**	**FC-AL, FC-SW**	Y[13, 14, 21, 22]	
92	**Proliant DL580(G3)**	PCI PCI-X	**Novell Netware 5.10: SP2A[7, 8] SP5[8], SP6; Novell Netware 6.0: SP1[8], SP2[8], SP3**	**QLogic: QLA2340-E-SP[19, 27], QLA2342-E-SP[19, 27, 42]**	**FC-AL, FC-SW**	Y[13, 14, 21, 22]	
93	Proliant DL580(G2)[16]	PCI, PCI-X	Novell Netware 5.10: SP5[8, 28], SP6	QLogic QLA2310F-E-SP[19, 27]	FC-AL, FC-SW	Y[13, 14, 21, 22]	
94	Proliant DL580(G2)[16]	PCI PCI-X	Novell Netware 5.10: SP5[8], SP6	QLogic: QLA2340-E-SP[19, 27], QLA2342-E-SP[19, 27, 42]	FC-AL, FC-SW	Y[13, 14, 21, 22]	

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
95	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[30, 31], QLogic QLA2300F-E-SP[19, 27]**	**FC-AL, FC-SW**	**N**	
96	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware: 5.10 SP2A[7, 8], 6.0 SP1[8], 6.0 SP2[8], 6.0 SP3**	**QLogic QLA2200F-EMC[19, 20]**	**FC-AL, FC-SW**	**Y[13, 14, 21, 22]**	
97	Netserver LC: 2000 U3[41], 2000r[41]; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 7000[16, 18], 8000[16, 18], 850[16], 8500, DL320[16], DL360[16], **DL380[16]**, **DL380(G2)[16]**, DL580[16], DL580(G2)[16], ML350[16], ML370[16], ML370(G2), **ML370(G3)**, ML530[16], ML570[16]	PCI	Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Adaptec AHA-2944W[2]	FWD	N	See[1]
98	Netserver LH: (LH Pro), 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	HPQ A5252A[2, 3, 4, 5, 9, 10]	FWD	N	
99	Netserver LH PRO	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[6, 7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Adaptec AHA-2944W	FWD	N	See[1]
100	Netserver LH: 3, PRO	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[6, 7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	HPQ A5252A[2, 3, 4, 5, 9, 10]	FWD	N	
101	Netserver LP 2000r; Proliant: ML350(G2)[16], ML530(G2)[16], ML750[29]	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Adaptec AHA-2944W	FWD	N	
102	Proliant: DL760[16], DL760 (G2), ML570(G2)	PCI-X	Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Adaptec AHA-2944W[2]	FWD	N	See[1]
103	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3**	**Adaptec AHA-2944W[2]**	**FWD**	**N**	**See[1]**
104	Netserver LH: (LH Pro), 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 7000[16, 18], 850[16], DL360[16], **DL380[16]**, DL580[16], DL580(G2)[16], ML350[16], ML370[16], ML530[16], ML570[16]	PCI	Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[13, 32, 33, 34, 35, 36, 37]	See[1]
105	Netserver LT 6000R; Proliant: DL320[16], ML370(G2), **ML370(G3)**	PCI	Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[13, 32, 33, 34, 35, 36, 37]	See[23]
106	**Proliant DL380(G2)[16]**	PCI	**Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]**	**Adaptec AHA-2944UW[2, 5]**	UWD	Y[13, 32, 33, 34, 35, 36, 37]	**See[1]**
107	Netserver LP 2000r; Proliant: ML350(G2)[16], ML530(G2)[16]	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39]	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[6, 13, 32, 33, 34, 35, 36, 37]	
108	Proliant ML750[29]	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39]	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[6, 13, 32, 33, 34, 35, 36, 37]	See[23]
109	Proliant DL360(G2)[16]	PCI	Novell Netware 5.00 SP6A[7, 8, 38, 39]	Adaptec AHA-2944UW[2, 5]	UWD	Y[6, 13, 32, 33, 34, 35, 36, 37]	
110	Netserver LH: (LH Pro), 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 7000[16, 18], 850[16], DL360[16], **DL380[16]**, DL580[16], ML350[16], ML370[16], ML530[16], ML570[16]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[7, 8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	See[1]
111	**Proliant DL380(G2)[16]**	PCI	**Novell Netware 5.10: SP2A[7, 8], SP5[7, 8], SP6;** **Novell Netware 6.0: SP1[8, 40], SP2[8], SP3**	**Adaptec AHA-2944UW[2, 5]**	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	**See[1]**
112	Netserver LP 2000r; Proliant: ML350(G2)[16], ML530(G2)[16]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	
113	Proliant ML750[29]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	See[23]
114	Proliant DL360(G2)[16]	PCI	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	Adaptec AHA-2944UW[2, 5]	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	
115	Netserver LT 6000R; Proliant: DL320[16], ML370(G2), **ML370(G3)**	PCI	Novell Netware 5.10: SP5[7, 8], SP6	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	See[1]
116	Netserver LC 2000 U3	PCI	Novell Netware 5.10: SP5[7, 8] SP6	Adaptec AHA-2944UW[2, 3, 4, 5, 9], QLogic QLA1041D[11]	UWD	N	See[1]
117	Proliant DL580(G2)[16]	PCI	Novell Netware 5.10: SP5[7, 8] SP6	Adaptec AHA-2944UW[2, 5]	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	See[1]
118	Netserver LT 6000R	PCI	Novell Netware 5.10: SP5[7, 8] SP6	QLogic QLA1041D[11]	UWD	N	See[1]

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
119	Netserver LH 3	PCI	Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[6, 7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Adaptec AHA-2944UW[2, 3, 4, 5, 9]; QLogic QLA1041D[11]	UWD	N	See[1]
120	Proliant 8000[16, 18]	PCI	Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Adaptec AHA-2944UW[2, 3, 4, 5, 9]; QLogic QLA1041D	UWD	N	See[1]
121	Netserver: LC 2000r, LH 3000, LH 6000; Proliant 8500	PCI	Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Adaptec AHA-2944UW[2, 3, 4, 5, 9]; QLogic QLA1041D[11]	UWD	N	See[1]
122	Proliant ML370(G3)	PCI	Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	QLogic QLA1041D	UWD	N	See[23]
123	Netserver LH: (LH Pro), 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[16, 17], 1850[16], 2500[16], 3000[16], 5000[16], 5500[16, 18], 6000[16, 18], 6400R[16], 6500[16, 18], 7000[16, 18], 8500[16], DL320[16], DL360[16], **DL380[16]**, **DL380(G2)[16]**, DL580[16], DL580(G2)[16], ML350[16], ML370[16], ML370(G2), ML530[16], ML570[16]	PCI	Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	QLogic QLA1041D[11]	UWD	N	See[1]
124	Netserver LC 2000 U3	PCI	Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Adaptec AHA-2944UW[2, 3, 4, 5, 9]; QLogic QLA1041D[11]	UWD	N	See[23]
125	Netserver LT 6000R	PCI	Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	QLogic QLA1041D[11]	UWD	N	See[23]
126	Netserver LH PRO	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[6, 7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Adaptec AHA-2944UW[2, 3, 4, 5]; QLogic QLA1041D[11]	UWD	N	See[1]
127	Proliant ML370(G3)	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Adaptec AHA-2944UW[2, 5]	UWD	N	See[23]
128	Netserver LP 2000r; Proliant: DL360(G2)[16], **DL380(G3)**, ML350(G2)[16], ML530(G2)[16]	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	QLogic QLA1041D	UWD	N	
129	Proliant ML750[29]	PCI	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[6], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	QLogic QLA1041D	UWD	N	See[23]
130	Netserver LT 6000R; Proliant: DL320[16], ML370(G2), **ML370(G3)**	PCI	Novell Netware: 5.10 SP2A[7, 8], 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	See[23]
131	Proliant DL580(G2)[16]	PCI	Novell Netware: 5.10 SP2A[7, 8], 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	See[1]
132	Proliant: DL760[16], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[13, 32, 33, 34, 35, 36, 37]	See[1]
133	Proliant DL360(G3)	PCI-X	Novell Netware 5.00 SP6A[7, 8, 38, 39]	Adaptec AHA-2944UW[2, 5]	UWD	Y[6, 13, 32, 33, 34, 35, 36, 37]	
134	Proliant: DL760[16], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.10: SP2A[7, 8], SP5[7, 8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	See[1]
135	Proliant DL360(G3)	PCI-X	Novell Netware 5.10: SP2A[7, 8], SP5[8], SP6; Novell Netware 6.0: SP1[8, 40], SP2[8], SP3	Adaptec AHA-2944UW[2, 5]	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	
136	Proliant ML570(G2)	PCI-X	Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	QLogic QLA1041D	UWD	N	See[1]
137	Proliant: DL760[16], DL760 (G2)	PCI-X	Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	QLogic QLA1041D[11]	UWD	N	See[1]
138	Proliant DL360(G3)	PCI-X	Novell Netware: 5.00 SP6A[7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3	QLogic QLA1041D	UWD	N	
139	**Proliant DL580(G3)**	PCI PCI-X	**Novell Netware 5.00 SP6A[6, 7, 8, 38, 39]**	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[13, 32, 33, 34, 35, 36, 37]	See[1]
140	**Proliant DL580(G3)**	PCI PCI-X	**Novell Netware 5.10: SP5[7, 8], SP6**	Adaptec AHA-2944UW[2, 5]	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	See[1]
141	**Proliant DL580(G3)**	PCI PCI-X	**Novell Netware: 5.00 SP6A[6, 7, 8, 38, 39], 5.10 SP2A[7, 8], 5.10 SP5[7, 8], 5.10 SP6, 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3**	**QLogic QLA1041D[11]**	UWD	N	See[1]
142	**Proliant DL580(G3)**	PCI PCI-X	**Novell Netware: 5.10 SP2A[7, 8], 6.0 SP1[8, 40], 6.0 SP2[8], 6.0 SP3**	Adaptec AHA-2944UW[2, 3, 4, 5, 9]	UWD	Y[6, 13, 14, 32, 33, 34, 35, 36, 37]	See[1]

1 AHA-2944W is no longer available in distribution channels
2 Driver for Adaptec available at http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat="Technology'SCSI+Host+Adapters&fromPage=driverinde
3 Requires BIOS v2.20 and driver version 7.30S1.
4 AHA-2944UW has been OEM'ed as HP A5252A and A5252B
5 Requires Legacy PCI slot (not available on new servers)
6 Novell 5.00 OS only supports the Host Adapter Module (HAM) driver

7. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x. 5568 support at Netware 5.1.
8. Maximum number of NWFS volumes that can be mounted is 64.
9. Netware 5.1 SP4 and 6.0 SP1 require driver 8.1 and BIOS 2.20. Requires "SCAN ALL LUNS" in AUTOEXEC.NCF just before the "Mount All" statement.
10. (Adaptec AHA-2944UW)
11. Requires BIOS rev 6.26 and driver rev 1.27, available at http://www.qlogic.com
12. Supports FC-AL point-to-point only.
13. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditons exist where several LUNs are initially created and you perform your first install, NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.
14. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
15. Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.
16. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
17. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
18. Includes both Pentium PRO and XEON models
19. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
20. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
21. Edit config.sys with the following: Files=100 Buffers=99
22. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT C: partition will.
23. Symmetrix 8000 Series: 66/67 support at NetWare 5.x, 5568 support at Netware 5.1.
24. (HHBA-5101BK-01)
25. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
26. Requires driver version 2.00E or higher and NetWare 5.1 support pack 3 or higher.
27. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com.
28. Requires NetWare patches: NWPAPT2A and NSS5J.
29. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
30. Requires driver version 2.02e and firmware 3.90a7.
31. PowerPath not currently supported.
32. DOS boot device maximum accessible capacity is 2GB. Netware SYS volume must be in LUN 0.
33. Adaptec AHA-2944UW requires HAM driver version 7.30s1 and BIOS 2.20. The driver is available on the EMC intranet (http://iqweb.lss.emc.com).
34. EMC engineering recommends that customers do not combine or share a Netware SYS volume and data volumes on the same Symmetrix logical device. Consult the EMC customer support center for a detailed Netware Symmetrix boot installation procedure.
35. Requires SP4 on Netware 5.1.
37. Requires "SCAN ALL LUNs" in AUTOEXEC.NCF just before the "Mount All" statement.
38. Requires NWPA.NLM V.3.07A update from Novell website.
39. NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.
40. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
41. HP NetServer LC2000 is only supported with two processors.Uni-Processor configurations are not supported
42. **Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)**

IBM

IBM – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), x230, x232, x240, x250, **x255**, x350 (6000R), x370	PCI	Novell Netware 5.00 SP6A[5, 12, 30, 31]	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2]	
2	Netfinity 8500	PCI	Novell Netware 5.00 SP6A[5, 30]	QLogic QLA2100F-EMC[4]	FC-AL	N	
3	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600, 8500R, xSeries: X330, X340 (4500R), x230, x232, x240, x250, **x255**, x350 (6000R), x370	PCI	Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6: Novell Netware 6.0: SP1[5, 29], SP2[5], SP3	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 3]	
4	xSeries: X342, **x345**	PCI	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	QLogic QLA2100F-EMC[4]	FC-AL	N	
5	xSeries: **x360**, x440	PCI-X	Novell Netware 5.00 SP6A[5, 12, 30, 31]	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2]	
	xSeries x360	PCI-X	**Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6.** **Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**QLogic QLA2100F-EMC[4]**	FC-AL	Y[1, 2, 3]	
7	xSeries x440	PCI-X	Novell Netware 5.10: SP2A[5], SP5[5], SP6, Novell Netware 6.0: SP1[5, 29], SP2[5], SP3	QLogic QLA2100F-EMC[4]	FC-AL	Y[1, 2, 3]	
8	**xSeries x440**	PCI-X	**Novell Netware 5.10: SP5[5], SP6**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL	Y[2, 3, 9, 10]	
9	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.00 SP6A[5, 12, 30, 31]**	**QLogic QLA2100F-EMC[4]**	**FC-AL**	Y[1, 2]	
10	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10: SP2A[5], SP5[5], SP6,** **Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**QLogic QLA2100F-EMC[4]**	**FC-AL**	Y[1, 2, 3]	
11	**xSeries x445**	**PCI PCI-X**	**Novell Netware 5.10: SP5[5], SP6**	**QLogic QLA2200F-EMC[7, 8]**	**FC-AL**	Y[2, 3, 9, 10]	
12	**Netfinity 5000 5500 5500 M10 5500 M20 5600 7000, 7000 M10[6] 7100 7600 8500R. xSeries X330 X340 (4500R) x230 x240 x250 x350 (6000R), x370**	PCI	**Novell Netware 5.00 SP6A[5, 12, 18, 30, 31]**	**QLogic QLA2202F-EMC[4, 7, 8]**	FC-AL, FC-SW	Y[2, 9, 10]	**See[11]**
13	Netfinity: 5000, 5500, 5500 M10 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600, 8500R, xSeries: X330, X340 (4500R) x230, x232, x240, x250, **x255**, x350 (6000R), x370	PCI	Novell Netware 5.00 SP6A[5, 12, 30, 31]	IBM: 00N6881 (QLA2200)[4, 7, 34], 19K1246(QLA2310)[7, 35, 36], 24P0960(QLA2340)[4, 7, 37]	FC-AL, FC-SW	Y[2]	
14	Netfinity 8500R	PCI	Novell Netware 5.00 SP6A[5, 12, 30, 31]	QLogic: **QLA2200F-EMC[4, 7, 8]**, QLA2310F-E-SP[7, 14], QLA2340-E-SP[7, 14], **QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	Y[2, 9, 10]	
15	xSeries: x232, **x255**	PCI	Novell Netware 5.00 SP6A[5, 12, 30, 31]	QLogic: **QLA2200F-EMC[7, 8]**, **QLA2202F-EMC[4, 7, 8]**, QLA2310F-E-SP[7, 14], QLA2340-E-SP[7, 14], **QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	Y[2, 9, 10]	

IBM – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
16	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600; xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R) x370	PCI	Novell Netware 5.00 SP6A[5, 12, 30, 31]	QLogic: **QLA2200F-EMC[7, 8]**, QLA2310F-E-SP[7, 14], QLA2340-E-SP[7, 14], **QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	Y[2, 9, 10]	
17	Netfinity 8500R	PCI	Novell Netware 5.10 SP2A[5, 12]	QLogic: **QLA2200F-EMC[4, 8]**, **QLA2202F-EMC[4, 7, 8]**, QLA2340-E-SP[14]	FC-AL, FC-SW	Y[2, 3, 9, 10]	
18	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600; xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R), x370**	PCI	**Novell Netware 5.10: SP2A[5, 12], SP5[5, 12], SP6** **Novell Netware 6.0: SP1[5, 29], SP2[5] SP3**	**QLogic QLA2202F-EMC[4, 7, 8]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	**See[11]**
19	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600; xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R) x370	PCI	Novell Netware 5.10: SP2A[5, 12], SP5[5, 13], SP6 Novell Netware 6.0: SP1[5] SP2[5] SP3	QLogic QLA2310F-E-SP[7, 14]	FC-AL, FC-SW	Y[2, 3, 9, 10]	
20	Netfinity: 5000, 5500, 5500 M10 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600, 8500R; xSeries: X330, X340 (4500R) x230, x232, x240, x250, **x255**, x350 (6000R), x370	PCI	Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6 Novell Netware 6.0: SP1[5, 29], SP2[5] SP3	IBM: 00N6881 (QLA2200)[4, 7, 34], 19K1246(QLA2310)[7, 35, 36], 24P0960(QLA2340)[4, 7, 37]	FC-AL, FC-SW	Y[2, 3]	
21	**xSeries x232**	PCI	**Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6** **Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**QLogic QLA2202F-EMC[4, 7, 8]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
22	**xSeries x255**	PCI	**Novell Netware 5.10: SP2A[5, 12], SP5[5] SP6,** **Novell Netware 6.0. SP1[5, 29], SP2[5], SP3**	**QLogic: QLA2202F-EMC[4, 7, 8] QLA2310F-E-SP[7, 14], QLA2340-E-SP[7, 14], QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
23	Netfinity 8500R	PCI	Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5], SP3	QLogic: QLA2310F-E-SP[7, 14], **QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
24	**xSeries x232**	**PCI**	**Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6,** **Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2342-E-SP[7, 14, 38]**	**FC-AL, FC-SW**	Y[2, 3, 9, 10]	
25	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600; xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R), x370	PCI	Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6. Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic: QLA2340-E-SP[7, 14], **QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
26	**Netfinity 8500R**	PCI	**Novell Netware 5.10: SP5[5, 12, 13], SP6;** **Novell Netware 6.0: SP1[5, 29, 33], SP2[5, 33], SP3**	**QLogic QLA2202F-EMC[4, 7, 8]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	**See[11]**
27	Netfinity 8500	PCI	Novell Netware 5.10: SP5[5, 13], SP6	QLogic QLA2340-E-SP[7, 14]	FC-AL, FC-SW	N	
28	**Netfinity 8500R**	PCI	**Novell Netware 5.10: SP5[5, 13], SP6;** **Novell Netware 6.0: SP1[5, 29, 33], SP2[5, 33], SP3**	**QLogic QLA2200F-EMC[4, 7, 8]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
29	xSeries X335	PCI	Novell Netware 5.10: SP5[5, 13], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2310F-E-SP[7, 14]	FC-AL, FC-SW	Y[2, 3, 9, 10]	
30	**xSeries x255**	PCI	**Novell Netware 5.10: SP5[5], SP6**	**QLogic QLA2200F-EMC[8]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
31	xSeries x232	PCI	Novell Netware 5.10: SP5[5], SP6	QLogic: QLA2310F-E-SP[14], QLA2340-E-SP[14]	FC-AL, FC-SW	Y[2, 3, 9, 10]	
32	xSeries X335	PCI	Novell Netware 5.10: SP5[5], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5], SP3	IBM: 19K1246(QLA2310)[7, 35, 36], 24P0960(QLA2340)[4, 7, 37]	FC-AL, FC-SW	Y[2, 3]	
33	Netfinity 8500R	PCI	Novell Netware 5.10: SP5[5], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5], SP3	QLogic QLA2340-E-SP[7, 14]	FC-AL, FC-SW	Y[2, 3, 9, 10]	
34	xSeries X335	PCI	Novell Netware 5.10: SP5[5], SP6. Novell Netware 6.0: SP1[5], SP2[5] SP3	QLogic: QLA2340-E-SP[7, 14], **QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
35	**xSeries X342**	PCI	**Novell Netware: 5.00 SP6A[5, 12, 18, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5, 12], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2202F-EMC[4, 7, 8]**	FC-AL, FC-SW	N	**See[11]**
36	Netfinity 8500	PCI	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5, 13], 5.10 SP6, 6.0 SP1[5, 29, 33], 6.0 SP2[5, 33], 6.0 SP3	IBM: 00N6881 (QLA2200)[4, 7, 34], 19K1246(QLA2310)[7, 35, 36], 24P0960(QLA2340)[4, 7, 37]; QLogic: **QLA2200F-EMC[4, 8]**, **QLA2202F-EMC[4, 7, 8]**, QLA2310F-E-SP[7, 14], **QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	N	
37	xSeries X342	PCI	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5, 13], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	QLogic QLA2310F-E-SP[7, 14]	FC-AL, FC-SW	N	
38	xSeries X342	PCI	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[15, 16], IBM: 00N6881 (QLA2200)[4, 7, 34], 19K1246(QLA2310)[7, 35, 36], 24P0960(QLA2340)[4, 7, 37]; QLogic: **QLA2200F-EMC[7, 8]**, QLA2300F-E-SP[7, 14], QLA2340-E-SP[7, 14], **QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	N	
39	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600; xSeries: X330, X340 (4500R) x230, x232, x240, x250, x350 (6000R), x370	PCI	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[15, 16] QLogic QLA2300F-E-SP[7, 14]	FC-AL, FC-SW		

IBM – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
40	**xSeries x255**	PCI	**Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2300F-E-SP[7, 14]**	FC-AL, FC-SW	N	
41	**xSeries x345**	PCI	**Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**QLogic: QLA2200F-EMC[8], QLA2202F-EMC[4, 7, 8], QLA2300F-E-SP[7, 14], QLA2310F-E-SP[7, 14], QLA2340-E-SP[7, 14], QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	N	
42	Netfinity 8500	PCI	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 6.0 SP1[5, 29, 33], 6.0 SP2[5, 33], 6.0 SP3	QLogic QLA2340-E-SP[14]	FC-AL, FC-SW	N	
43	**xSeries x255**	PCI	**Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[15]**	FC-AL, FC-SW	N	
44	Netfinity 8500R	PCI	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[15, 16], QLogic QLA2300F-E-SP[7, 14]	FC-AL, FC-SW	N	
45	**xSeries x255**	PCI	**Novell Netware: 5.10 SP2A[5, 12], 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
46	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600; xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R), x370**	PCI	**Novell Netware: 5.10 SP2A[5, 12], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
47	xSeries x232	PCI	Novell Netware: 5.10 SP2A[5, 12], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic: **QLA2200F-EMC[7, 8]**, QLA2310F-E-SP[7, 14], QLA2340-E-SP[7, 14]	FC-AL, FC-SW	Y[2, 3, 9, 10]	
48	**xSeries x360**	PCI-X	**Novell Netware 5.00 SP6A[5, 12, 30, 31]**	**IBM: 00N6881 (QLA2200)[4, 7, 34], 19K1246(QLA2310)[7, 35, 36], 24P0960(QLA2340)[4, 7, 37]**	FC-AL, FC-SW	Y[2]	
49	xSeries x440	PCI-X	Novell Netware 5.00 SP6A[5, 12, 30, 31]	IBM: 00N6881 (QLA2200)[34], 19K1246(QLA2310)[36], 24P0960(QLA2340)[37]	FC-AL, FC-SW	Y[2]	
50	**xSeries x360**	PCI-X	**Novell Netware 5.00 SP6A[5, 12, 30, 31]**	**QLogic: QLA2200F-EMC[7, 8], QLA2202F-EMC[4, 7, 8], QLA2310F-E-SP[7, 14], QLA2340-E-SP[7, 14], QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	Y[2, 9, 10]	
51	xSeries x440	PCI-X	Novell Netware 5.00 SP6A[5, 12, 30, 31]	QLogic: **QLA2200F-EMC[8], QLA2202F-EMC[4, 7, 8]**, QLA2310F-E-SP[7, 14], QLA2340-E-SP[7, 14], **QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	Y[2, 9, 10]	
52	xSeries x440	PCI-X	Novell Netware 5.10 SP2A[5, 12, 30, 31]	IBM: 19K1246(QLA2310)[36], 24P0960(QLA2340)[37]	FC-AL, FC-SW	Y[2, 3]	
53	xSeries x440	PCI-X	Novell Netware 5.10: SP2A[5, 12, 30, 31], SP5[5, 12, 30, 31], SP6	IBM 00N6881 (QLA2200)[34]	FC-AL, FC-SW	Y[2, 3]	
54	xSeries x440	PCI-X	Novell Netware 5.10: SP2A[5, 12, 30, 31], SP5[5, 12, 30, 31], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5], SP3	IBM 00N6881 (QLA2200)[4, 7, 34]	FC-AL, FC-SW	Y[2, 3]	
55	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP2A[5, 12], SP5[5, 13], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**QLogic QLA2310F-E-SP[7, 14]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
56	xSeries x440	PCI-X	Novell Netware 5.10: SP2A[5, 12], SP5[5, 13], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2310F-E-SP[7, 14]	FC-AL, FC-SW	Y[2, 3, 9, 10]	
57	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**IBM 00N6881 (QLA2200)[4, 7, 34]**	FC-AL, FC-SW	Y[2, 3]	
58	**xSeries x440**	PCI-X	**Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**QLogic QLA2202F-EMC[4, 7, 8]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
59	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP2A[5, 12], SP5[5] SP6, Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**QLogic: QLA2200F-EMC[7, 8], QLA2202F-EMC[4, 7, 8], QLA2340-E-SP[7, 14], QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
60	xSeries x440	PCI-X	Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic: QLA2340-E-SP[7, 14], **QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
61	xSeries x440	PCI-X	Novell Netware 5.10: SP5[5], SP6	IBM: 19K1246(QLA2310)[14, 36], 24P0960(QLA2340)[14, 37]	FC-AL, FC-SW	Y[2, 3]	
62	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP5[5], SP6**	**IBM: 19K1246(QLA2310)[7, 14, 35, 36], 24P0960(QLA2340)[4, 7, 14, 37]**	FC-AL, FC-SW	Y[2, 3]	
63	xSeries x440	PCI-X	Novell Netware 6.0: SP1[5, 29], SP2[5], SP3	IBM: 19K1246(QLA2310)[7, 35, 36], 24P0960(QLA2340)[4, 7, 37]	FC-AL, FC-SW	Y[2, 3]	
64	xSeries x440	PCI-X	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[15, 16]	FC-AL, FC-SW	N	
65	**xSeries x360**	PCI-X	**Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[15, 16], QLogic QLA2300F-E-SP[7, 14]**	FC-AL, FC-SW	N	
66	xSeries x440	PCI-X	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2300F-E-SP[7, 14]	FC-AL, FC-SW	N	
67	**xSeries x360**	PCI-X	**Novell Netware: 5.10 SP2A[5, 12], 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**IBM: 19K1246(QLA2310)[7, 35, 36], 24P0960(QLA2340)[4, 7, 37]**	FC-AL, FC-SW	Y[2, 3]	
68	**xSeries x440**	PCI-X	**Novell Netware: 5.10 SP2A[5, 12], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL, FC-SW	Y[2, 3, 9, 10]	
69	**xSeries x445**	PCI, PCI-X	**Novell Netware 5.00 SP6A[5, 12, 30, 31]**	**IBM: 00N6881 (QLA2200)[34], 19K1246(QLA2310)[36], 24P0960(QLA2340)[37]**	FC-AL, FC-SW	Y[2]	
70	xSeries x445	PCI, PCI-X	Novell Netware 5.00 SP6A[5, 12, 30, 31]	QLogic: QLA2200F-EMC[8], QLA2202F-EMC[4, 7, 8], QLA2310F-E-SP[7, 14], QLA2340-E-SP[7, 14], QLA2342-E-SP[7, 14, 38]	FC-AL, FC-SW	Y[2, 9, 10]	
71	xSeries x445	PCI, PCI-X	Novell Netware 5.10 SP2A[5, 12, 30, 31]	IBM: 19K1246(QLA2310)[7, 14, 35, 36], 24P0960(QLA2340)[4, 7, 14, 37]	FC-AL, FC-SW	Y[2, 3]	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
72	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10: SP2A[5, 12, 30, 31], SP5[5, 12, 30, 31], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**IBM 00N6881 (QLA2200)[4, 7, 34]**	**FC-AL, FC-SW**	**Y[2, 3]**	
73	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10: SP2A[5, 12], SP5[5, 13], SP6. Novell Netware 6.0. SP1[5], SP2[5]. SP3**	**QLogic QLA2310F-E-SP[7, 14]**	**FC-AL, FC-SW**	**Y[2, 3, 9, 10]**	
74	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**QLogic QLA2202F-EMC[4, 7, 8]**	**FC-AL, FC-SW**	**Y[2, 3, 9, 10]**	
75	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6, Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic: QLA2340-E-SP[7, 14], QLA2342-E-SP[7, 14, 38]**	**FC-AL, FC-SW**	**Y[2, 3, 9, 10]**	
76	**xSeries x345**	PCI, PCI-X	**Novell Netware 5.10: SP5[5, 13], SP6**	**QLogic QLA2310F-E-SP[7, 14]**	FC-AL, FC-SW	N	
77	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[5], SP6**	**IBM: 19K1246(QLA2310)[14, 36], 24P0960(QLA2340)[14, 37]**	**FC-AL, FC-SW**	**Y[2, 3]**	
78	**xSeries x345**	PCI, PCI-X	**Novell Netware 5.10: SP5[5], SP6**	**QLogic: QLA2340-E-SP[7, 14], QLA2342-E-SP[7, 14, 38]**	FC-AL, FC-SW	N	
79	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**IBM: 19K1246(QLA2310)[7, 35, 36], 24P0960(QLA2340)[4, 7, 37]**	**FC-AL, FC-SW**	**Y[2, 3]**	
80	**xSeries x445**	**PCI, PCI-X**	**Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[15, 16]**	**FC-AL, FC-SW**	**N**	
81	**xSeries x445**	**PCI, PCI-X**	**Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2300F-E-SP[7, 14]**	**FC-AL, FC-SW**	**N**	
82	**xSeries x445**	**PCI, PCI-X**	**Novell Netware: 5.10 SP2A[5, 12], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2200F-EMC[7, 8]**	**FC-AL, FC-SW**	**Y[2, 3, 9, 10]**	
83	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x350 (6000R), x370**	PCI	**Novell Netware 5.00 SP6A[5, 12, 30, 31]**	**QLogic QLA2200F-EMC[7, 8]**	FC-SW	**Y[2, 9, 10]**	
84	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x350 (6000R), x370**	PCI	**Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**QLogic QLA2200F-EMC[7, 8]**	FC-SW	**Y[2, 3, 9, 10]**	
85	**Netfinity 8500R**	PCI	**Novell Netware 5.10: SP5[5], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**QLogic QLA2200F-EMC[7, 8]**	FC-SW	**Y[2, 3, 9, 10]**	
86	**xSeries: x255, x345**	PCI	**Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[15, 16]**	FC-SW	N	
87	**xSeries x440**	PCI-X	**Novell Netware: 5.10 SP2A[5, 12], 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2200F-EMC[7, 8]**	FC-SW	**Y[2, 3, 9, 10]**	
88	**xSeries x445**	**PCI, PCI-X**	**Novell Netware: 5.10 SP2A[5, 12], 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA2200F-EMC[7, 8]**	**FC-SW**	**Y[2, 3, 9, 10]**	
89	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x240, x250, x350 (6000R), x370	PCI	Novell Netware: 5.00 SP6A[5, 12, 18, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5, 12], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944W[28]	FWD	N	See[11]
90	Netfinity 8500R	PCI	Novell Netware: 5.00 SP6A[5, 12, 18, 30, 31], 5.10 SP5[5, 12], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944W[28]	FWD	N	See[11]
91	xSeries x232	PCI	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944W	FWD	N	
92	xSeries x440	PCI-X	Novell Netware 6.0: SP2[5], SP3	Adaptec AHA-2944W	FWD	N	
93	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 6.0: SP2[5], SP3**	**Adaptec AHA-2944W**	**FWD**	**N**	
94	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600, 8500R, xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R), x370	PCI	Novell Netware 5.00 SP6A[5, 12, 18, 30, 31]	Adaptec AHA-2944UW[24, 25, 26, 27, 28]	UWD	Y[2, 17, 19, 20, 21, 22, 23]	See[11]
95	xSeries x232	PCI	Novell Netware 5.00 SP6A[5, 12, 30, 31]	Adaptec AHA-2944UW[24, 25, 26, 27, 28]	UWD	Y[2, 17, 18, 19, 20, 21, 22, 23]	
96	Netfinity 8500R	PCI	Novell Netware 5.10 SP2A[5, 12]	Adaptec AHA-2944UW[26, 28]	UWD	Y[2, 3, 17, 18, 19, 20, 21, 22, 23]	
97	Netfinity 8500R	PCI	Novell Netware 5.10 SP2A[5, 12]	QLogic QLA1041D	UWD	N	
98	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600, xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R), x370	PCI	Novell Netware 5.10: SP2A[5, 12], SP5[5, 12], SP6 Novell Netware 6.0: SP1[5, 29], SP2[5], SP3	Adaptec AHA-2944UW[24, 25, 26, 27, 28]	UWD	Y[2, 3, 17, 18, 19, 20, 21, 22, 23]	See[11]
99	xSeries x232	PCI	Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6. Novell Netware 6.0: SP1[5, 29], SP2[5], SP3	Adaptec AHA-2944UW[24, 25, 26, 27, 28]	UWD	Y[2, 3, 17, 18, 19, 20, 21, 22, 23]	
100	Netfinity 8500R	PCI	Novell Netware 5.10: SP5[5, 12], SP6. Novell Netware 6.0: SP1[5, 29], SP2[5], SP3	Adaptec AHA-2944UW[24, 25, 26, 27, 28]	UWD	Y[2, 3, 17, 18, 19, 20, 21, 22, 23]	See[11]

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
101	xSeries X342	PCI	Novell Netware: 5.00 SP6A[5, 12, 18, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5, 12], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944UW[24, 25, 26, 27, 28]; QLogic QLA1041D[32]	UWD	N	See[11]
102	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600: xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R), x370	PCI	Novell Netware: 5.00 SP6A[5, 12, 18, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5, 12], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	QLogic QLA1041D[32]	UWD	N	See[11]
103	Netfinity 8500R	PCI	Novell Netware: 5.00 SP6A[5, 12, 18, 30, 31], 5.10 SP5[5, 12], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	QLogic QLA1041D[32]	UWD	N	See[11]
104	Netfinity 8500	PCI	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5, 13], 5.10 SP6, 6.0 SP1[5, 29, 33], 6.0 SP2[5, 33], 6.0 SP3	Adaptec AHA-2944UW[26, 28]; QLogic QLA1041D	UWD	N	
105	**xSeries x345**	PCI	**Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**Adaptec AHA-2944UW[26, 28]; QLogic QLA1041D**	UWD	N	
106	xSeries: x232, **x255**	PCI	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	QLogic QLA1041D	UWD	N	
107	**xSeries x360**	PCI-X	**Novell Netware 5.00 SP6A[5, 12, 30, 31]**	**Adaptec AHA-2944UW[26, 28]**	UWD	Y[2, 17, 18, 19, 20, 21, 22, 23]	
108	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP2A[5, 12], SP5[5], SP6; Novell Netware 6.0: SP1[5, 29], SP2[5], SP3**	**Adaptec AHA-2944UW[26, 28]**	UWD	Y[2, 3, 17, 18, 19, 20, 21, 22, 23]	
109	xSeries x440	PCI-X	Novell Netware 6.0: SP2[5], SP3	Adaptec AHA-2944UW[24, 25, 26, 27, 28]	UWD	N	
110	xSeries x440	PCI-X	Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3	Adaptec AHA-2944UW[26, 28]; QLogic QLA1041D	UWD	N	
111	**xSeries x360**	PCI-X	**Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA1041D**	UWD	N	
112	**xSeries x445**	PCI, PCI-X	**Novell Netware 6.0: SP2[5], SP3**	**Adaptec AHA-2944UW[24, 25, 26, 27, 28]**	**UWD**	**N**	
113	**xSeries x445**	PCI, PCI-X	**Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29]**	**Adaptec AHA-2944UW[26, 28]**	**UWD**	**N**	
114	**xSeries x445**	PCI, PCI-X	**Novell Netware: 5.00 SP6A[5, 12, 30, 31], 5.10 SP2A[5, 12], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 29], 6.0 SP2[5], 6.0 SP3**	**QLogic QLA1041D**	**UWD**	**N**	

1. Supports FC-AL point-to-point only.
2. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditons exist where several LUNs are initially created and you perform your first install, NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.
3. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files dunng an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
4. Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.
5. Maximum number of NWFS volumes that can be mounted is 64.
6. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
7. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
8. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
9. Edit config.sys with the following: Files=100 Buffers=99
10. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT C: partition will.
11. AHA-2944W is no longer available in distribution channels.
12. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.
13. Requires NetWare patches: NWPAPT2A and NSS5J.
14. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
15. Requires driver version 2.02e and firmware 3.90a7
16. PowerPath not currently supported.
17. DOS boot device maximum accessible capacity is 2GB. Netware SYS volume must be in LUN 0.
18. Novell 5.00 OS only supports the Host Adapter Module (HAM) driver
19. Adaptec AHA-2944UW requires HAM driver version 7.30s1 and BIOS 2.20. The driver is available on the EMC intranet (http://iqweb.lss.emc.com).
20. EMC engineering recommends that customers do not combine or share a Netware SYS volume and data volumes on the same Symmetrix logical device.
21. Consult the EMC customer support center for a detailed Netware Symmetrix boot installation procedure
22. Requires SP4 on Netware 5.1.
23. Requires "SCAN ALL LUNs" in AUTOEXEC.NCF just before the "Mount All" statement
24. Requires BIOS v2.20 and driver version 7.30S1.
25. AHA-2944UW has been OEM'ed as HP A5252A and A5252B
26. Requires Legacy PCI slot (not available on new servers)
27. Netware 5.1 SP4 and 6.0 SP1 require driver 8.1 and BIOS 2.20. Requires "SCAN ALL LUNS" in AUTOEXEC.NCF just before the Mount All statement.
28. Driver for Adaptec available at: http://www.adaptec.com/worldwide/support/suppbyproduct.html?cat=/Technology/SCSI+Host+Adapters&fromPage=driverindex
29. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family
30. Requires NWPA.NLM V.3.07A update from Novell website
31. NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.
32. Requires BIOS rev 6.26 and driver rev 1.27 available at http://www.qlogic.com
33. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.
34. (QLA2200) For IBM xSeries and Netfinity servers only.
35. Requires driver 6.50v, BIOS 1.34 available from Qlogic.
36. This HBA is equivalent to the qLogic QLA2310.
37. This HBA is equivalent to the qLogic QLA2340.
38. **Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)**

Red Hat Linux
DG

DG – Red Hat Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 16]	QLogic QLA2200F-EMC[18]	FC-AL	Y[11, 12]	
2	**AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[2, 3, 4, 5]**	**QLogic QLA2200F-EMC[6, 7, 13]**	FC-AL, FC-SW	Y[5, 11, 12]	
3	**AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[2, 3, 4, 5]**	**QLogic: QLA2310F-E-SP[6, 7, 13], QLA2340-E-SP[6, 7, 13]**	FC-AL, FC-SW	Y[5, 14]	
4	AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[2, 4, 9]**, v2.4.9-E.12[4, 9]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 16]	Emulex: **LP9802-E[6, 7, 8]**, LP9802DC-E, **LP982-E[6, 7, 8]**	FC-AL, FC-SW	N	
5	**AViiON AV3704**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[2, 4, 9], v2.4.9-E.12[4, 9], v2.4.9-E.16[4, 9], v2.4.9-E.3[2, 3, 4, 5], v2.4.9-E.9[4, 9]; Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 9], v2.4.9-e.16[4, 9]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 16]**	**Emulex: LP9802-E[6, 7, 8], LP982-E[6, 7, 8]**	FC-AL, FC-SW	N	
6	AViiON AV3704	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[2, 4, 9]** v2.4.9-E.12[4, 9], v2.4.9-E.16[4, 9], **v2.4.9-E.3[2, 3, 4, 5]**, v2.4.9-E.9[4, 9]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 9]**, v2.4.9-e 16[4, 9]; Red Hat Linux 7.3: (v2.4.18-3)[4], updated w/ v2.4.18-27.7.x rpm[4, 16]	Emulex LP9802DC-E	FC-AL, FC-SW	N	
7	**AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[4, 9], v2.4.9-E.3[2, 3, 4, 5], v2.4.9-E.9[4, 9]; Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 9], v2.4.9-e.16[4, 9]**	**Emulex: LP9002-E (LP9002L-E)[6, 7], LP9802-E[6, 7, 8], LP982-E[6, 7, 8]**	FC-AL, FC-SW	Y[1]	
8	AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[4, 9] **v2.4.9-E.3[2, 3, 4, 5]**, v2.4.9-E.9[4, 9]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 9]**, v2.4.9-e.16[4, 9]; Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 8, 10]	
9	**AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[4, 9], v2.4.9-E.3[2, 3, 4, 5], v2.4.9-E.9[4, 9]; Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 9], v2.4.9-e.16[4, 9]; Red Hat Linux 7.3 (v2.4.18-3)[4]**	**QLogic QLA2342-E-SP[15]**	FC-AL, FC-SW	N	
10	**AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[4, 9], v2.4.9-E.9[4, 9]; Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 9], v2.4.9-e.16[4, 9]**	**QLogic QLA2200F-EMC[6, 7, 13]**	FC-AL, FC-SW	Y[11, 12]	
11	**AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900 AV8950 AV8950R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[4, 9], v2.4.9-E.9[4, 9]; Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 9], v2.4.9-e.16[4, 9]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 16]**	**QLogic: QLA2310F-E-SP[6, 7, 13], QLA2340-E-SP[6, 7, 13]**	FC-AL, FC-SW	Y[14]	
12	**AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 24], ES v2.4.9-e.24[4, 24]**	**QLogic QLA2342-E-SP[6, 20, 21, 22, 23]**	**FC-AL, FC-SW**	**N**	
13	AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E	FC-AL, FC-SW	Y[1]	
14	AViiON AV3704	PCI	Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E; QLogic: QLA2200F-EMC[6, 7, 13] QLA2310F-E-SP[6, 7, 13] QLA2340-E-SP[6, 7, 13] QLA2342-E-SP[15]	FC-AL, FC-SW	N	
15	**AViiON: AV1400, AV2800 AV3704R, AV3800, AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[4]**	**QLogic QLA2200F-EMC[6, 7, 13]**	FC-AL, FC-SW	N	
16	**AViiON: AV1400, AV2800, AV3704R, AV3800 AV8900 AV8950 AV8950R**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[4]**	**QLogic: QLA2310F-E-SP[6, 7, 13], QLA2340-E-SP[6, 7, 13]**	FC-AL, FC-SW	Y	
17	**AViiON: AV1400, AV2800 AV3704R, AV3800 AV8900, AV8950, AV8950R**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 16]**	**QLogic QLA2200F-EMC[6, 7, 13]**	FC-AL, FC-SW	Y[11, 12]	See[17]
18	**AViiON: AV1400, AV2800, AV3704R, AV3800 AV8900 AV8950 AV8950R**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 16]**	**QLogic QLA2342-E-SP[6, 7, 15, 19, 20]**	FC-AL, FC-SW	N	
19	**AViiON: AV1400 AV2800 AV3704 AV3800 AV8900 AV8950, AV8950R**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 24], ES v2.4.9-e.24[4, 24]**	**QLogic QLA2340-E-SP[6, 19, 22]**	**FC-AL, FC-SW[21, 23]**	**Y[10, 14, 25, 26, 27, 28, 29, 30, 31]**	

1 Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
2 **Supported with QLogic driver v6.04.02 or v6.05.00.**
3 **The kernel version listed is included in the corresponding standard distributed release.**
4 EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
5 This kernel is limited to 110 devices, not 128
6 **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
7 **Host must be offline for interfamily Symmetrix microcode upgrade.**
8 Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com
9

This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and PowerPath.
Booting from EMC storage arrays is NOT supported with PowerPath.

10. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
11. Install with driver provided by RedHat 7.2 Installer and upgrade to the EMC-approved driver after installation.
12. Requires QLogic driver 4.47.18 and BIOS 1.83.
13. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
14. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
15. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
16. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later. 5568 support at Red Hat kernel v2.4.x or later.
17. Linux v2.4.x Kernels support a maximum of 128 devices per system.
18. When used with the HP NetServer LC2000: 32 device maximum
19. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
20. **Single HBA zoning is required regardless of the switch being utilized.**
21. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
22. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
23. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
24. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
25. **Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.**
26. **Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)**
27. **No MirrorView or SnapView used on boot LUNs.**
28. **EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.**
29. **Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.**
30. **Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.**
31. **For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.**

Dell

Dell – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**PowerEdge 1550[17]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[6, 7]**	**QLogic QLA2200F-EMC[16]**	FC-AL	Y[4, 8, 9]	
2	PowerEdge 1550[17]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14], v2.4.9-E.12[6, 14]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[6]	QLogic QLA2200F-EMC[16]	FC-AL	N	
3	PowerEdge 1550[17]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14];** Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]	QLogic QLA2200F-EMC[16]	FC-AL	Y[8, 9]	
4	**PowerEdge 1550**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[6, 14]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	N	**See[21]**
5	**PowerEdge: 2300, 2400, 2450, 2500, 2550[10], 4400, 6100, 6300, 6350, 6400, 6450, 8450**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[4, 5, 6, 7]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	Y[4, 8, 9]	
6	**PowerEdge 1550**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[4, 5, 6, 7]**	**QLogic QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	Y[4, 13]	
7	**PowerEdge: 2300, 2400, 2450, 2500, 2550[10], 4400, 6100, 6300, 6350, 6400, 6450, 8450**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[4, 5, 6, 7]**	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	Y[4, 13]	
8	**PowerEdge 8450**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[6]**	**Emulex LP9002-E (LP9002L-E)[1, 3]**	FC-AL, FC-SW	Y[7, 12]	**See[15, 22]**
9	**PowerEdge 1550**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[6, 14]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	Y[8, 9]	**See[15]**
10	PowerEdge: 2300, 2450, 2500, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14], v2.4.9-E.12[6, 14]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N	
11	PowerEdge 1550	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14], v2.4.9-E.12[6, 14]	Emulex LP9002-E (LP9002L-E); QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N	
12	PowerEdge 2550[10]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14], v2.4.9-E.12[6, 14]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N	
13	PowerEdge 1650	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[6, 14]**, v2.4.9-e.16[6, 14]	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N	
14	**PowerEdge 1550, 1650**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14];** **Red Hat Linux 2.1 ES v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]** **Red Hat Linux 7.3 (v2.4.18-3)[6]**	**QLogic QLA2342-E-SP[19]**	FC-AL, FC-SW	N	
15	PowerEdge 1650	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]	QLogic QLA2200F-EMC	FC-AL FC-SW	N	
16	PowerEdge 1650	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[6, 14]** v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N	

Dell – Red Hat Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
17	PowerEdge: 1550, 2300, 2400, 2450 2500 2550[10], 4400, 6100, 6300, 6350, 6400, 6450 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]	Emulex: LP9802-E[1, 3, 11], LP9802DC-E, LP982-E[1, 3, 11]	FC-AL, FC-SW	N	
18	PowerEdge: 2300, 2400, 2450 2500 2550[10] 4400, 6100, 6300, 6350, 6400, 6450 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[6]	QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]	FC-AL, FC-SW	N	
19	PowerEdge: 2300, 2400, 2450 2500, 2550[10] 4400, 6100, 6300, 6350, 6400 6450 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14]; Red Hat Linux 7.3 (v2.4.18-3)[6], 8.0 updated to v2.4.18-27.8.0[6]	QLogic QLA2200F-EMC[1, 2, 3]	FC-AL, FC-SW	N	
20	PowerEdge 4300	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]	Emulex: LP9802-E[1, 3, 11], LP9802DC-E, LP982-E[1, 3, 11]	FC-AL, FC-SW	N	
21	PowerEdge 1650	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]	Emulex: LP9802-E[1, 3, 11], LP982-E[1, 3, 11]	FC-AL, FC-SW	N	
22	PowerEdge 1650	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]; Red Hat Linux 7.3: (v2.4.18-3)[6], updated w/ v2.4.18-27.7.x rpm[6, 22]	Emulex LP9802DC-E	FC-AL, FC-SW	N	
23	PowerEdge 4300	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[6]	QLogic QLA2342-E-SP[19]	FC-AL, FC-SW	N	
24	PowerEdge: 2300, 2400, 2450 2500, 2550[10], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]; Red Hat Linux: 7.3 (v2.4.18-3)[6], 8.0 updated to v2.4.18-27.8.0[6]	QLogic QLA2342-E-SP[19]	FC-AL, FC-SW	N	
25	PowerEdge 4300	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22], 8.0 updated to v2.4.18-27.8.0[6]	QLogic: QLA2200F-EMC[1, 2, 3], QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]	FC-AL, FC-SW	N	
26	PowerEdge: 2300, 2400 2450 2500, 2550[10], 4400, 6100, 6300, 6350, 6400 6450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]	Emulex: LP9002-E (LP9002L-E)[1, 3], LP9802-E[1, 3, 11], LP982-E[1, 3, 11]	FC-AL, FC-SW	Y[12]	
27	PowerEdge 1550, 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]	Emulex LP9802-E[1, 3, 11] LP982-E[1, 3, 11]	FC-AL, FC-SW	Y[12]	
28	PowerEdge 1550, 2300, 2400, 2450, 2500, 2550[10], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14] v2.4.9-E.3[4, 5, 6, 7] v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[11, 12, 20]	
29	PowerEdge 1550	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[6, 14] v2.4.9-E.3[4, 5, 6, 7] v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]	QLogic QLA2310F-E-SP[1, 2, 3]	FC-AL FC-SW	Y[13]	

Dell – Red Hat Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
30	PowerEdge 2550[10]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]**	QLogic QLA2200F-EMC	FC-AL, FC-SW	Y[8, 9]	
31	PowerEdge 2550[10]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]**	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	Y[13]	
32	PowerEdge 2550[10]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[6, 14]**, v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[12]	
33	**PowerEdge: 2300, 2400, 2450, 2500, 2550[10], 4400, 6100, 6300, 6350, 6400, 6450, 8450**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	Y[8, 9]	
34	**PowerEdge 1550**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]**	**QLogic QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	Y[13]	
35	**PowerEdge: 2300, 2400, 2450, 2500, 2550[10], 4400, 6100, 6300, 6350, 6400, 6450, 8450**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]**	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	Y[13]	
36	**PowerEdge 1550**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14]**	**Emulex LP9002-E (LP9002L-E)[1, 3]**	FC-AL, FC-SW	Y[12]	
37	**PowerEdge 1650**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14]; Red Hat Linux 7.3 (v2.4.18-3)[6]**	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	N	
38	**PowerEdge 8450**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[6, 14], ES v2.4.9-e.12[6, 14], ES v2.4.9-e.16[6, 14]**	**Emulex LP9002-E (LP9002L-E)[1, 3]**	FC-AL, FC-SW	Y[12]	**See[15, 22]**
39	**PowerEdge 1550**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[6, 14], ES v2.4.9-e.12[6, 14], ES v2.4.9-e.16[6, 14]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	Y[8, 9]	**See[21]**
40	PowerEdge 1550	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[6, 14], **ES v2.4.9-e.12[6, 14]**, ES v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[12]	
41	**PowerEdge: 1550[24], 1650[24], 2300[24], 2400, 2450[24], 2500[24], 2550[10, 24], 4400[24], 6100[24], 6300[24], 6350[24], 6400[24], 6450, 8450**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[6, 28]**, ES v2.4.9-e.24[6, 28]	**QLogic QLA2342-E-SP[3, 18, 25, 26, 27]**	**FC-AL, FC-SW**	**N**	
42	PowerEdge 2550[10]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[12]	
43	PowerEdge: 2300, 2400, 2450, 2500, 4400, 6100, 6300, 6350, 6400, 6450	PCI	Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E	FC-AL, FC-SW	Y[12]	
44	PowerEdge, 1550, 8450	PCI	Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[12]	
45	PowerEdge 1650	PCI	Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex: LP9802-E, LP982-E; **QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	N	
46	**PowerEdge 1550**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[6]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	N	
47	**PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[10], 4400, 6100, 6300, 6350, 6400, 6450, 8450**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[6]**	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	Y	
48	**PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[10], 4300, 4400, 6100, 6300, 6350, 6400, 6450, 8450**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]**	**QLogic QLA2342-E-SP[1, 3, 18, 19, 23]**	FC-AL, FC-SW	N	
49	PowerEdge 8450	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.9[6, 14], 7.3 (v2.4.18-3)[6]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[12]	
50	**PowerEdge: 2600, 2650, 6600, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[4, 5, 6, 7]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	Y[4, 8, 9]	
51	**PowerEdge: 2600, 2650, 6600, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[4, 5, 6, 7]**	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	Y[4, 13]	
52	PowerEdge: **2600[24]**, 2650, 6600	PCI-X	Red Hat Linux 2.1 Advanced Server, v2.4.9-E.16[6, 14], v2.4.9-E.12[6, 14]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N	
53	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[6, 14], v2.4.9-E.12[6, 14]	Emulex, LP9002-E (LP9002L-E), LP9802-E, LP982-E; QLogic, QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N	

Dell – Red Hat Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
54	PowerEdge 1750	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[6, 14]**, v2.4.9-e.16[6, 14]	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N	
55	**PowerEdge 1750**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14];** **Red Hat Linux 7.3 (v2.4.18-3)[6]**	**QLogic QLA2342-E-SP[19]**	FC-AL, FC-SW	N	
56	PowerEdge 1750	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[6, 14]**, v2.4.9-e.16[6, 14]	QLogic QLA2200F-EMC	FC-AL, FC-SW	N	
57	PowerEdge: 1750, 2600, 4600	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[6, 14]**, v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N	
58	PowerEdge: **2600[24]**, 2650, 6600, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[6, 7, 14]**, v2.4.9-E.12[6, 14]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]	Emulex: **LP9802-E[1, 3, 11]**, LP9802DC-E, **LP982-E[1, 3, 11]**	FC-AL, FC-SW	N	
59	**PowerEdge: 2600[24], 2650, 6600, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[6]**	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	N	
60	**PowerEdge: 2600[24], 2650, 6600, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14];** **Red Hat Linux: 7.3 (v2.4.18-3)[6], 8.0 updated to v2.4.18-27.8.0[6]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	N	
61	**PowerEdge 2600**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14];** **Red Hat Linux: 7.3 (v2.4.18-3)[6], 8.0 updated to v2.4.18-27.8.0[6]**	**QLogic: QLA2200F-EMC[1, 2, 3], QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	N	
62	**PowerEdge: 1750, 2600, 4600**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]**	**Emulex: LP9802-E[1, 3, 11], LP982-E[1, 3, 11]**	FC-AL, FC-SW	N	
63	PowerEdge: 1750, 2600, 4600	PCI-X	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[6, 7, 14]**, v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], **v2.4.9-E.3[4, 5, 6, 7]**, v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[6, 14]**, v2.4.9-e.16[6, 14]; Red Hat Linux 7.3: (v2.4.18-3)[6], updated w/ v2.4.18-27.7.x rpm[6, 22]	Emulex LP9802DC-E	FC-AL, FC-SW	N	
64	**PowerEdge 4600**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14];** **Red Hat Linux 7.3: (v2.4.18-3)[6], updated w/ v2.4.18-27.7.x rpm[6, 22];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[6]**	**QLogic: QLA2200F-EMC[1, 2, 3], QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	N	
65	**PowerEdge: 2600, 2650, 4600, 6600, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 7, 14], v2.4.9-E.12[6, 14], v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14];** **Red Hat Linux: 7.3 (v2.4.18-3)[6], 8.0 updated to v2.4.18-27.8.0[6]**	**QLogic QLA2342-E-SP[19]**	FC-AL, FC-SW	N	
66	**PowerEdge 2600[24], 2650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14],** **Red Hat Linux 2.1 ES v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]**	**Emulex: LP9002-E (LP9002L-E)[1, 3], LP9802-E[1, 3, 11], LP982-E[1, 3, 11]**	FC-AL, FC-SW	Y[12]	
67	**PowerEdge 2650[24]**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14],** **Red Hat Linux 2.1 ES v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]**	**Emulex: LP9802-E[1, 3, 11], LP982-E[1, 3, 11]**	FC-AL, FC-SW	N	

Dell – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
68	**PowerEdge: 6600, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]**	**Emulex: LP9802-E[1, 3, 11], LP982-E[1, 3, 11]**	FC-AL, FC-SW	Y[12]	
69	**PowerEdge 2650[24]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14];** **Red Hat Linux 7.3 (v2.4.18-3)[6]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	N	
70	PowerEdge: **2600[24]**, 2650, 6600, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], **v2.4.9-E.3[4, 5, 6, 7]**, v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[6, 14]**, v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[11, 12, 20]	
71	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]**	QLogic QLA2200F-EMC	FC-AL, FC-SW	Y[8, 9]	
72	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]**	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	Y[13]	
73	**PowerEdge 2650[24]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14];** **Red Hat Linux 7.3 (v2.4.18-3)[6]**	**Emulex LP9002-E (LP9002L-E)**	FC-AL, FC-SW	N	
74	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[6, 14]**, v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[12]	
75	**PowerEdge: 2600, 6600, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	Y[8, 9]	
76	**PowerEdge: 2600, 6600, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]**	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	Y[13]	
77	**PowerEdge 2650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	Y[8, 9]	
78	**PowerEdge 2650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[6, 14], v2.4.9-E.9[6, 14];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]**	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	Y[13]	
79	**PowerEdge: 6600, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14]**	**Emulex LP9002-E (LP9002L-E)[1, 3]**	FC-AL, FC-SW	Y[12]	
80	**PowerEdge 1750**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[6, 14];** Red Hat Linux 7.3 (v2.4.18-3)[6]	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	N	
81	**PowerEdge 2650[24]**	PCI-X	**Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	Y[8, 9]	
82	**PowerEdge 2650[24]**	PCI-X	**Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 14], v2.4.9-e.16[6, 14]**	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	Y[13]	
83	PowerEdge: 6600, 6650	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[6, 14], **ES v2.4.9-e.12[6, 14]**, ES v2.4.9-e.16[6, 14]; Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[12]	
84	**PowerEdge: 2600[24], 2650, 6600[24], 6650**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[5, 28], ES v2.4.9-e.24[6, 28]**	**QLogic QLA2340-E-SP[3, 23, 25]**	FC-AL, FC-SW	Y[13, 20, 29, 30, 31, 32, 33, 34, 35]	
85	**PowerEdge 1750, 2600, 2650, 4600, 6600[24], 6650**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[5, 28], ES v2.4.9-e.24[6, 28]**	**QLogic QLA2342-E-SP[3, 18, 25, 26, 27]**	FC-AL, FC-SW	N	
86	PowerEdge **2600[24]**, 2650	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E	FC-AL, FC-SW	Y[12]	
87	PowerEdge 6600	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[12]	
88	PowerEdge: 2600, 4600	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	N	

Dell – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
89	PowerEdge 1750	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[6]	Emulex: LP9802-E, LP982-E; QLogic QLA2200F-EMC[1, 2, 3]	FC-AL, FC-SW	N	
90	**PowerEdge 2650[24]**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[6]**	**Emulex: LP9802-E, LP982-E; QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	N	
91	**PowerEdge: 2600[24], 2650, 6600, 6650**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[6]**	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	Y	
92	**PowerEdge: 2600, 2650, 4600, 6600, 6650**	PCI-X	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]**	**QLogic QLA2342-E-SP[1, 3, 18, 19, 23]**	FC-AL, FC-SW	N	
93	**PowerEdge 1550**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[6, 7]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW[18]	Y[4, 8, 9]	**See[15]**
94	**PowerEdge 1550**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[6, 22]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW[18]	Y[8, 9]	**See[15]**
95	**PowerEdge 1550**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 14], 8.0 updated to v2.4.18-27.8.0[6]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW[18]	N	**See[15]**
96	**PowerEdge 1650[24]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[6, 28], ES v2.4.9-e.24[6, 28]**	**QLogic QLA2340-E-SP[3, 23, 25]**	**FC-AL, FC-SW[26, 27]**	N	
97	**PowerEdge: 1550[24], 2300[24] 2400, 2450[24] 2500[24], 2550[10, 24], 4400[24], 6100[24], 6300[24], 6350[24], 6400[24], 6450[24], 8450[24]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[6, 28], ES v2.4.9-e.24[6, 28]**	**QLogic QLA2340-E-SP[3, 23, 25]**	**FC-AL, FC-SW[26, 27]**	Y[13, 20, 29, 30, 31, 32, 33, 34, 35]	
98	**PowerEdge 2600[24]**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[6, 28], ES v2.4.9-e.24[6, 28]**	**QLogic QLA2340-E-SP[3, 23, 25]**	**FC-AL, FC-SW[26, 27]**	Y[13, 20, 29, 30, 31, 32, 33, 34, 35]	
99	**PowerEdge: 1750, 4600[24]**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[6, 28], ES v2.4.9-e.24[6, 28]**	**QLogic QLA2340-E-SP[3, 23, 25]**	**FC-AL, FC-SW[26, 27]**	N	

1. **Host must be offline for interfamily Symmetrix microcode upgrade.**
2. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
3. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
4. This kernel is limited to 110 devices, not 128.
5. **The kernel version listed is included in the corresponding standard distributed release.**
6. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
7. Supported with QLogic driver v6.04.02 or v6.05.00.
8. Install with driver provided by RedHat 7.2 Installer and upgrade to the EMC-approved driver after installation.
9. Requires QLogic driver 4.47.18 and BIOS 1.83.
10. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
11. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
12. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
13. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
14. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath.
    Booting from EMC storage arrays is NOT supported with PowerPath.
15. Linux v2.4.x Kernels support a maximum of 128 devices per system.
16. When used with the HP NetServer LC2000: 32 device maximum.
17. If using Dell PERC Controller, requires PERC 3 with OpenManager 3.0 and Array Manager 3.1. The afamgt.sys must be version 2.6.0.3486 (or above)..
18. Single HBA zoning is required regardless of the switch being utilized.
19. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
20. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric
21. 8 LUNs supported. 2-node AL connection only.
22. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later.
23. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
24. **An RPM from Dell may be used to install the QLogic v6.04.02 or v6.05.00 drivers and may be obtained from the QLogic website at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
25. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
26. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
27. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
28. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
29. **Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.**
30. **Access Logic required. direct connect or fabric, (no booting through switch inter-switch links)**
31. **No MirrorView or SnapView used on boot LUNs.**
32. **EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group.**
    Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
33. **Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.**
34. **Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.**
35. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.

Fujitsu Siemens

Fujitsu Siemens – Red Hat Linux						
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Primergy B210 C200 E200 F200 H200, H400, K400, L200 N200 N400, P200 P250, R450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 5, 9] v2.4.9-E.12[4, 9], v2.4.9-E.16[4, 9], v2.4.9-E.3[4, 5, 6, 7], v2.4.9-E.9[4, 9]; Red Hat Linux 2.1 ES v2.4.9-e.12[4, 9], v2.4.9-e.16[4, 9], Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 10], 8.0 updated to v2.4.18-27.8.0[4]	QLogic QLA2200F-EMC[1, 2, 3]	FC-AL, FC-SW	N
2	Primergy F250[8] H250[8] H450 N800 RX200 RX300 TX200, TX300	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 5, 9] v2.4.9-E.12[4, 9], v2.4.9-E.16[4, 9], v2.4.9-E.3[4, 5, 6, 7] v2.4.9-E.9[4, 9]; Red Hat Linux 2.1 ES v2.4.9-e.12[4, 9] v2.4.9-e.16[4, 9], Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 10], 8.0 updated to v2.4.18-27.8.0[4]	QLogic QLA2200F-EMC[1, 2, 3]	FC-AL, FC-SW	N

1. Host must be offline for interfamily Symmetrix microcode upgrade.
2. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
3. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
4. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.

5. **Supported with QLogic driver v6.04.02 or v6.05.00.**
6. **The kernel version listed is included in the corresponding standard distributed release.**
7. **This kernel is limited to 110 devices, not 128.**
8. **Must use standard PCI 32bit/33MHz slot for SCSI**
9. **This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.**
10. **Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later. 5568 support at Red Hat kernel v2.4.x or later.**

HPQ

HPQ – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Proliant: 8500, ML350(G2)[11], ML530(G2)[11]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]	QLogic QLA2200F-EMC[27]	FC-AL	Y[2, 3]	
2	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[9, 17], **v2.4.9-e.24[9]**: Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[9], **v2.4.20-18.8[9]**	QLogic QLA2200F-EMC[27]	FC-AL	N	
3	Proliant BL40p	PCI-X	Red Hat Linux: **2.1 Advanced Server v2.4.9-E.3[7, 9]**, 8.0 updated to v2.4.18-19.8.0[9], **8.0 updated to v2.4.20-18.8[9]**	QLogic QLA2200F-EMC[27]	FC-AL	Y[1, 2, 3]	
4	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[11, 13], 1850[11], 2500[11], 3000[11], 5000[11], 5500[10, 11], 6000[10, 11], 6400R[11], 6500[10, 11], 7000[10, 11], 800, 8000[10, 11], 850[11], 8500, DL320[11], DL360[11], DL360(G2)[11], DL380[11], DL380(G2)[11], DL380(G3), DL580[11], DL580(G2)[11], ML350[11], ML350(G2)[11], ML370[11], ML370(G2), ML370(G3), ML530[11], ML530(G2)[11], ML570[11], ML750[12]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	Y[1, 2, 3]	
5	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[11, 13], 1850[11], 2500[11], 3000[11], 5000[11], 5500[10, 11], 6000[10, 11], 6400R[11], 6500[10, 11], 7000[10, 11], 800, 8000[10, 11], 850[11], DL320[11] DL360[11], DL360(G2)[11], DL380[11], DL380(G2)[11], DL380(G3), DL580[11] DL580(G2)[11], ML350[11], ML350(G2)[11], ML370[11], ML370(G2), ML370(G3), ML530[11], ML530(G2)[11], ML570[11], ML750[12]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	Y[1, 16]	
6	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[9, 17]**	**Emulex LP9002-E (LP9002L-E)[4, 6]**	FC-AL, FC-SW	N	
7	Proliant: 7000[10, 11], 8500, ML350(G2)[11], ML530(G2)[11]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[9, 17]	QLogic QLA2200F-EMC	FC-AL, FC-SW	Y[2, 3]	
8	Proliant: 7000[10, 11], ML350(G2)[11], ML530(G2)[11]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[9, 17]	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	Y[16]	
9	Proliant ML370(G2)	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[7, 9, 17]**, v2.4.9-E.12[9, 17]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]	Emulex: **LP9002-E (LP9002L-E)[4, 6], LP9802-E[4, 6, 14]**, LP9802DC-E, **LP982-E[4, 6, 14]**	FC-AL, FC-SW	N	
10	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[11, 13], 1850[11], 2500[11], 6400R[11], 6500[10, 11], 800, 850[11], DL320[11], DL380(G2)[11], DL580[11], DL580(G2)[11], ML350[11], ML350(G2)[11], ML370[11], ML530[11], ML530(G2)[11], ML570[11], ML750[12]	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[7, 9, 17]**, v2.4.9-E.12[9, 17]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]	Emulex: **LP9802-E[4, 6, 14]**, LP9802DC-E, **LP982-E[4, 6, 14]**	FC-AL, FC-SW	N	
11	**Netserver LX PRO;** **Proliant: DL360(G2)[11], DL580(G2)[11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 9, 17], v2.4.9-E.12[9, 17];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic: QLA2200F-EMC[4, 5, 6], QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	N	
12	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III;** **Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[11, 13], 1850[11], 2500[11], 3000[11], 5000[11], 6000[10, 11], 6400R[11], 6500[10, 11], 800, 8000[10, 11], 850[11], DL320[11], DL380(G2)[11], DL580[11], ML350[11], ML370[11], ML370(G2), ML530[11], ML570[11], ML750[12]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 9, 17], v2.4.9-E.12[9, 17];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	N	
13	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[11, 13], 1850[11], 2500[11], 3000[11], 5000[11], 6000[10, 11], 6400R[11], 6500[10, 11], 800, 8000[10, 11], 850[11], DL320[11], DL380(G2)[11], DL580[11], ML350[11], ML370[11], ML370(G2), ML370(G3), ML530[11], ML570[11], ML750[12]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 9, 17], v2.4.9-E.12[9, 17]; **Red Hat Linux: 7.3 (v2.4.18-3)[9], 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	N	
14	Proliant: 5500[10, 11], DL360[11], DL380[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 9, 17], v2.4.9-E.12[9, 17]; Red Hat Linux: 7.3 (v2.4.18-3)[9] 8.0 updated to v2.4.18-27.8.0[9]	QLogic: QLA2200F-EMC[4, 5, 6], QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	N	
15	Proliant ML370(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 9, 17], v2.4.9-E.12[9, 17], v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]	Emulex: LP9002-E (LP9002L-E)[4, 6], LP9802-E[4, 6, 14], LP982-E[4, 6, 14]	FC-AL FC-SW	N	

HPQ – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
16	**Proliant: DL360[11], DL360(G2)[11] DL380[11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[7, 9, 17], v2.4.9–E.12[9, 17], v2.4.9–E.16[9, 17], v2.4.9–E.3[1, 7, 8, 9], v2.4.9–E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 17], v2.4.9–e.16[9, 17];** **Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[9, 22]**	**Emulex: LP9802–E[4, 6, 14], LP982–E[4, 6, 14]**	FC–AL, FC–SW	N	
17	Proliant: DL360[11], DL360(G2)[11], **DL380[11]** ML370(G3)	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9–E.10[7, 9, 17]**, v2.4.9–E.12[9, 17], v2.4.9–E.16[9, 17], **v2.4.9–E.3[1, 7, 8, 9]**, v2.4.9–E.9[9, 17]; Red Hat Linux 2.1 ES: **v2.4.9–e.12[9, 17]**, v2.4.9–e.16[9, 17]; Red Hat Linux 7.3: (v2.4.18–3)[9], updated w/ v2.4.18–27.7.x rpm[9, 22]	Emulex LP9802DC–E	FC–AL, FC–SW	N	
18	**Proliant ML370(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[7, 9, 17], v2.4.9–E.12[9, 17], v2.4.9–E.16[9, 17], v2.4.9–E.3[1, 7, 8, 9], v2.4.9–E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 17], v2.4.9–e.16[9, 17];** **Red Hat Linux 7.3: (v2.4.18–3)[9], updated w/ v2.4.18–27.7.x rpm[9, 22];** **Red Hat Linux 8.0 updated to v2.4.18–27.8.0[9]**	**QLogic: QLA2310F–E–SP[4, 5, 6], QLA2340–E–SP[4, 5, 6]**	FC–AL, FC–SW	N	
19	**Proliant: DL360(G2)[11], DL580(G2)[11], ML750[12]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[7, 9, 17], v2.4.9–E.12[9, 17], v2.4.9–E.16[9, 17], v2.4.9–E.3[1, 7, 8, 9], v2.4.9–E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 17], v2.4.9–e.16[9, 17];** **Red Hat Linux 8.0 updated to v2.4.18–27.8.0[9]**	**QLogic QLA2342–E–SP[20]**	FC–AL, FC–SW	N	
20	**Netserver LC: 2000 U3, 2000r,** **Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III;** **Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[11, 13], 1850[11], 2500[11], 3000[11], 5000[11], 5500[10, 11], 6000[10, 11], 6400R[11], 6500[10, 11], 800, 8000[10, 11], 850[11], DL320[11], DL360[11], DL380[11], DL380(G2)[11], DL380(G3), DL580[11], ML350[11], ML370[11], ML370(G2), ML370(G3), ML530[11] ML570[11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[7, 9, 17], v2.4.9–E.12[9, 17], v2.4.9–E.16[9, 17], v2.4.9–E.3[1, 7, 8, 9], v2.4.9–E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 17], v2.4.9–e.16[9, 17];** **Red Hat Linux: 7.3 (v2.4.18–3)[9], 8.0 updated to v2.4.18–27.8.0[9]**	**QLogic QLA2342–E–SP[20]**	FC–AL, FC–SW	N	
21	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[7, 9, 17], v2.4.9–E.12[9, 17], v2.4.9–E.9[9, 17];** **Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[9, 22]**	**Emulex: LP9802–E[4, 6, 14], LP9802DC–E, LP982–E[4, 6, 14]**	FC–AL, FC–SW	N	
22	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[7, 9, 17], v2.4.9–E.12[9, 17], v2.4.9–E.9[9, 17];** **Red Hat Linux 8.0 updated to v2.4.18–27.8.0[9]**	**QLogic: QLA2310F–E–SP[4, 5, 6], QLA2340–E–SP[4, 5, 6]**	FC–AL, FC–SW	N	
23	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[7, 9, 17], v2.4.9–E.12[9, 17], v2.4.9–E.9[9, 17];** **Red Hat Linux: 7.3 (v2.4.18–3)[9], 8.0 updated to v2.4.18–27.8.0[9]**	**QLogic QLA2200F–EMC[4, 5, 6]**	FC–AL, FC–SW	N	
24	**Proliant 7000[10, 11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[9, 17, 18, 19], v2.4.9–E.12[9, 17]**	**QLogic QLA2200F–EMC**	FC–AL, FC–SW	N	
25	Netserver LC: 2000 U3, 2000r Netserver LH: 3000, 6000 Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500 Proliant: 1600[11, 13], 1850[11], 2500[11] 6400R[11] 6500[10, 11], 800, 850[11], DL320[11], **DL380(G2)[11]**, DL580[11] ML350[11], ML370[11] ML530[11], ML570[11] ML750[12]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[9, 17] v2.4.9–E.12[9, 17]	Emulex LP9002–E (LP9002L–E)	FC–AL, FC–SW	N	
26	Proliant ML350(G2)[11] ML530(G2)[11]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9–E.10[9, 17] v2.4.9–E.12[9, 17]	Emulex LP9002–E (LP9002L–E); QLogic QLA2200F–EMC QLA2310F–E–SP QLA2340–E–SP	FC–AL, FC–SW	N	
27	Proliant 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[9, 17], v2.4.9–E.12[9, 17]	QLogic QLA2200F–EMC	FC–AL, FC–SW		

HPQ – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
28	Proliant 7000[10, 11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 17], v2.4.9-E.12[9, 17]	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N	
29	Proliant 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 17], v2.4.9-E.12[9, 17], v2.4.9-E.16[9, 17]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[9, 17]**, v2.4.9-e.16[9, 17]	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N	
30	Proliant DL360(G2)[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 17], v2.4.9-E.12[9, 17], v2.4.9-E.16[9, 17]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[9, 17]**, v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N	
31	**Proliant: 7000[10, 11], 8500, ML350(G2)[11], ML530(G2)[11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 17], v2.4.9-E.12[9, 17], v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17];** **Red Hat Linux 7.3 (v2.4.18-3)[9]**	**QLogic QLA2342-E-SP[20]**	FC-AL, FC-SW	N	
32	Proliant: DL360[11], **DL380[11]**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 17], v2.4.9-E.12[9, 17], v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[9, 17]**, v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N	
33	Proliant 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 17], v2.4.9-E.12[9, 17], v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[9, 17]**, v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW	N	
34	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 17], v2.4.9-E.12[9, 17], v2.4.9-E.9[9, 17]**	**Emulex LP9002-E (LP9002L-E)**	FC-AL, FC-SW	N	
35	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]**	**Emulex: LP9002-E (LP9002L-E)[4, 6], LP9802-E[4, 6, 14], LP982-E[4, 6, 14]**	FC-AL, FC-SW	Y[15]	
36	**Proliant DL380(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17];** **Red Hat Linux 7.3 (v2.4.18-3)[9]**	**Emulex LP9802DC-E**	FC-AL, FC-SW	Y[14, 15, 21]	
37	**Proliant ML750[11]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]**	**Emulex LP9002-E (LP9002L-E)[4, 6]**	FC-AL, FC-SW	Y[12, 15]	
38	Proliant DL580(G2)[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], **v2.4.9-E.3[1, 7, 8, 9]**, v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[9, 17]**, v2.4.9-e.16[9, 17]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 21]	
39	Netserver LC, 2000 U3, 2000r Netserver LH 3000 6000 Netserver LP 2000r, LT 6000R, LXR 8000 LXR 8500 Proliant 1600[11, 13] 1850[11], 2500[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]	Emulex LP9002-E (LP9002L-E)[4, 6], LP9802-E[4, 6, 14], LP982-E[4, 6, 14]	FC-AL, FC-SW	Y[15]	

HPQ – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
40	Proliant: 6400R[11], 6500[10, 11], 800, 850[11], DL320[11], DL380(G2)[11], DL580[11], DL580(G2)[11], ML350[11], ML350(G2)[11], ML370[11], ML530[11], ML530(G2)[11], ML570[11], ML750[12]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]	Emulex: LP9802-E[4, 6, 14], LP982-E[4, 6, 14]	FC-AL, FC-SW	Y[15]	
41	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[11, 13], 1850[11], 2500[11], 6400R[11], 6500[10, 11], 800, 850[11], DL320[11], DL380(G2)[11], DL580[11], ML350[11], ML350(G2)[11], ML370[11], ML370(G2), ML370(G3), ML530[11], ML530(G2)[11], ML570[11], ML750[12]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 21]	
42	Proliant: ML370(G2), ML370(G3)	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9002-E (LP9002L-E)[4, 6], LP9802-E[4, 6, 14], LP982-E[4, 6, 14]	FC-AL, FC-SW	Y[15]	
43	Proliant ML750[12]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4 9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[15]	
44	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[11, 13], 1850[11], 2500[11], 3000[11], 5000[11], 5500[10, 11], 6000[10, 11], 6400R[11], 6500[10, 11], 800, 8000[10, 11], 850[11], DL320[11], DL360[11], DL360(G2)[11], DL380[11], DL380(G2)[11], DL580[11], DL580(G2)[11], ML350[11], ML370[11], ML370(G2), ML370(G3), ML530[11], ML570[11], ML750[12]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]	QLogic QLA2200F-EMC[4, 5, 6]	FC-AL, FC-SW	Y[2, 3]	
45	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[11, 13], 1850[11], 2500[11], 3000[11], 5000[11], 5500[10, 11], 6000[10, 11], 6400R[11], 6500[10, 11], 800, 8000[10, 11], 850[11], DL320[11], DL360[11], DL360(G2)[11], DL380[11], DL380(G2)[11], DL580[11], DL580(G2)[11], ML350[11], ML370[11], ML370(G2), ML370(G3), ML530[11], ML570[11], ML750[12]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]	QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	Y[16]	
46	Proliant DL360(G2)[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17]	Emulex LP9002-E (LP9002L-E)[4, 6]	FC-AL, FC-SW	N	
47	Proliant, 6400R[11], 6500[10, 11], 800, 850[11], DL320[11], DL380(G2)[11], DL580[11], ML350[11], ML350(G2)[11], ML370[11], ML530[11], ML530(G2)[11], ML570[11]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17]	Emulex LP9002-E (LP9002L-E)[4, 6]	FC-AL, FC-SW	Y[15]	
48	Proliant 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	QLogic: QLA2310F-E-SP[4, 5, 6]; QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	N	
49	Proliant: 7000[10, 11], 8500, ML350(G2)[11], ML530(G2)[11]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[9, 17], ES v2.4.9-e.12[9, 17], ES v2.4.9-e.16[9, 17]	QLogic QLA2200F-EMC[4, 5, 6]	FC-AL, FC-SW	Y[2, 3]	
50	Proliant, 6400R[11], 6500[10, 11], 800, 850[11], DL320[11], DL380(G2)[11], DL380(G3), DL580[11], ML350[11], ML350(G2)[11], ML370[11], ML530[11], ML530(G2)[11], ML570[11]	PCI	Red Hat Linux 2.1. Advanced Server v2.4 9-E.16[9, 17], ES v2.4.9-e.12[9, 17], ES v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[15]	
51	Proliant DL380(G3)	PCI	Red Hat Linux 2.1. Advanced Server v2.4.9-E.16[9, 17], ES v2.4.9-e.12[9, 17], ES v2.4.9-e.16[9, 17], Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]	QLogic QLA2200F-EMC[4, 5, 6]	FC-AL, FC-SW	Y[2, 3]	
52	Proliant: 7000[10, 11], DL380(G3), ML350(G2)[11] ML530(G2)[11]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[9, 17], ES v2.4.9-e.12[9, 17] ES v2.4.9-e.16[9, 17] Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]	QLogic: QLA2310F-E-SP[4, 5, 6] QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	Y[16]	
53	Proliant ML750[11]	PCI	Red Hat Linux 2.1. Advanced Server v2.4.9-e.24[9, 47], ES v2.4.9-e.24[9, 47]	QLogic QLA2340-E-SP[6, 25, 46]	FC-AL, FC-SW	Y[12, [illegible]] 21, 39, 40, 41, 42, 43, 44, 45	

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HPQ – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
54	Proliant: ML350(G2)[11], ML370[11], ML370(G2), ML530[11], ML530(G2)[11], ML570[11]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 47] ES v2.4.9-e.24[9, 47]	QLogic QLA2340-E-SP[6, 25, 46]	FC-AL, FC-SW	Y[16, 21, 39, 40, 41, 42, 43, 44, 45]	
55	Proliant: 3000[11], 6500[10, 11], 7000[10, 11], 8500, DL320[11], DL360[11], DL360(G2)[11], DL380[11], DL380(G2)[11], DL380(G3), DL580[11], ML350[11], ML350(G2)[11], ML370[11], ML370(G2), ML370(G3), ML530[11], ML530(G2)[11], ML570[11], ML750[11]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 47] ES v2.4.9-e.24[9, 47]	QLogic QLA2342-E-SP[6, 24, 25, 46, 48, 49]	FC-AL, FC-SW	N	
56	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[11, 13], 1850[11], 2500[11], 5000[11], 5500[10, 11], 6000[10, 11], 6400R[11], 800, 8000[10, 11], 850[11], DL580(G2)[11], ML750[12]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 47] ES v2.4.9-e.24[9, 47]	QLogic QLA2342-E-SP[6, 24, 46, 48, 49]	FC-AL, FC-SW	N	
57	Proliant ML750[11]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[12, 14, 15, 21]	
58	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[11, 13], 1850[11], 2500[11]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E	FC-AL, FC-SW	Y[15]	
59	Proliant ML370(G3)	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E	FC-AL, FC-SW	N	
60	Proliant ML750[11]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E	FC-AL, FC-SW	Y[12, 15]	
61	Proliant: 6400R[11], 6500[10, 11], 800, 850[11], DL320[11], DL380(G2)[11] DL380(G3), DL580[11], ML350[11], ML350(G2)[11], ML370[11], ML530[11], ML530(G2)[11], ML570[11], ML750[12]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[15]	
62	Proliant: DL360[11], DL360(G2)[11], DL380[11]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	N	
63	Proliant: 8500, ML350(G2)[11]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	QLogic QLA2200F-EMC[4, 5, 6]	FC-AL, FC-SW	N	
64	Proliant ML530(G2)[11]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	QLogic QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	Y	
65	Proliant ML750[11]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	QLogic: QLA2200F-EMC[4, 5, 6], QLA2342-E-SP[20]	FC-AL, FC-SW	N	
66	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[11, 13], 1850[11], 2500[11], 3000[11], 5000[11], 6000[10, 11], 6400R[11], 6500[10, 11], 7000[10, 11], 800, 8000[10, 11], 850[11], DL320[11], DL380(G2)[11], DL380(G3), DL580[11], ML350[11], ML350(G2)[11], ML370[11], ML370(G2), ML370(G3), ML530[11], ML570[11]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	Y	
67	Proliant ML750[11]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	Y[12]	
68	Proliant ML530(G2)[11]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9, 22, 23]	QLogic QLA2310F-E-SP[4, 5, 6]	FC-AL, FC-SW	Y	
69	Proliant 7000[10, 11]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]	QLogic QLA2200F-EMC[4, 5]	FC-AL, FC-SW	Y[2, 3]	
70	Proliant: 8500, ML350(G2)[11], ML530(G2)[11]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]	QLogic QLA2200F-EMC[4, 5, 6]	FC-AL, FC-SW	Y[2, 3]	See[26]
71	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[11, 13], 1850[11], 2500[11], 3000[11], 5000[11], 5500[10, 11], 6000[10, 11], 6400R[11], 6500[10, 11], 7000[10, 11], 800, 8000[10, 11], 850[11], DL320[11] DL360[11], DL360(G2)[11], DL380[11], DL380(G2)[11], DL380(G3), DL580[11], DL580(G2)[11], ML350[11], ML350(G2)[11], ML370[11], ML370(G2), ML370(G3), ML530[11], ML530(G2)[11], ML570[11], ML750[12]	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]	QLogic QLA2342-E-SP[4, 6, 20, 24, 25]	FC-AL, FC-SW	N	
72	Proliant 7000[10, 11]	PCI	Red Hat Linux: 7.3 (v2.4.18-3)[9], 8.0 updated to v2.4.18-27.8.0[9]	QLogic QLA2200F-EMC[4, 5, 6]	FC-AL, FC-SW	N	
73	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]	Emulex LP9002-E (LP9002L-E)[4, 6, 29, 30]	FC-AL FC-SW	Y[12, 15]	See[22, 26]
74	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]	Emulex LP9002-E (LP9002L-E)[4, 6], QLogic QLA2200F-EMC[4, 5, 6]	FC-AL, FC-SW	N	
75	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]	IBM: 19K1246(QLA2310)[4, 5, 6, 31], 24P0960(QLA2340)[4, 5, 6, 32]	FC-AL, FC-SW	Y[1]	
76	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]	QLogic QLA2200F-EMC[4, 5, 6]	FC-AL FC-SW	Y[1, 2, 3]	See[26]
77	Proliant: DL360(G3), DL560, DL560 (G2), DL760[11], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]	QLogic QLA2200F-EMC[4, 5, 6]	FC-AL, FC-SW	Y[1, 2, 3]	
78	Proliant, DL360(G3), DL560, DL560 (G2) DL760[11], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]	QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	Y[1, 16]	
79	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 9, 17] v2.4.9-E.12[9, 17]	QLogic QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	N	
80	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 9, 17] v2.4.9-E.12[9, 17] Red Hat Linux 7.3 (v2.4.18-3)[9]	QLogic QLA2200F-EMC[4, 5, 6]	FC-AL FC-SW	N	

HPQ – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
81	Proliant: DL560, **DL560 (G2)**, DL740, DL760[11], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10**[7, 9, 17], v2.4.9-E.12[9, 17]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]	Emulex: **LP9802-E**[4, 6, 14], LP9802DC-E, **LP982-E**[4, 6, 14]	FC-AL, FC-SW	N	
82	**Proliant DL360(G3)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10**[7, 9, 17], **v2.4.9-E.12**[9, 17]; **Red Hat Linux 8.0 updated to v2.4.18-27.8.0**[9]	**QLogic: QLA2200F-EMC**[4, 5, 6] **QLA2310F-E-SP**[4, 5, 6], **QLA2340-E-SP**[4, 5, 6]	FC-AL, FC-SW	N	
83	**Proliant: DL560, DL560 (G2), DL760**[11], **DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10**[7, 9, 17], **v2.4.9-E.12**[9, 17]; **Red Hat Linux 8.0 updated to v2.4.18-27.8.0**[9]	**QLogic: QLA2310F-E-SP**[4, 5, 6], **QLA2340-E-SP**[4, 5, 6]	FC-AL, FC-SW	N	
84	**Proliant: DL560 DL560 (G2), DL760**[11], **DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10**[7, 9, 17], **v2.4.9-E.12**[9, 17]; **Red Hat Linux: 7.3 (v2.4.18-3)**[9], **8.0 updated to v2.4.18-27.8.0**[9]	**QLogic QLA2200F-EMC**[4, 5, 6]	FC-AL, FC-SW	N	
85	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10**[7, 9, 17], **v2.4.9-E.12**[9, 17] **v2.4.9-E.16**[9, 17]; **Red Hat Linux 2.1 ES: v2.4.9-e.12**[9, 17] **v2.4.9-e.16**[9, 17]; **Red Hat Linux 7.3 (v2.4.18-3)**[9]	**QLogic QLA2342-E-SP**[20]	FC-AL, FC-SW	N	
86	**Proliant DL360(G3)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10**[7, 9, 17], **v2.4.9-E.12**[9, 17] **v2.4.9-E.16**[9, 17], **v2.4.9-E.3**[1, 7, 8, 9], **v2.4.9-E.9**[9, 17]; **Red Hat Linux 2.1 ES: v2.4.9-e.12**[9, 17] **v2.4.9-e.16**[9, 17]; **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm**[9, 22]	**Emulex: LP9802-E**[4, 6, 14], **LP982-E**[4, 6, 14]	FC-AL, FC-SW	N	
87	Proliant DL360(G3)	PCI-X	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10**[7, 9, 17], v2.4.9-E.12[9, 17] v2.4.9-E.16[9, 17], **v2.4.9-E.3**[1, 7, 8, 9], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: **v2.4.9-e.12**[9, 17] v2.4.9-e.16[9, 17]; Red Hat Linux 7.3: (v2.4.18-3)[9], updated w/ v2.4.18-27.7.x rpm[9, 22]	Emulex LP9802DC-E	FC-AL, FC-SW	N	
88	**Proliant DL360(G3)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10**[7, 9, 17], **v2.4.9-E.12**[9, 17] **v2.4.9-E.16**[9, 17], **v2.4.9-E.3**[1, 7, 8, 9], **v2.4.9-E.9**[9, 17]; **Red Hat Linux 2.1 ES: v2.4.9-e.12**[9, 17] **v2.4.9-e.16**[9, 17]; **Red Hat Linux 8.0 updated to v2.4.18-27.8.0**[9]	**QLogic QLA2342-E-SP**[20]	FC-AL, FC-SW	N	
89	**Proliant: DL560, DL560 (G2), DL760**[11], **DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10**[7, 9, 17], **v2.4.9-E.12**[9, 17] **v2.4.9-E.16**[9, 17], **v2.4.9-E.3**[1, 7, 8, 9], **v2.4.9-E.9**[9, 17]. **Red Hat Linux 2.1 ES v2.4.9-e.12**[9, 17] **v2.4.9-e.16**[9, 17]. **Red Hat Linux: 7.3 (v2.4.18-3)**[9], **8.0 updated to v2.4.18-27.8.0**[9]	**QLogic QLA2342-E-SP**[20]	FC-AL, FC-SW	N	
90	Proliant DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server. v2.4.9-E 10[9, 17], v2.4.9-E 12[9, 17]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N	
91	Proliant DL360(G3)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 17], v2.4.9-E.12[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N	
92	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E 12[9, 17], **v2.4.9-e.24**[9]	Emulex LP9002-E (LP9002L-E)	FC-AL FC-SW	N	
93	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E 12[9, 17] **v2.4.9-e.24**[9]. Red Hat Linux 8.0 updated to. v2.4.18 19.8.0[9], **v2.4.20-18.8**[9]	**IBM. 00N6881 (QLA2200)**[4, 5, 6, 33] **19K1246(QLA2310)**[4, 5, 6, 31] **24P0960(QLA2340)**[4, 5, 6, 32] QLogic QLA2200F	FC AL, FC-SW	N	

HPQ – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
94	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[9, 17], v2.4.9-e.24[9];** **Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[9], v2.4.20-18.8[9]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	N	**See[28]**
95	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-e.24[9]**	**Emulex: LP9802-E[4, 6, 14], LP982-E[4, 6, 14]**	FC-AL, FC-SW	N	
96	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[9, 17], **v2.4.9-E.3[1, 7, 8, 9], v2.4.9-e.24[9];** Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[9], **v2.4.20-18.8[9]**	Emulex LP9802DC-E; **QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6], QLA2342-E-SP[20]**	FC-AL, FC-SW	N	
97	**Proliant DL360(G3)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]**	**Emulex LP9002-E (LP9002L-E)[4, 6]**	FC-AL, FC-SW	N	
98	**Proliant: DL760[11], DL760 (G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]**	**Emulex: LP9002-E (LP9002L-E)[4, 6], LP9802-E[4, 6, 14], LP982-E[4, 6, 14]**	FC-AL, FC-SW	Y[15]	
99	**Proliant: DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]**	**Emulex: LP9802-E[4, 6, 14], LP982-E[4, 6, 14]**	FC-AL, FC-SW	Y[15]	
100	Proliant: DL560, **DL560 (G2)**, DL760[11], DL760 (G2), ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], **v2.4.9-E.3[1, 7, 8, 9]**, v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[9, 17]**, v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 21]	
101	**Proliant: DL360(G3), DL560, DL560 (G2), DL760[11], DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	Y[2, 3]	
102	**Proliant: DL360(G3), DL560, DL560 (G2), DL760[11], DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	Y[16]	
103	**Proliant: DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17]**	**Emulex LP9002-E (LP9002L-E)[4, 6]**	FC-AL, FC-SW	Y[15]	
104	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[9, 17] ES v2.4.9-e.12[9, 17] ES v2.4.9-e.16[9, 17]**	**Emulex: LP9002-E (LP9002L-E)[4, 6], LP9802-E[4, 6, 14], LP982-E[4, 6, 14]**	FC-AL, FC-SW	Y[15]	
105	Proliant: DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[9, 17] ES **v2.4.9-e.12[9, 17]** ES v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[15]	
106	Proliant DL740	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[9, 17] ES **v2.4.9-e.12[9, 17]** ES v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 21]	
107	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[9, 17] ES v2.4.9-e.12[9, 17] ES v2.4.9-e.16[9, 17]** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	Y[2, 3]	

HPQ – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
108	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[9, 17], ES v2.4.9-e.12[9, 17], ES v2.4.9-e.16[9, 17];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	Y[16]	
109	**Proliant: DL740, DL760[11], DL760 (G2) ML570(G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 47] ES v2.4.9-e.24[9, 47]**	**QLogic QLA2340-E-SP[6, 25, 46]**	FC-AL, FC-SW	Y[16, 21, 39, 40, 41, 42, 43, 44, 45]	
110	**Proliant: DL360(G3), DL560, DL560 (G2), DL740 DL760[11], DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 47] ES v2.4.9-e.24[9, 47]**	**QLogic QLA2342-E-SP[6, 24, 25, 46, 48, 49]**	FC-AL, FC-SW	N	
111	Proliant: DL740, DL760[11], DL760 (G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E	FC-AL, FC-SW	Y[15]	
112	Proliant DL360(G3)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	N	
113	Proliant: DL560, **DL560 (G2)** ML570(G2)	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[15]	
114	**Proliant: DL560, DL560 (G2), DL740 DL760[11], DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[9]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	Y	
115	**Proliant: DL360(G3), DL560, DL560 (G2), DL740 DL760[11], DL760 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]**	**QLogic QLA2342-E-SP[4, 6, 20, 24, 25]**	FC-AL, FC-SW	N	
116	**Proliant BL40p**	PCI-X	**Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[9], v2.4.20-18.8[9]**	**Emulex LP9002-E (LP9002L-E)[4, 6, 29, 30]**	FC-AL, FC-SW	Y[7, 12, 15]	See[22, 26]
117	Proliant BL40p	PCI-X	Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[9], **v2.4.20-18.8[9]**	Emulex: **LP9002-E (LP9002L-E)[4, 6, 38]**, LP9802-E, LP982-E	FC-AL, FC-SW	N	
118	**Proliant BL40p**	PCI-X	**Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[9], v2.4.20-18.8[9]**	**IBM: 19K1246(QLA2310)[4, 5, 6, 31]** **24P0960(QLA2340)[4, 5, 6, 32]**	FC-AL, FC-SW	Y	
119	Proliant BL40p	PCI-X	Red Hat Linux: **2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**, 8.0 updated to v2.4.18-19.8.0[9], **8.0 updated to v2.4.20-18.8[9]**	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 21]	
120	**Proliant BL40p**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9], 8.0 updated to v2.4.18-19.8.0[9], 8.0 updated to v2.4.20-18.8[9]**	**Emulex: LP9802-E[4, 6, 14], LP982-E[4, 6, 14]**	FC-AL, FC-SW	Y[15]	
121	Proliant BL40p	PCI-X	Red Hat Linux: **2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**, 8.0 updated to v2.4.18-19.8.0[9], **8.0 updated to v2.4.20-18.8[9]**	**IBM 00N6881 (QLA2200)[4, 5, 6, 33]**; QLogic QLA2200F	FC-AL, FC-SW	Y[1]	
122	**Proliant BL40p**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9], 8.0 updated to v2.4.18-19.8.0[9], 8.0 updated to v2.4.20-18.8[9]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	Y[1, 16]	
123	Proliant BL20p (G2)[34, 36]	PCI-X[37]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[9, 17, 34], v2.4.9-E.3[9, 34]	HPQ Dual-port mezzanine controller card[35]	FC-AL, FC-SW	N	
124	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[9, 17]**	**QLogic QLA2200F-EMC**	FC-AL, FC-SW	N	
125	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	Y[1, 2, 3]	
126	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	Y[1, 16]	
127	**Proliant DL580(G3)**	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 9, 17], v2.4.9-E.12[9, 17]; **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]**	**Emulex: LP9802-E[4, 6, 14], LP9802DC-E, LP982-E[4, 6, 14]**	FC-AL, FC-SW	N	
128	**Proliant DL580(G3)**	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 9, 17], v2.4.9-E.12[9, 17]; **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	N	
129	**Proliant DL580(G3)**	PCI PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[7, 9, 17], v2.4.9-E.12[9, 17], v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17]; **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]**; **Red Hat Linux 7.3 (v2.4.18-3)[9] 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic QLA2342-E-SP[20]**	FC-AL, FC-SW	N	
130	**Proliant DL580(G3)**	PCI PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 17], v2.4.9-E.12[9, 17]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N	

HPQ – Red Hat Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
131	Proliant DL580(G2)[11]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 17], v2.4.9-E.12[9, 17]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N	
132	**Proliant DL580(G2)[11]**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 17], v2.4.9-E.12[9, 17], v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17];** **Red Hat Linux 7.3 (v2.4.18-3)[9]**	**QLogic QLA2342-E-SP[20]**	FC-AL, FC-SW	N	
133	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17]**	**Emulex: LP9802-E[4, 6, 14], LP982-E[4, 6, 14]**	**FC-AL, FC-SW**	**Y[15]**	
134	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17];** **Red Hat Linux 7.3 (v2.4.18-3)[9]**	**Emulex LP9802DC-E**	**FC-AL, FC-SW**	**Y[14, 15, 21]**	
135	Proliant DL580(G2)[11]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17]; **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]**	QLogic QLA2200F-EMC	FC-AL, FC-SW	Y[2, 3]	
136	Proliant DL580(G2)[11]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17]; **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]**	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	Y[16]	
137	Proliant DL580(G2)[11]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[9, 17]**, v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 21]	
138	Proliant DL580(G2)[11]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[9, 17]**, v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[15]	
139	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]**	**QLogic QLA2200F-EMC[4, 5, 6]**	**FC-AL, FC-SW**	**Y[2, 3]**	
140	Proliant DL580(G3)	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 17], v2.4.9-E.9[9, 17];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]**	QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	Y[16]	
141	**Proliant: DL580(G2)[11], DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 17]**	**Emulex LP9002-E (LP9002L-E)[4, 6]**	FC-AL, FC-SW	Y[15]	
142	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]**	**QLogic QLA2200F-EMC**	**FC-AL, FC-SW**	Y[2, 3]	
143	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]**	**QLogic: QLA2310F-E-SP QLA2340-E-SP**	**FC-AL, FC-SW**	Y[16]	
144	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 ES v2.4.9-e.12[9, 17], v2.4.9-e.16[9, 17]** **Red Hat Linux 7.3 (v2.4.18-3)[9]**	**Emulex: LP9802-E, LP982-E**	**FC-AL, FC-SW**	Y[15]	
145	Proliant DL580(G2)[11] **DL580(G3)**	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[9, 17], **ES v2.4.9-e.12[9, 17]** ES v2.4.9-e.16[9, 17]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[15]	

HPQ – Red Hat Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
146	**Proliant DL580(G2)[11]**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 47] ES v2.4.9-e.24[9, 47]**	**QLogic QLA2340-E-SP[6, 25, 46]**	**FC-AL, FC-SW**	**Y[16, 21, 39, 40, 41, 42, 43, 44, 45]**	
147	**Proliant: DL580(G2)[11], DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 47] ES v2.4.9-e.24[9, 47]**	**QLogic QLA2342-E-SP[6, 24, 25, 46, 48, 49]**	**FC-AL, FC-SW**	**N**	
148	**Proliant DL580(G2)[11]**	PCI, PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[9]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	N	
149	**Proliant: DL580(G2)[11], DL580(G3)**	PCI, PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[9]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	Y	
150	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 22]**	**QLogic QLA2342-E-SP[4, 6, 20, 24, 25]**	**FC-AL, FC-SW**	**N**	
151	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.10[7, 9, 17], 7.3 (v2.4.18-3)[9], 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic QLA2200F-EMC[4, 5, 6]**	**FC-AL, FC-SW**	**N**	
152	**Proliant BL40p**	PCI-X	**Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[9], v2.4.20-18.8[9]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW[24]	Y[1, 2, 3]	See[26]
153	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[11, 13], 1850[11], 2500[11], 3000[11], 5000[11], 5500[10, 11], 6000[10, 11], 6400R[11], 6500[10, 11], 7000[10, 11], 800, 8000[10, 11], 850[11], 8500, DL320[11], DL360[11], DL360(G2)[11], DL380[11], DL380(G2)[11], DL380(G3), DL580[11], DL580(G2)[11], ML350[11], ML370(G3), ML750[12]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 47] ES v2.4.9-e.24[9, 47]**	**QLogic QLA2340-E-SP[6, 25, 46]**	**FC-AL, FC-SW[46, 49]**	**Y[16, 21, 39, 40, 41, 42, 43, 44, 45]**	
154	**Proliant DL560 (G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 47] ES v2.4.9-e.24[9, 47]**	**QLogic QLA2340-E-SP[6, 25, 46]**	**FC-AL, FC-SW[46, 49]**	**Y[16, 21, 40, 41, 42, 43, 44, 45]**	
155	**Proliant: DL360(G3), DL560, DL560 (G2)**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 47] ES v2.4.9-e.24[9, 47]**	**QLogic QLA2340-E-SP[6, 25, 46]**	**FC-AL, FC-SW[46, 49]**	**Y[16, 21, 39, 40, 41, 42, 43, 44, 45]**	
156	**Proliant DL580(G3)**	PCI, PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 47] ES v2.4.9-e.24[9, 47]**	**QLogic QLA2340-E-SP[6, 25, 46]**	**FC-AL, FC-SW[46, 49]**	**Y[16, 21, 39, 40, 41, 42, 43, 44, 45]**	

1. This kernel is limited to 110 devices, not 128.
2. Install with driver provided by RedHat 7.2 Installer and upgrade to the EMC-approved driver after installation.
3. Requires QLogic driver 4.47.18 and BIOS 1.83.
4. **Host must be offline for interfamily Symmetrix microcode upgrade.**
5. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
6. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
7. **Supported with QLogic driver v6.04.02 or v6.05.00.**
8. **The kernel version listed is included in the corresponding standard distributed release.**
9. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
10. Includes both Pentium PRO and XEON models
11. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
12. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
13. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
14. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
15. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
16. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
17. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
18. This system is supported with Red Hat 2.1 Advanced Server v2.4.9-E.3 and updated with v2.4.9-E.9, E.10, and E.12 RPMs.
19. Requires v6.05 or higher Navisphere host agent/CLI.
20. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
21. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
22. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later. 5568 support at Red Hat kernel v2.4.x or later.
23. **This kernel is supported with PowerPath 3.0.1 on Symmetrix attached hosts only.**
24. Single HBA zoning is required regardless of the switch being utilized.
25. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
26. Linux v2.4.x Kernels support a maximum of 128 devices per system
27. When used with the HP NetServer LC2000: 32 device maximum
28. 8 LUNs supported; 2-node AL connection only.
29. **The LP9002-E now ships with the LP9002L-E low profile adapter.**
30. **The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.**
31. **This HBA is equivalent to the qLogic QLA2310.**
32. **This HBA is equivalent to the qLogic QLA2340.**
33. **(QLA2200) For IBM xSeries and Netfinity servers only.**
34. Booting off of an EMC storage array is not currently supported with the HPQ BL20P
35. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
36. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
37. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available
38. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
39. **Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.**
40. **Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)**
41. **No MirrorView or SnapView used on boot LUNs.**
42. **EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.**
43. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
44. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
45. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
46. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
47. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
48. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
49. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**

IBM

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R:** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**	**IBM: 00N6881 (QLA2200)[4, 5, 6, 25], 19K1246(QLA2310)[4, 5, 6, 24], 24P0960(QLA2340)[4, 5, 6, 26]**	FC-AL, FC-SW	Y[1]
2	**xSeries X335**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**	**IBM: 19K1246(QLA2310)[4, 5, 6, 24], 24P0960(QLA2340)[4, 5, 6, 26];** **QLogic QLA2200F**	FC-AL, FC-SW	Y[1]
3	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R:** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	Y[1, 2, 3]
4	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R;** **xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	Y[1, 16]
5	**Netfinity 8500R**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21, 27], v2.4.9-E.12[9, 21];** **Red Hat Linux: 7.3 (v2.4.18-3)[9], 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	N
6	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[8, 9, 21]**, v2.4.9-E.12[9, 21]	**Emulex LP9802-E[4, 6, 15];** **IBM: 19K1246(QLA2310)[4, 5, 6, 24], 24P0960(QLA2340)[4, 5, 6, 26];** QLogic: QLA2200F, **QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	N
7	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[10]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[8, 9, 21]**, v2.4.9-E.12[9, 21]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 18]	Emulex: **LP9802-E[4, 6, 15]**, LP9802DC-E, **LP982-E[4, 6, 15]**	FC-AL, FC-SW	N
8	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R;** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21], v2.4.9-E.12[9, 21];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[9]**	**IBM: 00N6881 (QLA2200)[4, 5, 6, 25], 19K1246(QLA2310)[4, 5, 6, 24], 24P0960(QLA2340)[4, 5, 6, 26];** **QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	N
9	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600;** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21], v2.4.9-E.12[9, 21];** **Red Hat Linux: 7.3 (v2.4.18-3)[9], 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	N
10	**xSeries X335**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21] v2.4.9-E.12[9, 21], v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]**	**QLogic QLA2342-E-SP[28]**	FC-AL, FC-SW	N
11	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21] v2.4.9-E.12[9, 21], v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 18]**	**Emulex: LP9802-E[4, 6, 15], LP9802DC-E, LP982-E[4, 6, 15]**	FC-AL, FC-SW	N
12	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21] v2.4.9-E.12[9, 21], v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21];** **Red Hat Linux 7.3: (v2.4.18-3)[9, 18, 19], updated w/ v2.4.18-27.7.x rpm[9, 18];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic QLA2310F-E-SP[4, 5, 6]**	FC-AL, FC-SW	N
13	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21] v2.4.9-E.12[9, 21], v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21];** **Red Hat Linux 2.1 ES v2.4.9-e.12[9, 21] v2.4.9-e.16[9, 21];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic QLA2342-E-SP[28]**	FC-AL, FC-SW	N
14	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R;** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21] v2.4.9-E.12[9, 21], v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21];** **Red Hat Linux 2.1 ES v2.4.9-e.12[9, 21] v2.4.9-e.16[9, 21];** **Red Hat Linux 7.3 (v2.4.18-3)[9], 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic QLA2342-E-SP[28]**	FC-AL, FC-SW	N

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
15	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[8, 9, 21], v2.4.9–E.12[9, 21], v2.4.9–E.16[9, 21], v2.4.9–E.3[1, 7, 8, 9], v2.4.9–E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 21], v2.4.9–e.16[9, 21];** **Red Hat Linux: 7.3 updated w/ v2.4.18–27.7.x rpm[9, 18], 8.0 updated to v2.4.18–27.8.0[9]**	**QLogic: QLA2200F–EMC[4, 5, 6], QLA2340–E–SP[4, 5, 6]**	FC–AL, FC–SW	N
16	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[10]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[9, 21], v2.4.9–E.12[9, 21]	Emulex LP9002–E (LP9002L–E)	FC–AL, FC–SW	N
17	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[9, 21], v2.4.9–E.12[9, 21], v2.4.9–E.16[9, 21], v2.4.9–E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 21], v2.4.9–e.16[9, 21]**	**IBM 19K1246(QLA2310)[24]**	FC–AL, FC–SW	N
18	**xSeries X335**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[9, 21], v2.4.9–E.3[1, 7, 8, 9], v2.4.9–E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 21], v2.4.9–e.16[9, 21]**	**Emulex LP9802–E[4, 6, 15]**	FC–AL, FC–SW	Y[14]
19	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R;** **xSeries: X342, x232, x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[9, 21], v2.4.9–E.3[1, 7, 8, 9], v2.4.9–E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 21], v2.4.9–e.16[9, 21]**	**Emulex: LP9002–E (LP9002L–E)[4, 6], LP9802–E[4, 6, 15], LP982–E[4, 6, 15]**	FC–AL, FC–SW	Y[14]
20	**xSeries: X330, X340 (4500R), x230, x240, x250, x255[10]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[9, 21], v2.4.9–E.3[1, 7, 8, 9], v2.4.9–E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 21], v2.4.9–e.16[9, 21]**	**Emulex: LP9802–E[4, 6, 15], LP982–E[4, 6, 15]**	FC–AL, FC–SW	Y[14]
21	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[10]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[9, 21], **v2.4.9–E.3[1, 7, 8, 9]**, v2.4.9–E.9[9, 21]; Red Hat Linux 2.1 ES: **v2.4.9–e.12[9, 21]**, v2.4.9–e.16[9, 21]; Red Hat Linux 7.3 (v2.4.18–3)[9]	Emulex LP9802DC–E	FC–AL, FC–SW	Y[14, 15, 29]
22	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[9, 21], v2.4.9–E.9[9, 21]; Red Hat Linux 2.1 ES: **v2.4.9–e.12[9, 21]**, v2.4.9–e.16[9, 21]	**IBM: 19K1246(QLA2310)[4, 5, 6, 24], 24P0960(QLA2340)[4, 5, 6, 26];** QLogic QLA2200F	FC–AL, FC–SW	Y
23	**xSeries X335**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[9, 21], v2.4.9–E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 21], v2.4.9–e.16[9, 21]**	**QLogic: QLA2310F–E–SP[4, 5, 6], QLA2340–E–SP[4, 5, 6]**	FC–AL, FC–SW	Y[16]
24	**xSeries x255[10]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[9, 21], v2.4.9–E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 21], v2.4.9–e.16[9, 21];** **Red Hat Linux 7.3 (v2.4.18–3)[9]**	**Emulex LP9002–E (LP9002L–E)**	FC–AL, FC–SW	Y[14]
25	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R;** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[9, 21], v2.4.9–E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 21], v2.4.9–e.16[9, 21];** **Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[9, 18]**	**QLogic QLA2200F–EMC[4, 5, 6]**	FC–AL, FC–SW	Y[2, 3]
26	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R;** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[9, 21], v2.4.9–E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 21], v2.4.9–e.16[9, 21];** **Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[9, 18]**	**QLogic: QLA2310F–E–SP[4, 5, 6], QLA2340–E–SP[4, 5, 6]**	FC–AL, FC–SW	Y[16]
27	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R;** **xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.16[9, 21], v2.4.9–E.9[9, 21];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[9, 21], v2.4.9–e.16[9, 21];** **Red Hat Linux 7.3: (v2.4.18–3)[9], updated w/ v2.4.18–27.7.x rpm[9, 18]**	**IBM: 00N6881 (QLA2200)[4, 5, 6, 25], 19K1246(QLA2310)[4, 5, 6, 24], 24P0960(QLA2340)[4, 5, 6, 26]**	FC–AL, FC–SW	Y
28	**xSeries: X330, X340 (4500R), x230, x240, x250**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.3[1, 7, 8, 9], v2.4.9–E.9[9, 21]**	**Emulex LP9002–E (LP9002L–E)[4, 6]**	FC–AL, FC–SW	Y[14]
29	xSeries: X330, X340 (4500R), x230, x240, x250	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–E.16[9, 21], **ES v2.4.9–e.12[9, 21]**, ES v2.4.9–e.16[9, 21]; Red Hat Linux 7.3 (v2.4.18–3)[9]	Emulex LP9002–E (LP9002L–E)	FC–AL, FC–SW	Y[14]
30	**Netfinity 8500R**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[9, 34]**, ES v2.4.9–e.24[9, 34]	**QLogic QLA2340–E–SP[6, 30, 31]**	**FC–AL, FC–SW**	**Y[16, 29, 35, 36, 37, 38, 39, 40, 41]**
31	**Netfinity 8500R**	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[9, 34] ES v2.4.9–e.24[9, 34]	**QLogic QLA2342–E–SP[6, 20, 30, 31, 32, 33]**	FC–AL, FC–SW	**N**
32	**Netfinity 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[42], 7100, 7600, 8500** **xSeries X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x345, x350 (6000R), x370**	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9–e.24[9, 34] ES v2.4.9–e.24[9, 34]	**QLogic QLA2342–E–SP[6, 20, 31, 32, 33]**	FC–AL, FC–SW	

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
33	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R; xSeries: X342, x232, x350 (6000R), x370	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E	FC-AL, FC-SW	Y[14]
34	xSeries: X330, X340 (4500R), x230, x240, x250, x255[10]	PCI	Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[14]
35	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x350 (6000R), x370**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[9]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	Y
36	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[13], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x345, x350 (6000R), x370**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 18]**	**QLogic QLA2342-E-SP[4, 6, 20, 28, 30]**	FC-AL, FC-SW	N
37	**xSeries x255[10]**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**	**Emulex LP9002-E (LP9002L-E)[4, 6, 22, 23]**	FC-AL, FC-SW	Y[14]
38	**xSeries x360[10]**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**	**IBM: 00N6881 (QLA2200)[4, 5, 6, 25], 19K1246(QLA2310)[4, 5, 6, 24], 24P0960(QLA2340)[4, 5, 6, 26]**	FC-AL, FC-SW	Y[1]
39	**xSeries x360[10]**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	Y[1, 2, 3]
40	**xSeries x360[10]**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[1, 7, 8, 9]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	Y[1, 16]
41	xSeries x440[11, 12]	PCI-X	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[8, 9, 21]**, v2.4.9-E.12[9, 21]	**Emulex: LP9802-E[4, 6, 15], LP9802DC-E, LP982-E[4, 6, 15]; IBM: 00N6881 (QLA2200)[4, 5, 6, 25], 19K1246(QLA2310)[4, 5, 6, 24], 24P0960(QLA2340)[4, 5, 6, 26]; QLogic: QLA2200F-EMC[4, 5, 6], QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	N
42	**xSeries x360[10]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21], v2.4.9-E.12[9, 21]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 18]**	**Emulex: LP9802-E[4, 6, 15], LP9802DC-E, LP982-E[4, 6, 15]**	FC-AL, FC-SW	N
43	**xSeries x360[10]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21], v2.4.9-E.12[9, 21]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[9]**	**IBM: 00N6881 (QLA2200)[4, 5, 6, 25], 19K1246(QLA2310)[4, 5, 6, 24], 24P0960(QLA2340)[4, 5, 6, 26]; QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	N
44	**xSeries x360[10]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21], v2.4.9-E.12[9, 21]; Red Hat Linux: 7.3 (v2.4.18-3)[9], 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	N
45	**xSeries x440[11, 12]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21], v2.4.9-E.12[9, 21], v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]**	**QLogic QLA2342-E-SP[28]**	FC-AL, FC-SW	N
46	**xSeries x360[10]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21], v2.4.9-E.12[9, 21], v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]; Red Hat Linux: 7.3 (v2.4.18-3)[9], 8.0 updated to v2.4.18-27.8.0[9]**	**QLogic QLA2342-E-SP[28]**	FC-AL, FC-SW	N
47	xSeries: x360[10], x440[11, 12]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 21], v2.4.9-E.12[9, 21]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N
48	xSeries x440[11, 12]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[8, 9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 29]
49	**xSeries x440[11, 12]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[8, 9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]**	**Emulex: LP9802-E[4, 6, 15], LP982-E[4, 6, 15]**	FC-AL, FC-SW	Y[14]
50	**xSeries x440[11, 12]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[8, 9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]**	**IBM: 00N6881 (QLA2200)[4, 5, 6, 25], 19K1246(QLA2310)[4, 5, 6, 24], 24P0960(QLA2340)[4, 5, 6, 26]**	FC-AL, FC-SW	Y
51	**xSeries x360[10]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]**	**Emulex: LP9802-E[4, 6, 15], LP982-E[4, 6, 15]**	FC-AL, FC-SW	Y[14]
52	**xSeries x440[11, 12]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]**	**QLogic QLA2200F-EMC[4, 5, 6]**	FC-AL, FC-SW	Y[2, 3]
53	**xSeries x440[11, 12]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]**	**QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]**	FC-AL, FC-SW	Y[16]

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
54	xSeries x360[10]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 29]
55	xSeries x440[11, 12]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21] v2.4.9-E.3[7, 8, 9] v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]	Emulex LP9002-E (LP9002L-E)[4, 6]	FC-AL, FC-SW	Y[14]
56	xSeries x255	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]	Emulex LP9002-E (LP9002L-E)[4, 6, 22, 23]	FC-AL, FC-SW	Y[10, 14]
57	xSeries x360[10]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 18]	QLogic QLA2200F-EMC[4, 5, 6]	FC-AL, FC-SW	Y[2, 3]
58	xSeries x360[10]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21] v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 18]	QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	Y[16]
59	xSeries x360[10]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]; Red Hat Linux 7.3: (v2.4.18-3)[9], updated w/ v2.4.18-27.7.x rpm[9, 18]	IBM: 00N6881 (QLA2200)[4, 5, 6, 25], 19K1246(QLA2310)[4, 5, 6, 24], 24P0960(QLA2340)[4, 5, 6, 26]	FC-AL, FC-SW	Y
60	xSeries x440[11, 12]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[8, 9, 21]	Emulex LP9002-E (LP9002L-E)[4, 22, 23]	FC-AL, FC-SW	Y[14]
61	xSeries x360[10]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21]	Emulex LP9002-E (LP9002L-E)[4, 6, 22, 23]	FC-AL, FC-SW	Y[14]
62	xSeries x440[11, 12]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[9, 21], ES v2.4.9-e.12[9, 21], ES v2.4.9-e.16[9, 21]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[14]
63	xSeries x360[10]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[9, 21], ES v2.4.9-e.12[9, 21], ES v2.4.9-e.16[9, 21]; Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[14]
64	xSeries: x255, x360[10], x440[11, 12]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 34], ES v2.4.9-e.24[9, 34]	QLogic QLA2342-E-SP[6, 20, 31, 32, 33]	FC-AL, FC-SW	N
65	xSeries x235	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 34], ES v2.4.9-e.24[9, 34]	QLogic: QLA2340-E-SP[6, 30, 31], QLA2342-E-SP[6, 20, 31, 32, 33]	FC-AL, FC-SW	N
66	xSeries x360[10]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[9]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	Y[14]
67	xSeries x360[10]	PCI-X	Red Hat Linux 7.3 (v2.4.18-3)[9]	QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	Y
68	xSeries x360[10]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[9, 18]	QLogic QLA2342-E-SP[4, 6, 20, 28, 30]	FC-AL, FC-SW	N
69	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16[9, 21]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	Y[14]
70	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21], v2.4.9-E.12[9, 21]	Emulex: LP9802-E[4, 6, 15], LP9802DC-E, LP982-E[4, 6, 15]; IBM: 00N6881 (QLA2200)[4, 5, 6, 25], 19K1246(QLA2310)[4, 5, 6, 24], 24P0960(QLA2340)[4, 5, 6, 26]; QLogic: QLA2200F-EMC[4, 5, 6], QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	N
71	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21] v2.4.9-E.12[9, 21], v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21] v2.4.9-e.16[9, 21]	QLogic QLA2342-E-SP[28]	FC-AL FC-SW	N
72	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[9, 21] v2.4.9-E.12[9, 21]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N
73	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9] v2.4.9-E.9[8, 9, 21]; Red Hat Linux 2.1 ES v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[14, 15, 29]
74	xSeries x445	PCI PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[8, 9, 21]; Red Hat Linux 2.1 ES v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]	Emulex: LP9802-E[4, 6, 15], LP982-E[4, 6, 15]	FC-AL, FC-SW	Y[14]
75	xSeries x445	PCI PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21] v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[8, 9, 21]; Red Hat Linux 2.1 ES v2.4.9-e.12[9, 21] v2.4.9-e.16[9, 21]	IBM: 00N6881 (QLA2200)[4, 5, 6, 25] 19K1246(QLA2310)[4, 5, 6, 24] 24P0960(QLA2340)[4, 5, 6, 26]	FC-AL FC-SW	Y

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
76	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]	QLogic QLA2200F-EMC[4, 5, 6]	FC-AL, FC-SW	Y[2, 3]
77	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[9, 21], v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]	QLogic: QLA2310F-E-SP[4, 5, 6], QLA2340-E-SP[4, 5, 6]	FC-AL, FC-SW	Y[16]
78	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.3[1, 7, 8, 9], v2.4.9-E.9[8, 9, 21]	Emulex LP9002-E (LP9002L-E)[4, 6, 22, 23]	FC-AL, FC-SW	Y[14]
79	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]	Emulex LP9002-E (LP9002L-E)[4, 6]	FC-AL, FC-SW	Y[14]
80	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 34], ES v2.4.9-e.24[9, 34]	QLogic QLA2342-E-SP[6, 20, 31, 32, 33]	FC-AL, FC-SW	N
81	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[8, 9, 21], v2.4.9-E.12[9, 21], v2.4.9-E.16[9, 21]; Red Hat Linux 2.1 ES: v2.4.9-e.12[9, 21], v2.4.9-e.16[9, 21]; Red Hat Linux 7.3: (v2.4.18-3)[9, 18, 19], updated w/ v2.4.18-27.7.x rpm[9, 18]	Emulex LP9002-E (LP9002L-E)[4, 6, 17]	FC-AL, FC-SW[20]	N
82	Netfinity 7000 M10[42]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 34], ES v2.4.9-e.24[9, 34]	QLogic QLA2340-E-SP[6, 30, 31]	FC-AL, FC-SW[32, 33]	Y[13, 16, 29, 35, 36, 37, 38, 39, 40, 41]
83	Netfinity 8500; xSeries x345	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 34], ES v2.4.9-e.24[9, 34]	QLogic QLA2340-E-SP[6, 30, 31]	FC-AL, FC-SW[32, 33]	N
84	Netfinity 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[10], x350 (6000R), x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 34], ES v2.4.9-e.24[9, 34]	QLogic QLA2340-E-SP[6, 30, 31]	FC-AL, FC-SW[32, 33]	Y[16, 29, 35, 36, 37, 38, 39, 40, 41]
85	xSeries x255	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 34], ES v2.4.9-e.24[9, 34]	QLogic QLA2340-E-SP[6, 30, 31]	FC-AL, FC-SW[32, 33]	Y[10, 16, 29, 35, 36, 37, 38, 39, 40, 41]
86	xSeries: x360[10], x440[11, 12]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 34], ES v2.4.9-e.24[9, 34]	QLogic QLA2340-E-SP[6, 30, 31]	FC-AL, FC-SW[32, 33]	Y[16, 29, 35, 36, 37, 38, 39, 40, 41]
87	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[9, 34], ES v2.4.9-e.24[9, 34]	QLogic QLA2340-E-SP[6, 30, 31]	FC-AL, FC-SW[32, 33]	Y[16, 29, 35, 36, 37, 38, 39, 40, 41]

1. This kernel is limited to 110 devices, not 128.
2. Install with driver provided by RedHat 7.2 Installer and upgrade to the EMC-approved driver after installation.
3. Requires QLogic driver 4.47.18 and BIOS 1.83.
4. **Host must be offline for interfamily Symmetrix microcode upgrade.**
5. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
6. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
7. **The kernel version listed is included in the corresponding standard distributed release.**
8. **Supported with QLogic driver v6.04.02 or v6.05.00.**
9. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
10. PowerPath v3.02 not supported on this system.
11. PowerPath v3.0.2 b069 is not supported on this system.
12. This system is supported with Red Hat 2.1 Advanced Server v2.4.9-E.3 and updated with v2.4.9-E.9, E.10, and E.12 RPMs.
13. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
14. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
15. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
16. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
17. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
18. Symmetrix 8000 Series. 66/67 support at Red Hat Kernel v2.4.x or later. 5568 support at Red Hat kernel v2.4.x or later.
19. **This kernel is supported with PowerPath 3.0.1 on Symmetrix attached hosts only.**
20. Single HBA zoning is required regardless of the switch being utilized
21. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
22. **The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.**
23. **The LP9002-E now ships with the LP9002L-E low profile adapter.**
24. This HBA is equivalent to the qLogic QLA2310
25. **(QLA2200) For IBM xSeries and Netfinity servers only.**
26. **This HBA is equivalent to the qLogic QLA2340.**
27. **Requires v6.05 or higher Navisphere host agent/CLI.**
28. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
29. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
30. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
31. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
32. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
33. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
34. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
35. **Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.**
36. **Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)**
37. **No MirrorView or SnapView used on boot LUNs.**
38. **EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.**
39. **Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.**
40. **Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.**
41. **For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.**
42. **This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850**

NEC

NEC – Red Hat Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 16]	QLogic QLA2200F-EMC[18]	FC-AL	Y[11, 12]	
2	**Express 5800: 120Rd-1, 120Rf-2, 140Hd, 140Rc-4, 180Rc-4**	**PCI**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[2, 3, 4, 5]**	**NEC N8190-105[21]**	**FC-AL, FC-SW**	**Y[1, 5, 8, 10, 11, 12, 14]**	
3	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[2, 3, 4, 5]**	**QLogic QLA2200F-EMC[6, 7, 13]**	FC-AL, FC-SW	Y[5, 11, 12]	
4	**Express 5800. 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[2, 3, 4, 5]**	**QLogic: QLA2310F-E-SP[6, 7, 13], QLA2340-E-SP[6, 7, 13]**	FC-AL, FC-SW	Y[5, 14]	
5	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[2, 3, 9]**, v2.4.9-E 12[3, 9]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 16]	Emulex: **LP9802-E[6, 7, 8]** LP9802DC-E, **LP982-E[6, 7, 8]**	FC-AL, FC-SW	N	
6	**Express 5800: 120Rd-1, 120Rf-2 140Hd, 140Rc-4. 180Rc-4**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[2, 3, 9], v2.4.9-E.12[3, 9], v2.4.9-E.16[3, 9], v2.4.9-E.3[2, 3, 4, 5], v2.4.9-E.9[3, 9]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 9], v2.4.9-e.16[3, 9]; Red Hat Linux 7.3: (v2.4.18-3)[3], updated w/ v2.4.18-27.7.x rpm[3, 16]**	**NEC N8190-105[21]**	**FC-AL, FC-SW**	**N**	
7	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[3, 9], v2.4.9-E.3[2, 3, 4, 5], v2.4.9-E.9[3, 9]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 9], v2.4.9-e.16[3, 9]**	**Emulex: LP9002-E (LP9002L-E)[6, 7, 8], LP9802-E[6, 7, 8], LP982-E[6, 7, 8]**	FC-AL, FC-SW	Y[1]	
8	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[3, 9], v2.4.9-E.3[2, 3, 4, 5], v2.4.9-E.9[3, 9]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 9]**, v2.4.9-e.16[3, 9]; Red Hat Linux 7.3 (v2.4.18-3)[3]	Emulex LP9802DC-E	FC-AL, FC-SW	Y[1, 8, 10]	
9	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[3, 9], v2.4.9-E.3[2, 3, 4, 5], v2.4.9-E.9[3, 9]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 9], v2.4.9-e.16[3, 9]; Red Hat Linux 7.3 (v2.4.18-3)[3]**	**QLogic QLA2342-E-SP[15]**	FC-AL, FC-SW	N	
10	**Express 5800: 120Rd-1, 120Rf-2, 140Hd, 140Rc-4, 180Rc-4**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[3, 9], v2.4.9-E.9[3, 9]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 9], v2.4.9-e.16[3, 9]**	**NEC N8190-105[21]**	**FC-AL, FC-SW**	**Y[1, 8, 10, 11, 12, 14]**	
11	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[3, 9], v2.4.9-E.9[3, 9]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 9], v2.4.9-e.16[3, 9]**	**QLogic QLA2200F-EMC[6, 7, 13]**	FC-AL, FC-SW	Y[11, 12]	
12	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[3, 9], v2.4.9-E.9[3, 9]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 9], v2.4.9-e.16[3, 9]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 16]**	**QLogic: QLA2310F-E-SP[6, 7, 13], QLA2340-E-SP[6, 7, 13]**	FC-AL, FC-SW	Y[14]	
13	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3, 22], ES v2.4.9-e.24[3, 22]**	**QLogic QLA2342-E-SP[6, 19, 23, 31, 32]**	**FC-AL, FC-SW**	**N**	
14	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 7.3 (v2.4.18-3)[3]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E	FC-AL, FC-SW	Y[1]	
15	**Express 5800: 120Rd-1, 120Rf-2, 140Hd. 140Rc-4. 180Rc-4**	**PCI**	**Red Hat Linux 7.3 (v2.4.18-3)[3]**	**NEC N8190-105[21]**	**FC-AL, FC-SW**	**Y[1, 8, 10]**	
16	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[3]**	**QLogic QLA2200F-EMC[6, 7, 13]**	FC-AL, FC-SW	N	
17	**Express 5800: 120Ra-2. 140Ha. 140Ma. 180Ha**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[3]**	**QLogic: QLA2310F-E-SP[6, 7, 13], QLA2340-E-SP[6, 7, 13]**	FC-AL, FC-SW	Y	
18	**Express 5800: 120Rd-1. 120Rf-2 140Hd, 140Rc-4. 180Rc-4**	**PCI**	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 16]**	**NEC N8190-105[21]**	**FC-AL, FC-SW**	**Y[11, 12, 14]**	**See[17]**
19	**Express 5800: 120Ra-2. 140Ha. 140Ma. 180Ha**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 16]**	**QLogic QLA2200F-EMC[6, 7, 13]**	FC-AL, FC-SW	Y[11, 12]	**See[17]**
20	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[3, 16]**	**QLogic QLA2342-E-SP[6, 7, 15, 19, 20]**	FC-AL, FC-SW	N	
21	**Express 5800 120Ra-2. 140Ha. 140Ma. 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[3, 22], ES v2.4.9-e.24[3, 22]**	**QLogic QLA2340-E-SP[6, 20, 23]**	**FC-AL FC-SW[31, 32]**	**Y[10, 14, 24, 25, 26, 27, 28, 29, 30]**	

1. Requires Emulex driver 4.20Q driver disk and BIOS 1.61a1 available from http://www.emulex.com/ts/docoem/framemc.htm
2. **Supported with QLogic driver v6.04.02 or v6.05.00.**
3. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
4. **The kernel version listed is included in the corresponding standard distributed release.**
5. This kernel is limited to 110 devices, not 128.
6. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
7. **Host must be offline for interfamily Symmetrix microcode upgrade.**
8. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com
9. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath
10. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric
11. Install with driver provided by RedHat 7.2 Installer and upgrade to the EMC-approved driver after installation.
12. Requires QLogic driver 4.47.18 and BIOS 1.83
13. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
14. Requires QLogic driver 4.47.18 driver disk, dd img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
15. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
16. Symmetrix 8000 Series 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later
17. Linux v2.4.x Kernels support a maximum of 128 devices per system
18. When used with the HP NetServer LC2000: 32 device maximum
19. **Single HBA zoning is required regardless of the switch being utilized.**
20. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
21. **Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.**
22. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**

23. Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
24. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
25. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
26. No MirrorView or SnapView used on boot LUNs.
27. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
28. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
29. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
30. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
31. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
32. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.

SGI IRIX
SGI

SGI – SGI IRIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Origin 200	PCI	SGI IRIX 6.5.13, 6.5.14	SGI XT-FC-2P[7, 8]	FC-AL	N	
2	Origin 200	PCI	SGI IRIX 6.5.13, 6.5.16	SGI PCI-FC-1P[7, 8]	FC-AL	N	
3	Onyx2; Origin 2000	PCI, XIO	SGI IRIX 6.4.1[2]	SGI PCI-FC-1P	FC-AL	N	See[6]
4	Origin 200[4]	PCI, XIO	SGI IRIX 6.4.1[2, 5]	SGI XT-FC-2P[7, 8]	FC-AL	N	See[6]
5	Origin 2000	PCI, XIO	SGI IRIX 6.5.13	SGI XT-FC-2P[7, 8]	FC-AL	N	
6	Origin 200[4]	PCI, XIO	SGI IRIX 6.5.16	SGI XT-FC-2P[7, 8]	FC-AL	N	
7	Onyx2	PCI, XIO	SGI IRIX: 6.4.1[2, 5], 6.5.10[2], 6.5.11[2], 6.5.12[2]	SGI XT-FC-2P[7, 8]	FC-AL	N	See[6]
8	Origin 200[4]	PCI, XIO	SGI IRIX: 6.5.10[2, 5], 6.5.11[2, 5], 6.5.12[2, 5]	SGI PCI-FC-1P[7, 8]	FC-AL	N	See[6]
9	Onyx2; Origin 2000	PCI, XIO	SGI IRIX: 6.5.10[2], 6.5.11[2], 6.5.12[2], 6.5.9[2]	SGI PCI-FC-1P[7, 8]	FC-AL	N	See[6]
10	Origin 200	PCI, XIO	SGI IRIX: 6.5.10[2], 6.5.11[2], 6.5.12[2], 6.5.9[2]	SGI XT-FC-2P[7, 8]	FC-AL	N	See[6]
11	Onyx2; Origin 2000	PCI, XIO	SGI IRIX: 6.5.13, 6.5.14	SGI PCI-FC-1P[7, 8]	FC-AL	N	
12	Onyx2	PCI, XIO	SGI IRIX: 6.5.13, 6.5.16, 6.5.17, 6.5.18[2]	SGI XT-FC-2P[7, 8]	FC-AL	N	
13	Origin 2000[4]	PCI, XIO	SGI IRIX: 6.5.16, 6.5.17, 6.5.18[2]	SGI XT-FC-2P[7, 8]	FC-AL	N	
14	Origin 200[4]	PCI, XIO	SGI IRIX: 6.5.17, 6.5.18[2]	SGI PCI-FC-1P[7, 8]	FC-AL	N	
15	Origin 3000	PCI	SGI IRIX 6.5.16	SGI XT-FC-1P-OPT-A	FC-AL, FC-SW	N	
16	Origin 300	PCI	SGI IRIX 6.5.16	SGI PCI-FC-1P-OPT-A, XT-FC-1P-OPT-A	FC-AL, FC-SW	N	
17	Origin 3000	PCI	SGI IRIX: 6.5.11[2], 6.5.12[2]	SGI PCI-FC-1P-OPT-A	FC-AL, FC-SW	N	See[6]
18	Origin 300, 3000	PCI	SGI IRIX: 6.5.12, 6.5.13, 6.5.16, 6.5.17, 6.5.18[2]	SGI PCI-FC-1P-OPT-B	FC-AL, FC-SW	N	
19	Origin 3000	PCI	SGI IRIX: 6.5.13[2], 6.5.16	SGI PCI-FC-1P-OPT-A	FC-AL, FC-SW	N	
20	Origin 300, 3000	PCI	SGI IRIX: 6.5.17, 6.5.18[2]	SGI PCI-FC-1P-OPT-A[7, 8]	FC-AL, FC-SW	N	
21	Origin 200, 2000	PCI, XIO	SGI IRIX 6.5.16	SGI XT-FC-1P-OPT-A	FC-AL, FC-SW	N	
22	Onyx2 Origin 200, 2000	PCI, XIO	SGI IRIX: 6.5.10[2], 6.5.11[2], 6.5.12[2], 6.5.9[2]	SGI PCI-FC-1P-OPT-A, XT-FC-1P-OPT-A	FC-AL, FC-SW	N	See[6]
23	Origin 200, 2000	PCI, XIO	SGI IRIX, 6.5.13[2], 6.5.16	SGI PCI-FC-1P-OPT-A	FC-AL, FC-SW	N	
24	Onyx2	PCI, XIO	SGI IRIX 6.5.13[2], 6.5.16	SGI PCI-FC-1P-OPT-A, XT-FC-1P-OPT-A	FC-AL, FC-SW	N	
25	Onyx2, Origin 200[4], 2000	PCI, XIO	SGI IRIX, 6.5.17, 6.5.18[2]	SGI PCI-FC-1P-OPT-A[7, 8], XT-FC-1P-OPT-A[7, 8]	FC-AL, FC-SW	N	
26	Origin 2000[4]	PCI, XIO	SGI IRIX: 6.4.1[2, 5], 6.5.10[2], 6.5.11[2], 6.5.12[2], 6.5.14[2], 6.5.15[2]	SGI XT-FC-2P[7, 8]	FC-AL[6]	N	
27	Origin 200[4]	PCI, XIO	SGI IRIX: 6.4.1[2, 5], 6.5.14[2], 6.5.15[2]	SGI PCI-FC-1P[7, 8]	FC-AL[6]	N	
28	Onyx2	PCI, XIO	SGI IRIX: 6.5.14[2], 6.5.15[2]	SGI XT-FC-2P[7, 8]	FC-AL[6]	N	
29	Origin 300	PCI	SGI IRIX: 6.5.11[2], 6.5.12[2], 6.5.13[2], 6.5.14[2], 6.5.15[2]	SGI PCI-FC-1P-OPT-A	FC-AL[6] FC-SW	N	
30	Origin 300	PCI	SGI IRIX: 6.5.14[2], 6.5.15[2]	SGI PCI-FC-1P-OPT-B	FC-AL[6] FC-SW	N	
31	Origin 3000	PCI	SGI IRIX: 6.5.14[2], 6.5.15[2]	SGI PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B	FC-AL[6] FC-SW	N	
32	Origin 200	PCI XIO	SGI IRIX 6.5.13[2]	SGI XT-FC-1P-OPT-A	FC-AL[6] FC-SW	N	
33	Origin 2000	PCI, XIO	SGI IRIX 6.5.13[2], 6.5.14, 6.5.15	SGI XT-FC-1P-OPT-A	FC-AL[6] FC-SW	N	
34	Origin 2000	PCI XIO	SGI IRIX 6.5.14, 6.5.15	SGI PCI-FC-1P-OPT-A	FC-AL[6] FC-SW	N	
35	Onyx2; Origin 200[4]	PCI, XIO	SGI IRIX: 6.5.14, 6.5.15	SGI PCI-FC-1P-OPT-A, XT-FC-1P-OPT-A	FC-AL[6] FC-SW	N	
36	Challenge DM L[3, 4], S[3, 4], XL	HIO	SGI IRIX 5.3[2], 6.5.10[2]	SGI P-S-HIO SCSI	FWD	N	See[1]

SGI – SGI IRIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
37	Origin 200	PCI	SGI IRIX 6.5.13	SGI XT-SCSIB-4P	FWD	N	
38	Origin 3000[4]	PCI	SGI IRIX 6.5.16	SGI XT-SCSIB-4P	FWD	N	
39	Origin 200[4]	PCI, XIO	SGI IRIX 6.4.1[2, 5]	SGI XT-SCSIB-4P[9]	FWD	N	See[6]
40	Onyx2; Origin: 200[3, 4], 2000[3, 4]	PCI, XIO	SGI IRIX 6.5.16	QLogic QLA1041B, SGI: PCI-SCSI-1P, XT-SCSIB-4P	FWD	N	
41	Origin 200[3, 4]	PCI, XIO	SGI IRIX: 6.4.1[2, 5], 6.5.10[2], 6.5.11[2], 6.5.12[2]	QLogic QLA1041B	FWD	N	See[1]
42	Onyx2; Origin 2000[3, 4]	PCI, XIO	SGI IRIX: 6.4.1[2, 5], 6.5.10[2], 6.5.11[2], 6.5.12[2]	SGI XT-SCSIB-4P	FWD	N	See[1]
43	Origin 200	PCI, XIO	SGI IRIX: 6.5.10[2], 6.5.11[2], 6.5.12[2], 6.5.9[2]	SGI XT-SCSIB-4P[9]	FWD	N	See[6]
44	Onyx2	PCI, XIO	SGI IRIX: 6.4.1[2, 9], 6.5.10[2], 6.5.11[2], 6.5.12[2], 6.5.13[2], 6.5.14[2], 6.5.15[2]	QLogic QLA1041B	FWD[9]	N	
45	Origin 200[3, 4]	PCI, XIO	SGI IRIX: 6.5.13[2], 6.5.14[2], 6.5.15[2]	QLogic QLA1041B	FWD[9]	N	
46	Onyx2; Origin 2000[3, 4]	PCI, XIO	SGI IRIX: 6.5.13[2], 6.5.14[2], 6.5.15[2]	SGI XT-SCSIB-4P	FWD[9]	N	
47	Origin 200[3, 4]	PCI, XIO	SGI IRIX: 6.5.14, 6.5.15	SGI XT-SCSIB-4P	FWD[9]	N	
48	Origin 3000	PCI	SGI IRIX 6.5.16	SGI PCI-SCSI-U3-2P	U2 LVD	N	
49	Origin 300	PCI	SGI IRIX: 6.5.12, 6.5.13, 6.5.14, 6.5.15, 6.5.16	SGI PCI-SCSI-U3-2P	U2 LVD	N	
50	Origin 3000[4]	PCI	SGI IRIX: 6.5.12[2], 6.5.13[2], 6.5.14[2], 6.5.15[2]	SGI PCI-SCSI-U3-2P	U2 LVD[9]	N	

1. Challenge not supported by SGI as part of SGI-ware program.
2. Symmetrix 8000 Series: 66/67 support at IRIX 6.5.10, 5568 support at IRIX 6.5.13 except for Challenge series.
3. I/Os will fail if a SCSI cable is temporarily disconnected.
4. I/Os will immediately fail if a device becomes not ready. This is an SGI bug.
5. Requires SGI patch set 10/1/98.
6. FC-AL supports 128 LUNs per adapter. LUN skipping is permitted, however, LUN 0 must exist for each adapter.
7. SGI has replaced this adapter with the QLogic 2200 card. New installs should order part number PCI-FC-1P-OPT-A for PCI, or XT-FC-1P-OPT-A for XIO from SGI. This adapter does not require a copper to optical MIA.
8. Requires copper to optical MIA. Contact Methode Electronics at 800-323-6858 (P/N MDB-9-6-1) or Gadzoox Microsystems at 410-838-2108 (P/N MDM1063TC-G).
9. SCSI supports targets 1-15. LUNs 0-7. LUN skipping is permitted, however, LUN 0 must exist for each target.

SuSE Linux

DG

DG – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON: AV1400, AV2800, AV3704, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	Emulex LP9802DC-E[2, 4, 13], QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW	N	See[1]
2	AViiON: AV1400, AV2800, AV3704, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[10, 11]	Emulex: LP9802DC-E[2, 4, 13], LP982-E[2, 4, 13]	FC-AL, FC-SW	N	
3	AViiON AV3704R	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[10, 11]	QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[9]
4	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8] updated with SuSE v2.4.18 rpm[10, 11]	QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4], QLA2342-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[1, 9]
5	AViiON: AV1400, AV2800, AV3704, AV3704R, AV3800, AV8900, AV8950 AV8950R	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 8] updated with SuSE v2.4.18 rpm[10, 11]	Emulex LP9802-E[2, 4, 13]	FC-AL, FC-SW	N	
6	AViiON AV3704R	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[21, 22]	QLogic: QLA2310F-E-SP[2, 4, 12, 20], QLA2340-E-SP[2, 4, 12, 20]	FC-AL, FC-SW	N	See[9]
7	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[21, 22]	QLogic: QLA2310F-E-SP[2, 4, 12, 20], QLA2340-E-SP[2, 4, 12, 20], QLA2342-E-SP[2, 4, 12, 20]	FC-AL, FC-SW	N	See[1, 9]
8	AViiON AV3704R	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[16, 17, 18]	QLogic: QLA2310F-E-SP[2, 4, 15], QLA2340-E-SP[2, 4, 15]	FC-AL, FC-SW	N	See[9]
9	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[16, 17, 18]	QLogic: QLA2310F-E-SP[2, 4, 15], QLA2340-E-SP[2, 4, 15], QLA2342-E-SP[2, 4, 15]	FC-AL, FC-SW	N	See[1, 9]
10	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[10, 11]	Emulex LP9002-E (LP9002L-E)[2, 4, 14]	FC-AL, FC-SW[12]	N	See[1, 9]
11	AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[10, 11]	QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW[12]	N	See[9]
12	AViiON AV3704	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[10, 11]	QLogic QLA2200F-EMC[2, 3, 4, 12]	FC-AL, FC-SW[12]	N	See[9]
13	AViiON AV3704	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[21, 22]	QLogic QLA2200F-EMC[2, 4, 12, 23]	FC-AL, FC-SW[12]	N	See[9]
14	AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[21, 22]	QLogic QLA2200F-EMC[2, 4, 23]	FC-AL, FC-SW[12]	N	See[9]
15	AViiON AV3704	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[16, 17, 18]	QLogic QLA2200F-EMC[2, 4, 12, 19]	FC-AL, FC-SW[12]	N	See[9]
16	AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[16, 17, 18]	QLogic QLA2200F-EMC[2, 4, 19]	FC-AL, FC-SW[12]	N	See[9]

1. Symmetrix 8000 Series, 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later.
2. Host must be offline for interfamily Symmetrix microcode upgrade.
3. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
4. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
5. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
6. Supported with QLogic driver v6.04.02.
7. The kernel version listed is included in the corresponding standard distributed release.
8. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
9. Linux v2.4.x Kernels support a maximum of 128 devices per system.

10. Requires rev2_sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
11. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
12. Single HBA zoning is required regardless of the switch being utilized.
13. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
14. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
15. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
16. Requires QLogic v6.04.02 driver.
17. Requires QLogic driver v6.04.00 or above.
18. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
19. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
20. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
21. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
22. Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.
23. Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65

Dell

Dell – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerEdge 1650	PCI	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	Emulex LP9802DC-E[2, 4, 15]	FC-AL, FC-SW	N	See[9]
2	PowerEdge: 1550, 2300, 2450 2500, 2550[11], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	Emulex LP9802DC-E[2, 4, 15]	FC-AL, FC-SW	N	See[1, 9]
3	PowerVault: 750N, 755N, 775N	PCI	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	Emulex LP9802DC-E[2, 4, 15], QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW	N	See[1]
4	PowerEdge 1550	PCI	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW	N	See[1]
5	PowerEdge: 2300, 2400, 2450, 2500, 2550[11], 4300, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW	N	
6	PowerEdge: 2400, 4300	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[12, 13]	Emulex LP982-E[2, 4, 15], QLogic QLA2200F-EMC[2, 4]	FC-AL, FC-SW	N	
7	PowerEdge: 1550, 1650	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[12, 13]	Emulex: LP9802DC-E[2, 4, 15], LP982-E[2, 4, 15]	FC-AL, FC-SW	N	
8	PowerEdge: 2300, 2450, 2500, 2550[11], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[12, 13]	Emulex: LP9802DC-E[2, 4, 15], LP982-E[2, 4, 15], QLogic QLA2200F-EMC[2, 4]	FC-AL, FC-SW	N	
9	PowerVault: 750N, 755N, 775N	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[12, 13]	QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[9]
10	PowerEdge: 2400, 4300	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[12, 13]	Emulex LP9802DC-E[2, 4, 15], QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4]	FC-AL, FC-SW	N	
11	PowerEdge: 1550, 1650, 2300, 2450, 2500, 2550[11], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[12, 13]	QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4], QLA2342-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[1, 9]
12	PowerEdge: 1550, 1650, 2300, 2400, 2450, 2500, 2550[11], 4300, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 7, 8] updated with SuSE v2.4.18 rpm[12, 13]	Emulex LP9802-E[2, 4, 15]	FC-AL, FC-SW	N	
13	PowerEdge: 2300, 2450, 2500, 2550[11], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[22, 23]	QLogic QLA2200F-EMC[2, 4, 24]	FC-AL, FC-SW	N	
14	PowerEdge: 2400, 4300	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[22, 23]	QLogic: QLA2200F-EMC[2, 4, 24], QLA2310F-E-SP[2, 4, 10, 21], QLA2340-E-SP[2, 4, 10, 21]	FC-AL, FC-SW	N	
15	PowerVault: 750N, 755N, 775N	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[22, 23]	QLogic: QLA2310F-E-SP[2, 4, 10, 21], QLA2340-E-SP[2, 4, 10, 21]	FC-AL, FC-SW	N	See[9]
16	PowerEdge: 1550, 1650, 2300, 2450, 2500, 2550[11], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[22, 23]	QLogic: QLA2310F-E-SP[2, 4, 10, 21], QLA2340-E-SP[2, 4, 10, 21], QLA2342-E-SP[2, 4, 10, 21]	FC-AL, FC-SW	N	See[1, 9]
17	PowerEdge: 2300, 2450, 2500, 2550[11], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]	QLogic QLA2200F-EMC[2, 4, 20]	FC-AL, FC-SW	N	
18	PowerEdge 2400, 4300	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]	QLogic: QLA2200F-EMC[2, 4, 20], QLA2310F-E-SP[2, 4, 16], QLA2340-E-SP[2, 4, 16]	FC-AL, FC-SW	N	
19	PowerVault: 750N, 755N, 775N	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]	QLogic: QLA2310F-E-SP[2, 4, 16], QLA2340-E-SP[2, 4, 16]	FC-AL, FC-SW	N	See[9]
20	PowerEdge: 1550, 1650, 2300, 2450, 2500, 2550[11], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]	QLogic: QLA2310F-E-SP[2, 4, 16], QLA2340-E-SP[2, 4, 16], QLA2342-E-SP[2, 4, 16]	FC-AL, FC-SW	N	See[1, 9]
21	PowerEdge 1750	PCI-X	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	Emulex LP9802DC-E[2, 4, 15]	FC-AL, FC-SW	N	See[9]
22	PowerEdge 2600, 2650, 4600, 6600, 6650	PCI-X	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	Emulex LP9802DC-E[2, 4, 15]	FC-AL, FC-SW	N	See[1, 9]
23	PowerEdge 2600, 2650, 4600, 6600, 6650	PCI-X	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW	N	
24	PowerEdge 1750	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[12, 13]	Emulex LP9802DC-E[2, 4, 15], LP982-E[2, 4, 15]	FC-AL, FC-SW	N	
25	PowerEdge 2600, 2650 4600 6600 6650	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[12, 13]	Emulex LP9802DC-E[2, 4, 15], LP982-E[2, 4, 15], QLogic QLA2200F-EMC[2, 4]	FC-AL, FC-SW	N	
26	PowerEdge 1750, 2600, 2650, 4600, 6600, 6650	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8] updated with SuSE v2.4.18 rpm[12, 13]	QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4], QLA2342-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[1, 9]
27	PowerEdge 1750, 2600 2650 4600 6600, 6650	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 7, 8] updated with SuSE v2.4.18 rpm[12, 13]	Emulex LP9802-E[2, 4, 15]	FC-AL FC-SW	N	
28	PowerEdge 2600 2650 4600 6600, 6650	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[22, 23]	QLogic QLA2200F-EMC[2, 4, 24]	FC-AL FC-SW	N	See[1, 9]
29	PowerEdge 1750, 2600, 2650 4600 6600 6650	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[22, 23]	QLogic: QLA2310F-E-SP[2, 4, 10, 21], QLA2340-E-SP[2, 4, 10, 21], QLA2342-E-SP[2, 4, 10, 21]	FC-AL, FC-SW	N	
30	PowerEdge 2600 2650 4600, 6600, 6650	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]	QLogic QLA2200F-EMC[2, 4, 20]	FC-AL, FC-SW	N	

Dell – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
31	**PowerEdge: 1750, 2600, 2650, 4600, 6600 6650**	PCI-X	**SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]**	**QLogic: QLA2310F-E-SP[2, 4, 16], QLA2340-E-SP[2, 4, 16], QLA2342-E-SP[2, 4, 16]**	FC-AL, FC-SW	N	**See[1, 9]**
32	**PowerEdge: 1550, 1650, 2300 2450 2500 2550[11], 4400, 6100, 6300, 6350 6400, 6450, 8450**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[12, 13]**	**Emulex LP9002-E (LP9002L-E)[2, 4, 14]**	FC-AL, FC-SW[10]	N	**See[1, 9]**
33	**PowerEdge: 1750, 2600, 2650, 4600, 6600 6650**	PCI-X	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[12, 13]**	**Emulex LP9002-E (LP9002L-E)[2, 4, 14]**	FC-AL, FC-SW[10]	N	**See[1, 9]**
34	PowerEdge 1650	PCI	SuSE Linux SLES 7 (v2.4.7)[5, 7, 8]	QLogic QLA2200F-EMC	FC-AL[10] FC-SW[10]	N	See[9]
35	PowerEdge 1750	PCI-X	SuSE Linux SLES 7 (v2.4.7)[5, 7, 8]	QLogic QLA2200F-EMC	FC-AL[10] FC-SW[10]	N	See[9]

1. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later. 5568 support at Red Hat kernel v2.4.x or later.
2. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
3. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
4. **Host must be offline for interfamily Symmetrix microcode upgrade.**
5. Supported with QLogic driver v6.04.02
6. **The kernel version listed is included in the corresponding standard distributed release.**
7. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
8. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
9. Linux v2.4.x Kernels support a maximum of 128 devices per system.
10. Single HBA zoning is required regardless of the switch being utilized
11. **PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.**
12. **Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux**
13. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ**
14. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
15. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
16. **Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
17. **Requires QLogic driver v6.04.00 or above.**
18. **Requires QLogic v6.04.02 driver.**
19. **Requires rev3_sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.**
20. **Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
21. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
22. **Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
23. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
24. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

Fujitsu Siemens

Fujitsu Siemens – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Primergy RX100**	PCI	**SuSE Linux SLES 7 (v2.4.7)[7, 8, 9]**	**Emulex LP9802DC-E[3, 4, 15]**	FC-AL, FC-SW	N	**See[1, 2]**
2	**Primergy T850**	PCI	**SuSE Linux SLES 7 (v2.4.7)[7, 8, 9]**	**Emulex LP9802DC-E[3, 4, 15]; QLogic QLA2200F-EMC[3, 4, 10]**	FC-AL, FC-SW	N	**See[1, 2]**
3	**Primergy: B210, C200, E200 F200, H200 H400, K400, L200, N200, N400, P200, P250**	PCI	**SuSE Linux SLES 7 (v2.4.7)[7, 8, 9, 11]**	**Emulex LP9802DC-E[3, 4, 15]**	FC-AL, FC-SW	N	**See[1, 2]**
4	**Primergy R450**	PCI	**SuSE Linux SLES 7 (v2.4.7)[7, 8, 9, 11]**	**Emulex LP9802DC-E[3, 4, 15]; QLogic QLA2200F-EMC[3, 4, 10]**	FC-AL, FC-SW	N	
5	**Primergy: B210, C200, E200 F200, H200 H400, K400, L200, N200, N400, P200, P250**	PCI	**SuSE Linux SLES 7 (v2.4.7)[7, 8, 9, 11]**	**QLogic QLA2200F-EMC[3, 4, 10]**	FC-AL, FC-SW	N	
6	**Primergy: B210, C200, E200, F200 H200, H400, K400, L200, N200, N400, P200, P250, R450, T850**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[13, 14]**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL, FC-SW	N	**See[1, 2]**
7	**Primergy: B210, C200, E200 F200, H200 H400, K400, L200, N200, N400 P200 P250, R450 T850**	**PCI**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[21, 22]**	**QLogic QLA2200F-EMC[3, 4, 20]**	**FC-AL, FC-SW**	**N**	**See[1, 2]**
8	**Primergy: B210, C200, E200, F200 H200, H400, K400, L200 N200, N400, P200 P250, R450, T850**	PCI	**SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]**	**QLogic QLA2200F-EMC[3, 4, 16]**	FC-AL, FC-SW	N	**See[1, 2]**
9	**Primergy: N800 RX200 RX300, TX200 TX300**	PCI-X	**SuSE Linux SLES 7 (v2.4.7)[7, 8, 9, 11]**	**Emulex LP9802DC-E[3, 4, 15]**	FC-AL, FC-SW	N	**See[1, 2]**
10	**Primergy: F250[12], H250[12] H450**	PCI-X	**SuSE Linux SLES 7 (v2.4.7)[7, 8, 9, 11]**	**Emulex LP9802DC-E[3, 4, 15]; QLogic QLA2200F-EMC[3, 4, 10]**	FC-AL, FC-SW	N	
11	**Primergy: N800 RX200 RX300 TX200 TX300**	PCI-X	**SuSE Linux SLES 7 (v2.4.7)[7, 8, 9, 11]**	**QLogic QLA2200F-EMC[3, 4, 10]**	FC-AL, FC-SW	N	
12	**Primergy: F250[12], H250[12] H450 N800, RX200 RX300 TX200, TX300**	PCI-X	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[13, 14]**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL, FC-SW	N	**See[1, 2]**
13	**Primergy: F250[12], H250[12] H450 N800, RX200 RX300 TX200, TX300**	**PCI-X**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[21, 22]**	**QLogic QLA2200F-EMC[3, 4, 20]**	**FC-AL, FC-SW**	**N**	**See[1, 2]**
14	**Primergy: F250[12], H250[12] H450, N800, RX200 RX300 TX200, TX300**	PCI-X	**SuSE Linux SLES 8 v2.4.19-SuSE.175[17, 18, 19]**	**QLogic QLA2200F-EMC[3, 4, 16]**	FC-AL, FC-SW	N	**See[1, 2]**
15	**Primergy R450**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[13, 14]**	**Emulex LP9002-E (LP9002L-E)[3, 4, 5]**	FC-AL FC-SW[6]		**See[1, 2]**
16	**Primergy: B210 C200 E200 F200 H200 H400 K400 L200, N200 N400 P200 P250 RX100 T850**	PCI	**SuSE Linux SLES 7 (v2.4.7)[7, 8, 9] updated with SuSE v2.4.18 rpm[13, 14]**	**Emulex LP9002-E (LP9002L-E)[3, 4, 5]**	FC-AL FC-SW[6]	N	**See[1, 2]**
17	**Primergy: N800 RX200 RX300 TX200 TX300**	PCI-X	**SuSE Linux SLES 7. (v2.4.7)[7, 8, 9] updated with SuSE v2.4.18 rpm[13, 14]**	**Emulex LP9002-E (LP9002L-E)[3, 4, 5]**	FC-AL FC-SW[6]	N	**See[1, 2]**

1 Linux v2.4.x Kernels support a maximum of 128 devices per system
2 Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later. 5568 support at Red Hat kernel v2.4.x or later.

3. Host must be offline for interfamily Symmetrix microcode upgrade.
4. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
5. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
6. Single HBA zoning is required regardless of the switch being utilized.
7. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
8. Supported with QLogic driver v6.04.02.
9. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
10. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
11. The kernel version listed is included in the corresponding standard distributed release.
12. Must use standard PCI 32bit/33MHz slot for SCSI
13. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
14. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
15. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
16. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
17. Requires QLogic v6.04.02 driver.
18. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
19. Requires QLogic driver v6.04.00 or above.
20. Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
21. Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.
22. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.

HPQ

HPQ - SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[10, 13], 1850[10], 2500[10], 6400R[10], 6500[9, 10], 800, 850[10], DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], DL580(G2)[10], ML350[10], ML370[10], ML370(G2), ML370(G3), ML530[10], ML530(G2)[10], ML570[10], ML750[12]	PCI	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	Emulex LP9802DC-E[2, 4, 18]	FC-AL, FC-SW	N	See[1, 11]
	Proliant: 6000R, 6400R Pro, 8000 Pro, 8000 Xeon, 8500, 8500 8-way Xeon 550[10], 850R, ML350(G2)[10]	PCI	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	Emulex LP9802DC-E[2, 4, 18]; QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW	N	See[1]
3	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[10, 13], 1850[10], 2500[10], 3000[10], 5000[10], 5500[9, 10], 6000[9, 10], 6400R[10], 6500[9, 10], 800, 8000[9, 10], 850[10], DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], DL580(G2)[10], ML350[10], ML370[10], ML370(G2), ML370(G3), ML530[10], ML570[10], ML750[12]	PCI	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW	N	
4	Netserver LH PRO; Proliant: 7000[9, 10], ML530(G2)[10]	PCI	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW	N	See[1]
5	Proliant: ML350[10], ML370(G2), ML370(G3), ML530(G2)[10]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9002-E (LP9002L-E)[2, 4]	FC-AL, FC-SW	N	See[1, 11]
6	Proliant: ML350(G2)[10], ML530(G2)[10]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex: LP9802DC-E[2, 4, 18], LP982-E[2, 4, 18]	FC-AL, FC-SW	N	
7	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[10, 13], 1850[10], 2500[10], 6400R[10], 6500[9, 10], 800, 850[10], DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], DL580(G2)[10], ML350[10], ML370[10], ML370(G2), ML370(G3), ML530[10], ML570[10], ML750[12]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex: LP9802DC-E[2, 4, 18], LP982-E[2, 4, 18]; QLogic QLA2200F-EMC[2, 4]	FC-AL, FC-SW	N	
8	Netserver LH: (LH Pro), 3, 4, II, III; Netserver: LX PRO, LXR PRO, LXR PRO8; Proliant: 3000[10], 5000[10], 5500[9, 10], 6000[9, 10], 8000[9, 10]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	QLogic QLA2200F-EMC[2, 4]	FC-AL, FC-SW	N	
9	Proliant ML350(G2)[10]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[11]
10	Netserver LH III	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8] updated with SuSE v2.4.18 rpm[14, 15]	QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4]	FC-AL, FC-SW	N	
11	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[10, 13], 1850[10], 2500[10], 3000[10], 5000[10], 5500[9, 10], 6000[9, 10], 6400R[10], 6500[9, 10], 7000[9, 10], 800, 8000[9, 10], 850[10], DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], DL580(G2)[10], ML350[10], ML370[10], ML370(G2), ML370(G3), ML530[10], ML530(G2)[10], ML570[10], ML750[12]	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8] updated with SuSE v2.4.18 rpm[14, 15]	QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4], QLA2342-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[1, 11]
12	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[10, 13], 1850[10], 2500[10], 6400R[10], 6500[9, 10], 800, 850[10], DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], DL580(G2)[10], ML350[10], ML350(G2)[10], ML370[10], ML370(G2), ML370(G3), ML530[10], ML530(G2)[10], ML570[10], ML750[12]	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 7, 8] updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9802-E[2, 4, 18]	FC-AL, FC-SW	N	
13	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[10, 13], 1850[10], 2500[10], 3000[10], 5000[10], 5500[9, 10], 6000[9, 10], 6400R[10], 6500[9, 10], 800, 8000[9, 10], 850[10], DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], DL580(G2)[10], ML350[10], ML370[10], ML370(G2), ML370(G3), ML530[10], ML570[10], ML750[12]	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]	QLogic QLA2200F-EMC[2, 4, 27]	FC-AL, FC-SW	N	
14	Netserver LH III	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]	QLogic QLA2200F-EMC[2, 4, 27], QLA2310F-E-SP[2, 4, 16, 26], QLA2340-E-SP[2, 4, 16, 26]	FC-AL, FC-SW	N	
15	Proliant ML350(G2)[10]	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]	QLogic QLA2310F-E-SP[2, 4, 16, 26], QLA2340-E-SP[2, 4, 16, 26]	FC-AL, FC-SW	N	

HPQ – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
16	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[10, 13], 1850[10], 2500[10], 3000[10], 5000[10], 5500[9, 10], 6000[9, 10], 6400R[10], 6500[9, 10], 7000[9, 10], 800, 8000[9, 10], 850[10], DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], DL580(G2)[10], ML350[10], ML370[10], ML370(G2), ML370(G3), ML530[10], ML530(G2)[10], ML570[10], ML750[12]	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]	QLogic: QLA2310F-E-SP[2, 4, 16, 26], QLA2340-E-SP[2, 4, 16, 26], QLA2342-E-SP[2, 4, 16, 26]	FC-AL, FC-SW	N	See[1, 11]
17	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[10, 13], 1850[10], 2500[10], 3000[10], 5000[10], 5500[9, 10], 6000[9, 10], 6400R[10], 6500[9, 10], 800, 8000[9, 10], 850[10], DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], DL580(G2)[10], ML350[10], ML370[10], ML370(G2), ML370(G3), ML530[10], ML570[10], ML750[12]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic QLA2200F-EMC[2, 4, 23]	FC-AL, FC-SW	N	
18	Netserver LH III	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic: QLA2200F-EMC[2, 4, 23] QLA2310F-E-SP[2, 4, 19], QLA2340-E-SP[2, 4, 19]	FC-AL, FC-SW	N	
19	Proliant ML350(G2)[10]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic: QLA2310F-E-SP[2, 4, 19], QLA2340-E-SP[2, 4, 19]	FC-AL, FC-SW	N	See[11]
20	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[10, 13], 1850[10], 2500[10], 3000[10], 5000[10], 5500[9, 10], 6000[9, 10], 6400R[10], 6500[9, 10], 7000[9, 10], 800, 8000[9, 10], 850[10], DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], DL580(G2)[10], ML350[10], ML370[10], ML370(G2), ML370(G3), ML530[10], ML530(G2)[10], ML570[10], ML750[12]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic: QLA2310F-E-SP[2, 4, 19], QLA2340-E-SP[2, 4, 19] QLA2342-E-SP[2, 4, 19]	FC-AL, FC-SW	N	See[1, 11]
21	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	Emulex LP9802DC-E[2, 4, 18]	FC-AL, FC-SW	N	See[1, 11]
22	Proliant: DL560, DL560 (G2), DL740, DL760[10], DL760 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW	N	
23	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP982-E[2, 4, 18]; QLogic QLA2200F-EMC[2, 4]	FC-AL, FC-SW	N	
24	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex: LP9802DC-E[2, 4, 18], LP982-E[2, 4, 18]; QLogic QLA2200F-EMC[2, 4]	FC-AL, FC-SW	N	
25	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9802DC-E[2, 4, 18]; QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4]	FC-AL, FC-SW	N	
26	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8], updated with SuSE v2.4.18 rpm[14, 15]	QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4] QLA2342-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[1, 11]
27	Proliant: DL560, DL560 (G2), DL740, DL760[10], DL760 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 7: (v2.4.7)[5, 7, 8], updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9802-E[2, 4, 18]	FC-AL, FC-SW	N	
28	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]	QLogic QLA2200F-EMC[2, 4, 27]	FC-AL, FC-SW	N	
29	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]	QLogic: QLA2200F-EMC[2, 4, 27] QLA2310F-E-SP[2, 4, 16, 26], QLA2340-E-SP[2, 4, 16, 26]	FC-AL, FC-SW	N	
30	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]	QLogic: QLA2310F-E-SP[2, 4, 16, 26], QLA2340-E-SP[2, 4, 16, 26], QLA2342-E-SP[2, 4, 16, 26]	FC-AL, FC-SW	N	See[1, 11]
31	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic QLA2200F-EMC[2, 4, 23]	FC-AL, FC-SW	N	
32	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic QLA2200F-EMC[2, 4, 23] QLA2310F-E-SP[2, 4, 19], QLA2340-E-SP[2, 4, 19]	FC-AL, FC-SW	N	
33	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic: QLA2310F-E-SP[2, 4, 19], QLA2340-E-SP[2, 4, 19] QLA2342-E-SP[2, 4, 19]	FC-AL, FC-SW	N	See[1, 11]
34	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	Emulex LP9802DC-E[2, 4, 18]	FC-AL, FC-SW	N	See[1, 11]
35	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW	N	
36	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex: LP9802DC-E[2, 4, 18], LP982-E[2, 4, 18]; QLogic QLA2200F-EMC[2, 4]	FC-AL, FC-SW	N	
37	Proliant DL580(G3)	PCI PCI-X	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8] updated with SuSE v2.4.18 rpm[14, 15]	QLogic QLA2310F-E-SP[2, 3, 4] QLA2340-E-SP[2, 3, 4] QLA2342-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[1, 11]
38	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 7 (v2.4.7)[5, 7, 8], updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9802-E[2, 4, 18]	FC-AL, FC-SW	N	

HPQ – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
39	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]	QLogic QLA2200F-EMC[2, 4, 27]	FC-AL, FC-SW	N	
40	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[24, 25]	QLogic: QLA2310F-E-SP[2, 4, 16, 26], QLA2340-E-SP[2, 4, 16, 26], QLA2342-E-SP[2, 4, 16, 26]	FC-AL, FC-SW	N	See[1, 11]
41	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic QLA2200F-EMC[2, 4, 23]	FC-AL, FC-SW	N	
42	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic: QLA2310F-E-SP[2, 4, 19], QLA2340-E-SP[2, 4, 19], QLA2342-E-SP[2, 4, 19]	FC-AL, FC-SW	N	See[1, 11]
43	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[10, 13], 1850[10], 2500[10], 6400R[10], 6500[9, 10], 800, 850[10], DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], DL580(G2)[10], ML350(G2)[10], ML370[10], ML530[10], ML570[10], ML750[12]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9002-E (LP9002L-E)[2, 4, 17]	FC-AL, FC-SW[16]	N	See[1, 11]
44	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9002-E (LP9002L-E)[2, 4, 17]	FC-AL, FC-SW[16]	N	See[1, 11]
45	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9002-E (LP9002L-E)[2, 4, 17]	FC-AL, FC-SW[16]	N	See[1, 11]

1. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later.
2. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
3. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
4. Host must be offline for interfamily Symmetrix microcode upgrade.
5. Supported with QLogic driver v6.04.02.
6. The kernel version listed is included in the corresponding standard distributed release.
7. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
8. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
9. Includes both Pentium PRO and XEON models
10. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
11. Linux v2.4.x Kernels support a maximum of 128 devices per system.
12. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
13. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
14. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
15. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
16. Single HBA zoning is required regardless of the switch being utilized.
17. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
18. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
19. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
20. Requires QLogic v6.04.02 driver.
21. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
22. Requires QLogic driver v6.04.00 or above.
23. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
24. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
25. Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.
26. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
27. Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65

IBM

IBM – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7 (v2.4.7)[6, 7, 8, 9]	Emulex LP9802DC-E[4, 5, 18]	FC-AL, FC-SW	N	See[1, 2]
2	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600 8500R, xSeries, X330, X340 (4500R), X342, x230 x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7 (v2.4.7)[6, 7, 8, 9]	QLogic QLA2200F-EMC[3, 4, 5]	FC-AL, FC-SW	N	
3	xSeries: X342, x255, x345	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9002-E (LP9002L-E)[4, 5]	FC-AL, FC-SW	N	See[1, 2]
4	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600 8500R; xSeries, X330, X340 (4500R), X342, x230 x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex, LP9802DC-E[4, 5, 18], LP982-E[4, 5, 18]. QLogic QLA2200F-EMC[4, 5]	FC-AL, FC-SW	N	
5	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R, xSeries, X330, X340 (4500R), X342, x230 x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7 (v2.4.7)[6, 7, 8, 9], updated with SuSE v2.4.18 rpm[14, 15]	QLogic, QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5], QLA2342-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1, 2]
6	Netfinity, 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600 8500R xSeries, X330, X340 (4500R), X342, x230 x232, x240, x250, x255, x350 (6000R) x370	PCI	SuSE Linux SLES 7 (v2.4.7)[6, 7, 8, 9] updated with SuSE v2.4.18 rpm[14, 15]. SuSE Linux SLES 8 v2.4.19-SuSE.175[21, 22]	IBM 00N6881 (QLA2200)[3, 4, 5, 11], 19K1246(QLA2310)[3, 4, 5, 12], 24P0960(QLA2340)[3, 4, 5, 13]	FC-AL, FC-	N	

IBM – SuSE Linux								
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
7	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7: (v2.4.7)[6, 7, 9] updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9802-E[4, 5, 18]	FC-AL, FC-SW	N	
8	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R; xSeries, X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[25, 26]	QLogic QLA2200F-EMC[4, 5, 27]	FC-AL, FC-SW	N	
9	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[25, 26]	QLogic: QLA2310F-E-SP[4, 5, 17, 24], QLA2340-E-SP[4, 5, 17, 24], QLA2342-E-SP[4, 5, 17, 24]	FC-AL, FC-SW	N	See[1, 2]
10	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic QLA2200F-EMC[4, 5, 23]	FC-AL, FC-SW	N	
11	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230 x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic: QLA2310F-E-SP[4, 5, 19], QLA2340-E-SP[4, 5, 19], QLA2342-E-SP[4, 5, 19]	FC-AL, FC-SW	N	See[1, 2]
12	xSeries x440	PCI-X	SuSE Linux SLES 7 (v2.4.7)[6, 7, 8, 9]	QLogic: QLA2200F-EMC[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	
13	xSeries x440	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP982-E[4, 5, 18], QLogic QLA2200F-EMC[4, 5]	FC-AL, FC-SW	N	
14	xSeries x440	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	QLogic QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1]
15	xSeries x440	PCI-X	SuSE Linux SLES 7: (v2.4.7)[6, 7, 8, 9], updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9802DC-E[4, 5, 18], QLogic QLA2310F-E-SP[3, 4, 5]	FC-AL, FC-SW	N	
16	xSeries x440	PCI-X	SuSE Linux SLES 7: (v2.4.7)[6, 7, 8, 9] updated with SuSE v2.4.18 rpm[14, 15]; SuSE Linux SLES 8 v2.4.19-SuSE.175[21, 22]	IBM: 00N6881 (QLA2200)[3, 4, 5, 11], 19K1246(QLA2310)[3, 4, 5, 12], 24P0960(QLA2340)[3, 4, 5, 13]	FC-AL, FC-SW	N	
17	xSeries x440	PCI-X	SuSE Linux SLES 7: (v2.4.7)[6, 7, 9] updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9802-E[4, 5, 18]	FC-AL, FC-SW	N	
18	xSeries x440	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[25, 26]	QLogic QLA2340-E-SP[4, 5, 17, 24]	FC-AL, FC-SW	N	See[1]
19	xSeries x440	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[25, 26]	QLogic: QLA2200F-EMC[4, 5, 27], QLA2310F-E-SP[4, 5, 17, 24]	FC-AL, FC-SW	N	
20	xSeries x440	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic QLA2340-E-SP[4, 5, 19]	FC-AL, FC-SW	N	See[1]
21	xSeries x440	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic: QLA2200F-EMC[4, 5, 23], QLA2310F-E-SP[4, 5, 19], QLA2342-E-SP[4, 5, 19]	FC-AL, FC-SW	N	
22	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 (v2.4.7)[6, 7, 8, 9]	QLogic. QLA2200F-EMC[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	
23	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP982-E[4, 5, 18], QLogic QLA2200F-EMC[4, 5]	FC-AL, FC-SW	N	
24	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	QLogic QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1]
25	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7: (v2.4.7)[6, 7, 8, 9], updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9802DC-E[4, 5, 18], QLogic QLA2310F-E-SP[3, 4, 5]	FC-AL, FC-SW	N	
26	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7. (v2.4.7)[6, 7, 8, 9] updated with SuSE v2.4.18 rpm[14, 15]; SuSE Linux SLES 8 v2.4.19-SuSE.175[21, 22]	IBM: 00N6881 (QLA2200)[3, 4, 5, 11], 19K1246(QLA2310)[3, 4, 5, 12], 24P0960(QLA2340)[3, 4, 5, 13]	FC-AL, FC-SW	N	
27	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 (v2.4.7)[6, 7, 9] updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9802-E[4, 5, 18]	FC-AL, FC-SW	N	
28	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[25, 26]	QLogic QLA2340-E-SP[4, 5, 17, 24]	FC-AL, FC-SW	N	See[1]
29	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[25, 26]	QLogic. QLA2200F-EMC[4, 5, 27], QLA2310F-E-SP[4, 5, 17, 24]	FC-AL, FC-SW	N	
30	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic QLA2340-E-SP[4, 5, 19]	FC-AL, FC-SW	N	See[1]
31	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[20, 21, 22]	QLogic. QLA2200F-EMC[4, 5, 23], QLA2310F-E-SP[4, 5, 19], QLA2342-E-SP[4, 5, 19]	FC-AL, FC-SW	N	
32	Netfinity. 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x350 (6000R), x370	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9002-E (LP9002L-E)[4, 5, 16]	FC-AL, FC-SW[17]	N	See[1, 2]
33	xSeries x440	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9002-E (LP9002L-E)[5, 16]	FC-AL, FC-SW[17]	N	See[2]
34	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[14, 15]	Emulex LP9002-E (LP9002L-E)[5, 16]	FC-AL, FC-SW[17]	N	See[illegible]

1 Linux v2.4.x Kernels support a maximum of 128 devices per system
2 Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later.
3

Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
4. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
5. Host must be offline for interfamily Symmetrix microcode upgrade.
6. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
7. Supported with QLogic driver v6.04.02.
8. The kernel version listed is included in the corresponding standard distributed release.
9. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
10. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
11. (QLA2200) For IBM xSeries and Netfinity servers only.
12. This HBA is equivalent to the qLogic QLA2310.
13. This HBA is equivalent to the qLogic QLA2340.
14. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
15. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
16. Requires Emulex drivers v4.20Q and firmware v3 90a7. Available from http://www.emulex.com.
17. Single HBA zoning is required regardless of the switch being utilized.
18. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
19. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
20. Requires QLogic driver v6.04.00 or above.
21. Requires QLogic v6.04.02 driver.
22. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
23. Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
24. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
25. Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.
26. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
27. Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65

NEC

NEC – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	SuSE Linux SLES 7 (v2.4.7)[5, 6, 7, 8]	Emulex LP9802DC-E[2, 4, 14], QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW	N	See[1]
2	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[10, 11]	Emulex: LP9802DC-E[2, 4, 14], LP982-E[2, 4, 14]	FC-AL, FC-SW	N	
3	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 7, 8] updated with SuSE v2.4.18 rpm[10, 11]	QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4], QLA2342-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[1, 9]
4	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	SuSE Linux SLES 7: (v2.4.7)[5, 6, 8], updated with SuSE v2.4.18 rpm[10, 11]	Emulex LP9802-E[2, 4, 14]	FC-AL, FC-SW	N	
5	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[20, 21]	QLogic: QLA2310F-E-SP[2, 4, 12, 19], QLA2340-E-SP[2, 4, 12, 19], QLA2342-E-SP[2, 4, 12, 19]	FC-AL, FC-SW	N	See[1, 9]
6	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[16, 17, 18]	QLogic: QLA2310F-E-SP[2, 4, 15], QLA2340-E-SP[2, 4, 15], QLA2342-E-SP[2, 4, 15]	FC-AL, FC-SW	N	See[1, 9]
7	Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[10, 11]	Emulex LP9002-E (LP9002L-E)[2, 4, 13]	FC-AL, FC-SW[12]	N	See[1, 9]

1. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later.
2. Host must be offline for interfamily Symmetrix microcode upgrade.
3. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
4. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
5. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
6. Supported with QLogic driver v6.04.02.
7. The kernel version listed is included in the corresponding standard distributed release.
8. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
9. Linux v2 4.x Kernels support a maximum of 128 devices per system.
10. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
11. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
12. Single HBA zoning is required regardless of the switch being utilized.
13. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
14. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
15. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
16. Requires QLogic driver v6.04.00 or above.
17. Requires QLogic v6.04.02 driver.
18. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
    Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
19. Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.
21. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.

SUPERMICRO

SUPERMICRO – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Super P3TDL3[5] S2DL3[5]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[1]
2	Super P3TDL3[5] S2DL3[5]	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[12, 13]	QLogic QLA2310F-E-SP[2, 3, 14, 15], QLA2340-E-SP[2, 3, 14, 15]	FC-AL, FC-SW	N	See[1]
3	Super P3TDL3[5] S2DL3[5]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[9, 10, 11]	QLogic QLA2310F-E-SP[2, 3, 8] QLA2340-E-SP[2, 3, 8]	FC-AL, FC-SW	N	See[1]

1. Linux v2 4.x Kernels support a maximum of 128 devices per system
2. Host must be offline for interfamily Symmetrix microcode upgrade.
3. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
4. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
5. 64-bit slots for 3.3v HBAs only.
6. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
7. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
8. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
9. Requires QLogic v6.04.02 driver.
10. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
11. Requires QLogic driver v6.04.00 or above
12. Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.
13. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
14. Single HBA zoning is required regardless of the switch being utilized.
15. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65

Sun Solaris
Sun

Sun – Sun Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Netra: 1120, 1125, 1400, 1405, T1 Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], 60, 80**	PCI	**Sun Solaris 2.6[3]**	**JNI FCI-1063-EMC[17]**	FC-AL	N	**See[4, 7]**
2	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	PCI	Sun Solaris 2.6[3]	**JNI FCI-1063-EMC[17]**, QLogic QLA2200F-EMC[21, 22]	FC-AL	N	See[4, 7]
3	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	PCI	Sun Solaris: 7[5], 8[6], 9[27]	QLogic QLA2200F-EMC[21, 22]	FC-AL	Y[9]	See[4, 7]
4	**Sun Fire 4810**	cPCI	**Sun Solaris 8[6]**	**Emulex LP9002C-E[19]**	FC-AL, FC-SW	N	**See[4]**
5	**Sun Fire: 3800, 4800, 6800**	cPCI	**Sun Solaris: 8[6], 9[27]**	**Emulex LP9002C-E[19]**	FC-AL, FC-SW	Y[20]	**See[4]**
6	**Sun Fire: 3800, 4800, 6800**	cPCI	**Sun Solaris: 8[6], 9[27]**	**QLogic QCP2202F-E[21, 22]**	FC-AL, FC-SW	Y	**See[4]**
7	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris 2.6[3]	Emulex: LP8000-EMC[18, 19], LP9002-E (LP9002L-E)[19]	FC-AL, FC-SW	N	See[4, 7]
8	**Sun Fire: 12K, 15K**	PCI	**Sun Solaris 8[6]**	**QLogic: QLA2200F-EMC[21, 22, 26], QLA2340-E-SP[22, 26], QLA2342-E-SP[22, 26]**	FC-AL, FC-SW	Y	**See[4, 7]**
9	**Netra: 1120, 1125, 1400, 1405, T1 Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], Enterprise 3000 Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000 Enterprise 5500, Enterprise 6000, Enterprise 6500**	PCI	**Sun Solaris 9[27]**	**Emulex LP9002DC-E[19]**	FC-AL, FC-SW	Y	**See[4, 7]**
10	**Ultra: 60, 80**	PCI	**Sun Solaris 9[27]**	**Emulex LP9002DC-E[19]**	FC-AL, FC-SW	N	**See[4, 7]**
11	**Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000 Enterprise 5500, Enterprise 6000, Enterprise 6500**	PCI	**Sun Solaris 9[27]**	**QLogic QLA2200F-EMC[21, 22, 23]**	FC-AL, FC-SW	Y[9]	**See[4, 7]**
12	**Netra 20**	PCI	**Sun Solaris 9[27]**	**QLogic QLA2342-E-SP[22, 23]**	FC-AL, FC-SW	N	**See[4, 7]**
13	**Sun Fire: 12K, 15K**	PCI	**Sun Solaris 9[27]**	**QLogic: QLA2200F-EMC[21, 22], QLA2340-E-SP[22], QLA2342-E-SP[22]**	FC-AL, FC-SW	Y	**See[4, 7]**
14	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 2.6[3], 7[5], 8[6], 9[27]	QLogic QLA2300F-E-SP[22]	FC-AL, FC-SW	N	See[4, 7]
15	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[5], 8[6]	Emulex LP9002DC-E	FC-AL, FC-SW	Y	See[4, 7]
16	**Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500**	PCI	**Sun Solaris: 7[5], 8[6]**	**JNI FCI-1063-EMC[17]**	FC-AL, FC-SW	N	**See[4, 7]**
17	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 450, 5[15], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[5], 8[6], 9[27]	Emulex LP8000-EMC[18, 19]	FC-AL, FC-SW	Y[9, 20]	See[4, 7]
18	Ultra 420R[16]	PCI	Sun Solaris: 7[5], 8[6], 9[27]	Emulex: LP8000-EMC[18, 19], LP9002-E (LP9002L-E)[19], LP9802-E[19]	FC-AL, FC-SW	Y[20]	See[4, 7]
19	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 450, 5[15], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[5], 8[6], 9[27]	Emulex: LP9002-E (LP9002L-E)[19], LP9802-E[19]	FC-AL, FC-SW	Y[20]	See[4, 7]
20	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[5], 8[6], 9[27]	JNI FCE2-6412-E[12]	FC-AL, FC-SW	Y[9]	See[4, 7]
21	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[5], 8[6], 9[27]	JNI FCX2-6562-E	FC-AL, FC-SW	Y	See[4, 7]
22	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[5], 8[6], 9[27]	QLogic: QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23]	FC-AL, FC-SW	N	See[4, 7]
23	**Sun Fire 4810**	PCI	**Sun Solaris: 8[6], 9[27]**	**Emulex LP9002C-E[19]**	FC-AL, FC-SW	Y[20]	**See[4]**
24	**Sun Blade: 1000, 150, 2000; Sun Fire, 280R, 4800, 4810, 6800, V100**	PCI	**Sun Solaris: 8[6], 9[27]**	**Emulex LP9002DC-E[19]; JNI FCX2-6562-E**	FC-AL, FC-SW	Y	**See[4, 7]**
25	**Netra 120, 1280, Sun Fire: V1280, V210, V240, V480, V880**	PCI	**Sun Solaris: 8[6], 9[27]**	**Emulex LP9002DC-E[19], JNI FCX2-6562-E, QLogic QLA2200F-EMC[21, 22, 23]**	FC-AL, FC-SW	Y	**See[4, 7]**
26	**Sun Fire V120**	PCI	**Sun Solaris: 8[6], 9[27]**	**Emulex LP9002DC-E[19], JNI FCX2-6562-E[25]**	FC-AL, FC-SW	Y	**See[4, 7]**
27	**Sun Blade: 1000, 150, 2000 Sun Fire: 280R, 4800, 4810, 6800, V100, V120**	PCI	**Sun Solaris: 8[6], 9[27]**	**Emulex LP9802-E[19]**	FC-AL, FC-SW	Y[20]	**See[4, 7]**
28	**Netra 20**	PCI	Sun Solaris: 8[6], 9[27]	Emulex: LP8000-EMC[18, 19], LP9002-E (LP9002L-E)[19], LP9002DC-E[19], LP9802-E[19]; JNI FCX2-6562-E QLogic: QLA2200F-EMC[21, 22, 23] QLA2300F-E-SP[22] QLA2340-E-SP[22, 23]	FC-AL, FC-SW	N	See[4, 7]
29	Netra 120, 1280; Sun Fire, V1280, V210, V240, V480, V880	PCI	Sun Solaris: 8[6], 9[27]	Emulex: LP8000-EMC[18, 19], LP9002-E (LP9002L-E)[19], LP9802-E[19]	FC-AL, FC-SW	Y[20]	See[4, 7]

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
	Sun – Sun Solaris						
30	Sun Blade: 1000, 150, 2000; Sun Fire: 280R, 4800, 4810, 6800, V100, V120	PCI	Sun Solaris: 8[6], 9[27]	Emulex: LP8000-EMC[18, 19], LP9002-E (LP9002L-E)[19]; QLogic: QLA2200F-EMC[21, 22, 23], QLA2300F-E-SP[22], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23]	FC-AL, FC-SW	N	See[4, 7]
31	Sun Fire: 12K, 15K	PCI	Sun Solaris: 8[6], 9[27]	Emulex: LP9002-E (LP9002L-E)[19], LP9802-E[19]	FC-AL, FC-SW	Y	See[4, 7]
32	Netra: 120, 1280; Sun Fire: V1280, V210, V240, V480, V880	PCI	Sun Solaris: 8[6], 9[27]	QLogic: QLA2300F-E-SP[22], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23]	FC-AL, FC-SW	N	See[4, 7]
33	Ultra Enterprise: 3000, 3500, 4000, 4500 5000, 5500, 6000, 6500	SBUS	Sun Solaris 2.6[3]	Emulex LP9002S-E; JNI: FC-1063-EMC[8], FC64-1063-EMC[10, 11], FCE-1063-E[12], FCE2-1063-E[12]	FC-AL, FC-SW	N	See[4]
34	Ultra: 2, Enterprise 10000	SBUS	Sun Solaris 2.6[3]	JNI: FC-1063-EMC[8], FC64-1063-EMC[10, 11], FCE-1063-E[12], FCE2-1063-E[12]	FC-AL, FC-SW	N	See[4]
35	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000	SBUS	Sun Solaris 9[27]	Emulex LP9002S-E[19]	FC-AL, FC-SW	Y[24]	See[4]
36	Ultra 2	SBUS	Sun Solaris 9[27]	Emulex LP9002S-E[19]; QLogic QLA2202FS-E[22]	FC-AL, FC-SW	N	See[4]
37	Ultra 2	SBUS	Sun Solaris: 2.6[3], 7[5], 8[6]	Emulex LP9002S-E	FC-AL, FC-SW	N	See[4]
38	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000	SBUS	Sun Solaris: 7[5], 8[6]	Emulex LP9002S-E	FC-AL, FC-SW	Y[24]	See[4]
39	Ultra: 2, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	SBUS	Sun Solaris: 7[5], 8[6]	JNI: FC-1063-EMC[8], FC64-1063-EMC[10, 11]	FC-AL, FC-SW	Y[9]	See[4]
40	Ultra Enterprise 6500	SBUS	Sun Solaris: 7[5], 8[6], 9[27]	Emulex LP9002S-E	FC-AL, FC-SW	Y[24]	See[4]
41	Ultra Enterprise 10000	SBUS	Sun Solaris: 7[5], 8[6], 9[27]	Emulex LP9002S-E[19]	FC-AL, FC-SW	Y[24]	See[4]
42	Ultra: 2, Enterprise 10000	SBUS	Sun Solaris: 7[5], 8[6], 9[27]	JNI FCE-1063-E[12]	FC-AL, FC-SW	Y	See[4]
43	Ultra: 2, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	SBUS	Sun Solaris: 7[5], 8[6], 9[27]	JNI FCE2-1063-E[12]	FC-AL, FC-SW	Y[9]	See[4]
44	Ultra Enterprise 10000	SBUS	Sun Solaris: 7[5], 8[6], 9[27]	JNI FCE2-1473-E[25]; QLogic QLA2202FS-E[22]	FC-AL, FC-SW	N	See[4]
45	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	SBUS	Sun Solaris: 7[5], 8[6], 9[27]	JNI: FCE-1063-E[12], FCE2-1473-E[25]; QLogic QLA2202FS-E[22]	FC-AL, FC-SW	Y	See[4]
46	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], 60, 80	PCI	Sun Solaris 2.6[3]	QLogic QLA2200F-EMC[21, 22]	FC-SW	N	See[4, 7]
47	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], 60, 80	PCI	Sun Solaris: 7[5], 8[6]	QLogic QLA2200F-EMC[21, 22]	FC-SW	Y[9]	See[4, 7]
48	Ultra Enterprise 10000	SBUS	Sun Solaris: 2.6[3], 7[5], 8[6]	Sun X1062A/A5 (DWIS)	FWD	N	See[4]
49	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris 2.6[3]	Sun X6541A[13, 14]	UWD	N	See[4, 7]
50	Netra: 120, 1280; Sun Blade: 1000, 150, 2000; Sun Fire: 12K, 15K, 280R, 4800, 4810, 6800, V100, V120, V1280, V210, V240, V480, V880	PCI	Sun Solaris 8[6]	Sun X6541A[13, 14]	UWD	N	See[4, 7]
51	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[15], 220R[16], 250, 30, 420R[16], 450, 5[15], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[5], 8[6]	Sun X6541A[13, 14]	UWD	Y	See[4, 7]
52	Ultra Enterprise 10000	SBUS	Sun Solaris 7[5]	Sun X1065A	UWD	N	See[4]
53	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	SBUS	Sun Solaris 9[27]	Sun X1065A	UWD	N	See[1, 4, 7]
54	Ultra 2	SBUS	Sun Solaris 2.6[3], 7[5], 8[6]	Sun X1065A	UWD	Y[2]	See[1, 4]
55	Ultra Enterprise: 3000, 3500, 4000 4500, 5000, 5500, 6000, 6500	SBUS	Sun Solaris 2.6[3], 7[5], 8[6]	Sun X1065A	UWD	Y[2]	See[1, 4, 7]
56	Ultra Enterprise 10000	SBUS	Sun Solaris 2.6[3], 7[5], 8[6]	Sun X1065A (DWIS)	UWD	Y[2]	See[4]

1. The X1065A adapter is compatible with all FWD directors. scsi_options=0x7F8
2. Scsi_options=0x7F8
3. EMC required Sun patches for Solaris 2.6.
   105181-34 SunOS 5.6. kernel update patch
   105356-21 SunOS 5.6: /kernel/drv/ssd and /kernel/drv/sd patch
   105580-19 SunOS 5.6. /kernel/drv/glm patch (for X6541 HBA only)
4. Symmetrix 8000 Series · 66/67 support at Solaris 2.6, 7 8,9: 5568 support at Solaris 2.6,7,8,9
5. EMC required Sun patches for Solaris 7: 106541-24 SunOS 5.7: kernel update patch.106924-11 SunOS 5.7: /kernel/drv/isp and /kernel/drv/sparcvg/isp patch (for X1062A and X1065A HBAs only). 106925-09 SunOS 5.7 glm driver patch (for X5641A HBA only).
6. **EMC required Sun patches for Solaris 8:**
   108528-21 SunOS 5.8: kernel update patch.
   108974-30 SunOS 5.8: data, uata, dad, sd, and scsi patch.
   109657-09 SunOS 5.8: isp driver patch (for X1062A and X1065A HBAs only).
   109885-12 SunOS 5.8: glm driver patch (for X6541A HBA only).
7. For 'UltraEnterprise' servers with PCI I/O board only the left slot can be utilized due to physical constraints of the Sun PCI/SCSI adapter
8. **JNI Tachyon 32 bit HBA: requires Driver revision 2.6.13, Fcode 13.5.7, adapter RevRev H. If VxVM is installed, version 3.2 or later is required for driver revision 2.6.13 or later. (Driver revisions below 2.2.1.EMC will only support FC-AL. not switches.) Supports SNIA HBA API.**
9. Direct connect only Hub connection not supported for boot device
10. **JNI Tachyon 64 bit HBA: requires Driver revision 2.6.13 and Fcode 13.5.7 and Rev B, C, D, E, G, H and J. If VxVM is installed, version 3.2 or later is required for driver 2.6.13 or later. .(Driver revisions below 2.2.1.EMC will only support FC-AL, not switches.) Supports SNIA HBA API.**
11. **Mixing FC-SW and FC-AL on the same host using JNI HBAs is not supported.**
12. JNI Emerald3 SBUS, PCI requires driver version 4 1 4 and fcode 3 9 If PowerPath is installed, minimum revision of 3.0 4 is required for driver version 4 1 4 or later. Supports SNIA HBA API

13. Disconnecting and reconnecting the SCSI cable on an active system will reduce I/O transfer rate due to negotiation issues. Host is not capable of WDTR after link recovery.
14. Requires N-bit for PCI SCSI interface to support PowerPath.
15. This host supports only 5 V HBAs.
16. 64-bit HBAs will not fit into the 32-bit slot due to a physical obstruction.
17. **JNI Tachyon PCI adapter requires Driver version 2.6.13. If VxVM is installed, version 3.2 or later is required for driver 2.6.13 or later. Supports SNIA API.**
18. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
19. Requires driver lpfc-SPARC V5.01e. Emulex LP8000-EMC/LP9002-E/LP9002L-E/LP9002C-E/LP9002DC-E/LP9002S-E requires firm-ware 3.90A7, LP9802-E requires firmware 1.00A4, all available at http://www.emulex.com. Supports SNIA HBA API.
20. Requires Emulex Open Boot Version 1.33a1.
21. Suns QLogic cards are not supported due to proprietary drivers, fcode and firmware. Please see http://www.sun.com/service/servicelist/us/detail_ww_ss_hba.html
22. Requires driver 4.09. The QLA2200F-EMC/QCP2202F-E/QLA2300-E-SP/QLA2340-E-SP/QLA2342-E-SP requires fcode v2.00.06. The QLA2202FS-E requires fcode 2.00.01. fcode should be loaded on all HBA's at the time of installation. All drivers and fcode can be downloaded from http://www.qlogic.com. Supports SNIA HBA API.
23. Supports Dynamic Reconfiguration for Sun Fire 4800 and 6800 only.Mimimum Solaris 8 recommended patch bundle 108528-21.Requires system controller firmware patch 112127-02 or higher.
24. Requires Emulex Open Boot Version 2.33a0.
25. JNI Emerald4 SBUS and PCI adapters require driver 5.2.1 and Fcode 3.9. Supports SNIA HBA API.
26. **Supports DR on Sun 12K and 15K.**
27. **EMC required Sun patches for Solaris 9:**
    112233-06 Sun OS 5.9: kernel patch
    112834-02 Sun OS 5.9: patch SCSI
    113277-11 Sun OS 5.9: sd and ssd patch

Unisys MCP
Unisys

Unisys – Unisys MCP						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	NX4800; NX5600; NX5620; NX5800; NX5820	Mainframe Bus	Unisys MCP: 45.1 (HMP 4.0), 46.1 (HMP 5.0), 47.1 (HMP 6.0), 48.1 (HMP 7.0)	Unisys: FCA601-CU[3], FCA601-LW[4], FCA601-SW[2], FCA621-CU[3], FCA623-LW[4]	FC-AL	Y
2	NX4600; NX6820; NX6830	Mainframe Bus	Unisys MCP: 45.1 (HMP 4.0), 46.1 (HMP 5.0), 47.1 (HMP 6.0), 48.1 (HMP 7.0)	Unisys: FCA601-CU[3], FCA601-LW[4], FCA601-SW[2], FCA621-CU[3], FCA623-LW[4], FCA661-CU[7], FCA662-SW[1, 5, 6], FCA663-LW[8]	FC-AL	Y
3	**Libra Model 180[9, 10]**	Mainframe Bus	**Unisys MCP: 47.1 (HMP 6.0), 48.1 (HMP 7.0)**	**Unisys: FCA621-CU[3], FCA622-SW[2], FCA623-LW[4], FCA661-CU[7], FCA662-SW[6], FCA663-LW[8]**	FC-AL	Y
4	**Libra Model 185**	**Mainframe Bus, PCI**	**Unisys MCP 48.1 (HMP 7.0)**	**Unisys: FCA661-CU[7], FCA662-SW[6], FCA663-LW[8]**	**FC-AL**	Y
5	CS7101[10]	PCI	Unisys MCP 48.1 (HMP 7.0)	Emulex LP8000-F1	FC-AL	Y
6	NX4600; NX4800; NX5600; NX5620; NX5800; NX5820; NX6820; NX6830	Mainframe Bus	Unisys MCP: 45.1 (HMP 4.0), 46.1 (HMP 5.0), 47.1 (HMP 6.0), 48.1 (HMP 7.0)	Unisys FCA622-SW[1, 2, 5]	FC-AL, FC-SW	Y
7	CS7101[10]	PCI	Unisys MCP 48.1 (HMP 7.0)	Emulex: LP8000-EMC[11], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP982-E; QLogic: QLA2202F-EMC, QLA2340-E-SP	FC-AL, FC-SW	Y
8	CS7201[10]; CS7211	PCI	Unisys MCP 48.1 (HMP 7.0)[12]	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1), FCH732213-P64 (LP9002L-F2)	FC-AL, FC-SW	Y
9	**Libra Model 185**	**Mainframe Bus, PCI**	**Unisys MCP 48.1 (HMP 7.0)**	**Unisys FCA1850-LC**	**FC-AL[13]**	Y
10	NX4600; NX4800; NX5600; NX5620; NX5800; NX5820; NX6820; NX6830	Mainframe Bus	Unisys MCP: 45.1 (HMP 4.0), 46.1 (HMP 5.0), 47.1 (HMP 6.0), 48.1 (HMP 7.0)	Unisys CA312-SCI	FND	Y
11	A16; A18; A19	Mainframe Bus	Unisys MCP: 45.1 (HMP 4.0), 46.1 (HMP 5.0), 47.1 (HMP 6.0), 48.1 (HMP 7.0)	Unisys CA312-SCI[1]	FND	Y
12	NX4600; NX4800; NX5600; NX5620; NX5800; NX5820; NX6820; NX6830	Mainframe Bus	Unisys MCP: 45.1 (HMP 4.0), 46.1 (HMP 5.0), 47.1 (HMP 6.0), 48.1 (HMP 7.0)	Unisys CA322-SCI	FWD	Y
13	A16; A18; A19	Mainframe Bus	Unisys MCP: 45.1 (HMP 4.0), 46.1 (HMP 5.0), 47.1 (HMP 6.0), 48.1 (HMP 7.0)	Unisys CA322-SCI[1]	FWD	Y
14	**Libra Model 185**	**Mainframe Bus, PCI**	**Unisys MCP 48.1 (HMP 7.0)**	**Unisys CA322-SCI**	**FWD**	Y
15	**Libra Model 180[9, 10]**	**Mainframe Bus, PCI**	**Unisys MCP: 47.1 (HMP 6.0), 48.1 (HMP 7.0)**	**Unisys CA322-SCI**	**FWD**	Y
16	NX4600; NX4800; NX5600; NX5620; NX5800; NX5820; NX6820; NX6830	Mainframe Bus	Unisys MCP: 45.1 (HMP 4.0), 46.1 (HMP 5.0), 47.1 (HMP 6.0), 48.1 (HMP 7.0)	Unisys CA332-SCI	UWD	Y
17	A16; A18; A19	Mainframe Bus	Unisys MCP: 45.1 (HMP 4.0), 46.1 (HMP 5.0), 47.1 (HMP 6.0), 48.1 (HMP 7.0)	Unisys CA332-SCI[1]	UWD	Y
18	**Libra Model 185**	**Mainframe Bus, PCI**	**Unisys MCP 48.1 (HMP 7.0)**	**Unisys CA332-SCI**	**UWD**	Y
19	**Libra Model 180[9, 10]**	Mainframe Bus, PCI	**Unisys MCP: 47.1 (HMP 6.0), 48.1 (HMP 7.0)**	**Unisys CA332-SCI**	UWD	Y

1. Channel code 20 018
2. Fibre Short Wave
3. Fibre Copper

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4. Fibre Long Wave
5. Connected through switch, hub or direct connect.
6. Hi Perform Short Wave
7. Hi Perform Fibre Copper
8. Hi Perform Long Wave
9. **The Libra 18x includes native MCP,and Virtual Machine for MCP (Windows MCPvm) partitions**
10. Hardware and adapters similar to Unisys ES7000-100, ES7000-200.
11. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
12. Multipath VSS requires Virtual Machine for Clearpath MCP Version 4.0 SR1 with PowerPath 3.0.0 B83 or higher and hardware Plateau 10.3 IC003.
13. **Minimum firmware level 01.016**

Unisys OS 2200
Unisys

Unisys – Unisys OS 2200						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Dorado Model: 110, 140, 180	Mainframe Bus	Unisys OS 2200 HMP 8.0	Unisys CA225-USC	ESCON	Y
2	CS7802	Mainframe Bus	Unisys OS 2200 HMP: 6.1, 7.0, 7.1, 8.0	Unisys CA225-USC	ESCON	Y
3	Dorado Model: 110, 140, 180	Mainframe Bus	Unisys OS 2200 HMP 8.0	Unisys: FCA622-SW[1], FCA662-SW[2]	FC-AL	Y
4	CS7802	Mainframe Bus	Unisys OS 2200 HMP: 6.1, 7.0, 7.1, 8.0	Unisys: FCA622-SW[1], FCA662-SW[2]	FC-AL, FC-SW	Y
5	Dorado Model: 110, 140, 180	Mainframe Bus	Unisys OS 2200 HMP 8.0	Unisys CA332-SCI	UWD	Y
6	CS7802	Mainframe Bus	Unisys OS 2200 HMP: 6.1, 7.0, 7.1, 8.0	Unisys CA332-SCI	UWD	Y

1. Fibre Short Wave
2. Hi Perform Short Wave

Unisys SB5R4
Unisys

Unisys – Unisys SB5R4						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	2200/3800; 2200/500; IX4400; IX4800; IX5600; IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB5R4	Unisys CA225-BMC	BMC-Parallel	Y
2	2200/3800; 2200/900; IX4400; IX4800; IX5600; IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB5R4	Unisys CA225-USC	ESCON	Y
3	IX4800; IX5600; IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB5R4	Unisys: FCA601-CU[2], FCA601-LW[3], FCA601-SW[1], FCA621-CU[2], FCA623-LW[3]	FC-AL	Y
4	2200/3800; IX4800; IX5600; IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB5R4	Unisys FCA622-SW[1]	FC-AL, FC-SW	Y
5	2200/3800; 2200/500, 2200/900; IX4400; IX4800, IX5600; IX5800; IX6600, IX6800	Mainframe Bus	Unisys SB5R4	Unisys CA312-SCI	FND	Y
6	2200/3800 2200/900; IX4400; IX4800 IX5600 IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB5R4	Unisys CA322-SCI	FWD	Y
7	2200/3800; IX4400; IX4800; IX5600; IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB5R4	Unisys CA332-SCI	UWD	Y

1. Fibre Short Wave
2. Fibre Copper
3. Fibre Long Wave

Unisys SB7
Unisys

Unisys – Unisys SB7						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	2200/3800, IX4800 IX5600 IX5800 IX6600 IX6800	Mainframe Bus	Unisys SB7	Unisys CA225-BMC	BMC-Parallel	

Unisys – Unisys SB7						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
2	2200/3800; IX4800; IX5600; IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB7	Unisys CA225-USC	ESCON	Y
3	IX4800; IX5600; IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB7	Unisys: FCA601-CU[2], FCA601-LW[3], FCA601-SW[1], FCA621-CU[2], FCA623-LW[3]	FC-AL	Y
4	2200/3800; IX4800; IX5600; IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB7	Unisys FCA622-SW[1]	FC-AL, FC-SW	Y
5	2200/3800; IX4800; IX5600; IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB7	Unisys CA312-SCI	FND	Y
6	2200/3800; IX4800; IX5600; IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB7	Unisys CA322-SCI	FWD	Y
7	2200/3800; IX4800; IX5600; IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB7	Unisys CA332-SCI	UWD	Y

1. Fibre Short Wave
2. Fibre Copper
3. Fibre Long Wave

Unisys UNIX SVR4
Unisys

Unisys – Unisys UNIX SVR4						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	SMP61000 10X	EISA, PCI	Unisys UNIX SVR4: R1.4[2, 3], R1.41 (1.4A)[2, 3]	Unisys SFA: 1001-QDW (Adaptec AHA4944)[1], 10201-SDW (Symbios 8751D)[1]; Unisys UN6000-EWD[1]	UWD	N
2	SMP6400; QR/6, QS/6	EISA, PCI	Unisys UNIX SVR4: R1.4[2], R1.41 (1.4A)[2]	Unisys: PCI 400-1UD (AHA2944UW)[1], SFA 1001-QDW (Adaptec AHA4944)[1], SFA 1001-SDW (Symbios 825A)[1], SFA 10201-SDW (Symbios 8751D)[1], UN6000-EWD[1]	UWD	N
3	U6000: 550, 580	EISA, PCI	Unisys UNIX SVR4: R1.4[2], R1.41 (1.4A)[2]	Unisys: UN6000-EWD[1], UN6500-SSB (Unisys)[1]	UWD	N
4	QR/6 ALR 4X[4]; QS/6 ALR 4X[4]	PCI	Unisys UNIX SVR4: R1.4[2, 3], R1.41 (1.4A)[2, 3]	Unisys SFA: 1001-QDW (Adaptec AHA4944)[1], 10201-SDW (Symbios 8751D)[1]	UWD	N
5	HR/6 ALR 6X; HS/6 ALR 6X; XR/6 Unisys 10X[5]; XS/6 Unisys 10X[5]	PCI	Unisys UNIX SVR4: R1.4[2, 3] R1.41 (1.4A)[2, 3]	Unisys: PCI 400-1UD (AHA2944UW), SFA 1001-QDW (Adaptec AHA4944)[1], SFA 10201-SDW (Symbios 8751D)[1]	UWD	N
6	ES2025[3]; ES2043[3]	PCI	Unisys UNIX SVR4: R1.4[2], R1.41 (1.4A)[2]	Unisys PCI 400-1UD (AHA2944UW)	UWD	N

1. EMC does not support this HBA; supported by Unisys ONLY
2. Symm5 & 66/67 support via RPQ(5x67)(UnixWare)
3. Not supported on a Symmetrix 8000 Series, no plans for support.
4. Also ClearPath VX14xx Styles.
5. Also ClearPath VX13xx Styles.

VMware ESX
Dell

Dell – VMware ESX						
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	PowerEdge 6450	PCI	VMware ESX v1.5.2 patch2[2, 3, 4, 5]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	Y
2	PowerEdge 6450	PCI	VMware ESX v1.5.2 patch3[3, 4, 5, 7]	QLogic: QLA2340-E-SP[6], QLA2342-E-SP[6]	FC-AL, FC-SW	Y
3	PowerEdge 6650	PCI-X	VMware ESX v1.5.2 patch2[2, 3, 4, 5]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	Y
4	PowerEdge 6650	PCI-X	VMware ESX v1.5.2 patch3[3, 4, 5, 7]	QLogic: QLA2340-E-SP[6], QLA2342-E-SP[6]	FC-AL, FC-SW	Y

1. Supported with QLogic driver v6.03.00b6 included in the VMware ESX v1.5.2 kernel and BIOS v1.34.
2. Windows 2000 SP3 and SP4 are qualified to run as Virtual Machines.
3. Path failover and load-balancing are not supported.
4. Supported with VMFS.
5. EMC software will function on neither the VMkernel nor the VMs as the currently-released versions of the SymAPI do not include support for VMware ESX.
6. Supported with QLogic driver v6.04.00-emc included in the VMware ESX v1.5.2 patch 3 release and BIOS v1.34.
7. Windows 2000 SP3 and SP4, Windows NT 4.0, and RedHat 2.1 Advanced Server are qualified to run as Virtual Machines.

HPQ

HPQ – VMware ESX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Proliant DL380(G3)	PCI	VMware ESX v1.5.2 patch2[2, 3, 4, 5]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	Y
2	Proliant DL380(G3)	PCI	VMware ESX v1.5.2 patch3[3, 4, 5, 7]	QLogic: QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	Y
3	Proliant DL760 (G2)	PCI-X	VMware ESX v1.5.2 patch2[2, 3, 4, 5]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	Y
4	Proliant DL760 (G2)	PCI-X	VMware ESX v1.5.2 patch3[3, 4, 5, 7]	QLogic: QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	Y
5	Proliant: DL580(G2)[6], DL580(G3)	PCI, PCI-X	VMware ESX v1.5.2 patch2[2, 3, 4, 5]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	Y
6	Proliant: DL580(G2)[6], DL580(G3)	PCI, PCI-X	VMware ESX v1.5.2 patch3[3, 4, 5, 7]	QLogic: QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	Y

1. Supported with QLogic driver v6.03.00b6 included in the VMware ESX v1.5.2 kernel and BIOS v1.34.
2. Windows 2000 SP3 and SP4 are qualified to run as Virtual Machines.
3. Path failover and load-balancing are not supported.
4. Supported with VMFS.
5. EMC software will function on neither the VMkernel nor the VMs as the currently-released versions of the SymAPI do not include support for VMware ESX.
6. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
7. Windows 2000 SP3 and SP4, Windows NT 4.0, and RedHat 2.1 Advanced Server are qualified to run as Virtual Machines.
8. Supported with QLogic driver v6.04.00-emc included in the VMware ESX v1.5.2 patch 3 release and BIOS v1.34.

IBM

IBM – VMware ESX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	xSeries: x360, x440	PCI-X	VMware ESX v1.5.2 patch2[2, 3, 4, 5]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	Y
2	xSeries: x360, x440	PCI-X	VMware ESX v1.5.2 patch3[3, 4, 5, 7]	QLogic: QLA2340-E-SP[6], QLA2342-E-SP[6]	FC-AL, FC-SW	Y
3	xSeries x445	PCI, PCI-X	VMware ESX v1.5.2 patch2[2, 3, 4, 5]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	Y
4	xSeries x445	PCI, PCI-X	VMware ESX v1.5.2 patch3[3, 4, 5, 7]	QLogic: QLA2340-E-SP[6], QLA2342-E-SP[6]	FC-AL, FC-SW	Y

1. Supported with QLogic driver v6.03.00b6 included in the VMware ESX v1.5.2 kernel and BIOS v1.34.
2. Windows 2000 SP3 and SP4 are qualified to run as Virtual Machines.
3. Path failover and load-balancing are not supported.
4. EMC software will function on neither the VMkernel nor the VMs as the currently-released versions of the SymAPI do not include support for VMware ESX.
5. Supported with VMFS.
6. Supported with QLogic driver v6.04.00-emc included in the VMware ESX v1.5.2 patch 3 release and BIOS v1.34.
7. Windows 2000 SP3 and SP4, Windows NT 4.0, and RedHat 2.1 Advanced Server are qualified to run as Virtual Machines.

Clustered Host

EMC has qualified the following clustered hosts. No other clustered hosts are supported at this time. NOTE: Please refer to the appropriate vendor Base Connectivity table(s) for more information concerning HBA driver, firm-ware, cables, operating system requirements and other special notes.

Caldera UNIXWare

Unisys

Unisys – Caldera UNIXWare						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	ES2023[1]; ES2025[1]; ES2043[1]; ES2045; ES2085; ES7000/100; ES7000/200; ES7000/230; QR/2; QS/2	Caldera UNIXWare 7.0.1	Unisys Reliant HA	HA: 2	Unisys: FCH30211-P64[2], FCH30213-P64[2], PCI 1100-FC (QLA2100), PCI 1120-FC (QLA2100-EMC, QLA2100F), PCI 400-1UD (AHA2944UW)	
2	ES2044	Caldera UNIXWare 7.0.1	Unisys Reliant HA	HA: 2	Unisys: FCH30211-P64[2], FCH30213-P64[2], PCI 400-1UD (AHA2944UW)	
3	ES2044	Caldera UNIXWare 7.0.1, 7.1.1	Unisys Reliant HA	HA: 2	Unisys PCI: 1100-FC (QLA2100), 1120-FC (QLA2100-EMC, QLA2100F)	
4	ES2044	Caldera UNIXWare 7.1.1	Unisys Reliant HA	HA: 2	Unisys: FCH30211-P64[2], FCH30213-P64[2]	FC-AL
5	ES2023[1], ES2025[1], ES2043[1], ES2045, ES2085, ES7000/100, ES7000/200, ES7000/230, QR/2, QS/2	Caldera UNIXWare 7.1.1	Unisys Reliant HA	HA: 2	Unisys: FCH30211-P64[2], FCH30213-P64[2], PCI 1100-FC (QLA2100), PCI 1120-FC (QLA2100-EMC, QLA2100F)	FC-AL
6	ES2023[1], ES2025[1], ES2043[1], ES2044, ES2045, ES2085, ES7000/100, ES7000/200, ES7000/230, QR/2, QS/2	Caldera UNIXWare 7.1.1	Unisys Reliant HA	HA: 2	Unisys PCI 400-1UD (AHA2944UW)	UWD

1 Host not supported with Symmetrix 8000 Series
2 ES7000-100, ES7000-200 with Plateau below 8.1.1 use BIOS 1.63 and driver 3.13C. All other use BIOS 1.71 and same driver

DG DG/UX

DG

DG - DG DG/UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	AViiON AV1400, AV20000, AV5000[1], AV35000, AV3704, AV3750, AV3800, AV8900, AV8950	DG DG/UX R4.20MU07	DG R1.27 gold 10.3x86	HA: 2	Emulex LP8000-F	FC-AL FC-SW

1. Maximum of 2 HBAs per NUMA block (1 per fabric) in clustered environments.

Fujitsu Solaris
Fujitsu

Fujitsu – Fujitsu Solaris							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	PRIMEPOWER GP7000F: 1000, 200, 2000, 400, 600, 800	Fujitsu Solaris 8	Fujitsu PRIMECLUSTER 4.0[10, 11]	HA: 2, RAC: 2	Fujitsu: GP7B8FC1, PW008FC2	FC-AL, FC-SW	See[9]
2	PRIMEPOWER GP7000F: 1000, 200, 2000, 400, 600, 800	Fujitsu Solaris 8	Fujitsu PRIMECLUSTER 4.1[10, 11, 12]	HA: 2, RAC: 2	Fujitsu: GP7B8FC1, PW008FC2	FC-AL, FC-SW	
3	**PRIMEPOWER: 250, 450**	Fujitsu Solaris 8 02/02	**Fujitsu PRIMECLUSTER 4.0[10, 11]**	**HA: 2, RAC: 2**	**Fujitsu PW008FC2**	**FC-AL, FC-SW**	See[9]
4	**PRIMEPOWER: 250, 450**	Fujitsu Solaris 8 02/02	**Fujitsu PRIMECLUSTER 4.1[10, 11, 12]**	**HA: 2, RAC: 2**	**Fujitsu PW008FC2**	**FC-AL, FC-SW**	
5	**PRIMEPOWER: 250, 450**	Fujitsu Solaris 8 02/02	**Fujitsu SafeCluster: 1.1.1[1, 2], 2.0[3, 4]**	**HA: 2, OPS: 2**	**Fujitsu PW008FC2**	**FC-AL, FC-SW**	
6	PRIMEPOWER: 650, 850	Fujitsu Solaris 8 850/650	Fujitsu PRIMECLUSTER 4.0[10, 11]	HA: 2, RAC: 2	Fujitsu: GP7B8FC1, PW008FC2	FC-AL, FC-SW	See[9]
7	PRIMEPOWER: 650, 850	Fujitsu Solaris 8 850/650	Fujitsu PRIMECLUSTER 4.1[10, 11, 12]	HA: 2, RAC: 2	Fujitsu: GP7B8FC1, PW008FC2	FC-AL, FC-SW	
8	PRIMEPOWER: 650, 850	Fujitsu Solaris 8 850/650	Fujitsu SafeCluster: 1.1.1[1, 2], 2.0[3, 4]	HA: 2, OPS: 2	Fujitsu: GP7B8FC1, PW008FC2	FC-AL, FC-SW	
9	PRIMEPOWER GP7000F: 1000, 200, 2000, 400, 600, 800	Fujitsu Solaris. 7, 8	Fujitsu SafeCluster: 1.1.1[1, 2], 2.0[3, 4]	HA: 2, OPS: 2	Fujitsu: GP7B8FC1, **PW008FC2**	FC-AL, FC-SW	
10	PRIMEPOWER GP7000F: 1000, 200, 2000, 400, 600, 800	Fujitsu Solaris 2.6	Fujitsu SafeCluster 1.1[7, 8]	HA: 2, OPS: 2	Fujitsu: GP70F-CS02, X6541A-A[5, 6]; Sun X6541A-X[5, 6]	UWD	

1. Additional Fujitsu Safe Series software qualified in the high availability cluster environment, and associated patch requirement (must be obtained from Fujitsu): Fujitsu SafeFile 1.2: 910738-05 Fujitsu SafeFile 1.3 910879-04 Fujitsu SafeDisk 1.2.1: 910721-06. Note: Fujitsu SafeDisk software should not be used for mirroring Symmetrix devices. Fujitsu SafeLink 2.0: 910743-07, 910766-03
2. Patches required (must be obtained from Fujitsu): 910697-01, 910714-01, 910708-11, 910734-01.
3. SafeCluster 2.0 requires patch 910910-05 and 110916-03 for Solaris 8. Patches required (must be obtained from Fujitsu).
4. Additional Fujitsu Safe Series software qualified in the high availability cluster environment, and associated patch requirement (must be obtained from Fujitsu): Fujitsu SafeFile 1.3 910879-04, Fujitsu SafeFile 1.3.1 911353-02, Fujitsu SafeDisk/Global 2.0 910920-05, Fujitsu SafeDisk/Global 2.1 911418-02, Fujitsy SafeDisk 2.0 910926-05, Fujitsu SafeLink 2.0 910743-07, 910766-03
5. Disconnecting and reconnecting the SCSI cable on an active system will reduce I/O transfer rate due to negotiation issues. Host is not capable of WDTR after link recovery.
6. Requires N-bit for PCI SCSI interface.
7. Additional Fujitsu Safe Series software qualified in the high availability cluster environment, and associated patch requirement (must be obtained from Fujitsu): Fujitsu SafeFile 1.1: 910232-18 Fujitsu SafeDisk 1.1: 910315-08, 910432-01. Note: Fujitsu SafeDisk software should not be used for mirroring Symmetrix devices.
8. Patches required (must be obtained from Fujitsu): 910389-02, 910426-02, 910465-01, 910709-07.
9. For use in Asia Pacific/Japan only. Refer to Fujitsu Siemens Base Connectivity information for US/Europe.
10. The PRIMECLUSTER V4.0 family of software products consists of the following components: Reliant Monitor Services RMS 4.0A, Cluster Foundation CF 4.0A, Wizard Tools WT 4.0A and Application Wizards AW, Scalable Internet Services SIS 4.0A, Parallel Application Services PAS 4.0A, Global File Services GFS 4.0, Global Disk Services GDS 4.0, Global Link Services GLS 4.0
11. GDS in combination with SRDF is not supported.
12. GDS requires Fujitsu PCL Fibre Channel driver PFCA2.2.1.

Fujitsu Siemens Reliant UNIX
Fujitsu Siemens

Fujitsu Siemens – Fujitsu Siemens Reliant UNIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	RM600CS42; RM600E40; RM600E45, RM600E80; RM600E85	Fujitsu Siemens Reliant UNIX V5.45A30	Fujitsu Siemens: Observe V1.2.B40 Reliant Cluster V3.1.E20, RC v1.0	HA: 8	Fujitsu Siemens RM6T5-CF10		
2	RM600E20; RM600E60	Fujitsu Siemens Reliant UNIX V5.45A30	Fujitsu Siemens. Observe V1.2.B40 Reliant Cluster V3.1.E20, RC v1.0	HA: 8	Fujitsu Siemens RM6T5-CU13		See[1, 2]
3	RM400E	Fujitsu Siemens Reliant UNIX. V5.44C40, V5.45A30	Fujitsu Siemens RC v1.0	HA. 2	Fujitsu Siemens RM6T5-CF10		
4	RM400C[3]	Fujitsu Siemens Reliant UNIX V5.44C40, V5.45A30	Fujitsu Siemens. Observe V1.2.B40 Reliant Cluster V3.1.E20, RC v1.0	HA: 2	Fujitsu Siemens RM400-CS20		See[1, 2]
5	RM Server Node Model: SN85, SN86; RM600CS42; RM600E40, RM600E45; RM600E80; RM600E85	Fujitsu Siemens Reliant UNIX V5.45B00	Fujitsu Siemens Observe V1.2.B40 Reliant Cluster V3.1.E20	HA. 8	Fujitsu Siemens RM6T5-CF10	FC-AL	
6	RM600E30; RM600E70	Fujitsu Siemens Reliant UNIX V5.44C40, V5.45A30	Fujitsu Siemens. Observe V1.2.B40 Reliant Cluster V3.1.E20, RC v1.0	HA: 8	Fujitsu Siemens RM6T5-CF10	FC-AL	
7	RM600CS42; RM600E40 RM600E45 RM600E80 RM600E85	Fujitsu Siemens Reliant UNIX. V5.45B00, V5.45B10, V5.45B20	Fujitsu Siemens RC v1.0	HA: 8	Fujitsu Siemens RM6T5-CF10	FC-AL	
8	RM600CS42; RM600E40, RM600E45, RM600E80, RM600E85	Fujitsu Siemens Reliant UNIX V5.45B10[7], V5.45B20[7]	Fujitsu Siemens Observe V1.2.B40 Reliant Cluster V3.1.E20	HA. 8	Fujitsu Siemens RM6T5-CF10[9]	FC-AL[6], See[6]	

Fujitsu Siemens – Fujitsu Siemens Reliant UNIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
9	RM Server Node Model: SN85, SN86; RM600CS42; RM600E40; RM600E45; RM600E80; RM600E85	Fujitsu Siemens Reliant UNIX V5.45B00	Fujitsu Siemens Observe V1.2.B40 Reliant Cluster V3.1.E20	HA: 8	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[4, 5]	FC-AL, FC-SW	
10	RM600CS42, RM600E40; RM600E45; RM600E80; RM600E85	Fujitsu Siemens Reliant UNIX V5.45B00	Fujitsu Siemens RC v1.0	HA: 8	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[4, 5]	FC-AL, FC-SW	
11	RM400C	Fujitsu Siemens Reliant UNIX: V5.44C40, V5.45A30	Fujitsu Siemens RC v1.0	HA: 2	Fujitsu Siemens RM6T5-CF10	FC-AL, FC-SW	
12	RM Server Node Model: SN85, SN86	Fujitsu Siemens Reliant UNIX: V5.45B10, V5.45B20	Fujitsu Siemens: Observe V1.2.B40 Reliant Cluster V3.1.E20, RC v1.0	HA: 8	Fujitsu Siemens RM6T5-CF10	FC-SW	
13	RM600E20; RM600E60	Fujitsu Siemens Reliant UNIX V5.44C40	Fujitsu Siemens: Observe V1.2.B40 Reliant Cluster V3.1.E20, RC v1.0	HA: 8	Fujitsu Siemens RM6T5-CU13	FWD	See[1, 2]
14	RM Server Node Model: SN85, SN86	Fujitsu Siemens Reliant UNIX V5.45B00	Fujitsu Siemens: Observe V1.2.B40 Reliant Cluster V3.1.E20, RC v1.0	HA: 8	Fujitsu Siemens RM6T5-CS05	FWD	See[1, 2]
15	RM600E30; RM600E70	Fujitsu Siemens Reliant UNIX: V5.44C40, V5.45A30	Fujitsu Siemens: Observe V1.2.B40 Reliant Cluster V3.1.E20, RC v1.0	HA: 8	Fujitsu Siemens RM6T5-CS05	FWD	See[1, 2]
16	RM600CS42; RM600E40; RM600E45; RM600E80; RM600E85	Fujitsu Siemens Reliant UNIX: V5.45A30, V5.45B00	Fujitsu Siemens: Observe V1.2.B40 Reliant Cluster V3.1.E20, RC v1.0	HA: 8	Fujitsu Siemens RM6T5-CS05	FWD	See[1, 2]
17	RM600CS42; RM600E40; RM600E45; RM600E80; RM600E85	Fujitsu Siemens Reliant UNIX: V5.45B10, V5.45B20	Fujitsu Siemens RC v1.0	HA: 8	Fujitsu Siemens RM6T5-CS05	FWD, UWD[8]	See[1, 2]
18	RM600CS42; RM600E40; RM600E45; RM600E80; RM600E85	Fujitsu Siemens Reliant UNIX: V5.45B10[7], V5.45B20[7]	Fujitsu Siemens Observe V1.2.B40 Reliant Cluster V3 1.E20	HA: 8	Fujitsu Siemens RM6T5-CS05	FWD, UWD[8]	See[1, 2, 6]

1. Y-Cables Not Supported
2. Multi-port SCSI.
3. PowerPath is not supported on any RM400C or RM400E model. DRAID is supported on Reliant UNIX 5.43.C20 and above.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. V5.45A30 QS and higher supports upto 4096 LUNs. FC switch support starts with Reliant UNIX V5.45A20 and higher.
7. Symmetrix 8000 Series: 66/67 support: Reliant UNIX 5.44,5.45 Solaris 2.6, 7, 8 or 9. Symmetnx 8000 Series:5568 support: Solaris 8.9.
8. Fast-Wide SCSI is a default setting. Ultra-Wide can be enabled through software. Refer to the latest Symmetrix Open Systems Environment Product Guide, P/N 200-999-563.
9. PowerPath support requires version 1.5.0.f1c2 with patch 1.5.0.3.Patch.B09 and patch 1.5.0.5.Patch.B13. Also supports PowerPath v2.0, 2.1.

Fujitsu Siemens Solaris

Fujitsu Siemens

Fujitsu Siemens – Fujitsu Siemens Solaris							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	PRIMEPOWER: 1500, 250, 2500, 450, 900	Fujitsu Siemens Solaris 8 02/02	Fujitsu Siemens PRIMECLUSTER 3.0[2]	HA: 4[7]	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
2	PRIMEPOWER: 650, 850	Fujitsu Siemens Solaris 8 02/02	Fujitsu Siemens PRIMECLUSTER 3.0[2]; Veritas Cluster Server (VCS) 1.3	HA: 4[7]	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	See[1]
3	PRIMEPOWER: 650, 850	Fujitsu Siemens Solaris 8 02/02	Fujitsu Siemens PRIMECLUSTER 4.0[9, 10]	HA: 4	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X)[5, 6], LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	See[1]
4	PRIMEPOWER: 1500, 2500	Fujitsu Siemens Solaris 8 02/02	Fujitsu Siemens PRIMECLUSTER 4.0[9, 10]	HA: 4	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	See[1]
5	PRIMEPOWER: 650, 850, GP7000F 1000, GP7000F 200, GP7000F 2000, GP7000F 400, GP7000F 600, GP7000F 800	Fujitsu Siemens Solaris 8 02/02	Legato Automated Availability Manager (LAAM) 5.0 (Base) Veritas Cluster Server (VCS) 3.5[11, 12]	HA: 8	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X), LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
6	PRIMEPOWER: 1500, 250, 2500, 450, 900	Fujitsu Siemens Solaris 8 02/02	Legato Automated Availability Manager (LAAM) 5.0 (Base), Veritas Cluster Server (VCS) 3.5[12]	HA: 8	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
7	PRIMEPOWER GP7000F, 1000, 200, 2000, 400, 600, 800	Fujitsu Siemens Solaris 8 02/02	Veritas Cluster Server (VCS) 2.0[12]	HA: 4	Fujitsu Siemens LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
8	PRIMEPOWER: 650, 850	Fujitsu Siemens Solaris 8 02/02	Veritas Cluster Server (VCS) 2.0[12]	HA: 4	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X), LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
9	PRIMEPOWER: 1500, 250, 2500, 450, 900	Fujitsu Siemens Solaris 8 02/02	Veritas Cluster Server (VCS) 1.3, 2.0[12]	HA: 4	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
10	PRIMEPOWER: 650, 850, GP7000F 1000 GP7000F 200, GP7000F 2000, GP7000F 400, GP7000F 600, GP7000F 800	Fujitsu Siemens Solaris 8 02/02	Veritas DBED/AC for 9iRAC 3.5[11, 12, 13, 14, 15, 16]	RAC: 4[17]	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X), LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
11	PRIMEPOWER: 1500, 250, 2500, 450, 900	Fujitsu Siemens Solaris 8 02/02	Veritas DBED/AC for 9iRAC 3.5[11, 12, 13, 14, 15, 16]	RAC: 4[17]	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
12	PRIMEPOWER GP7000F 1000 200 2000 400 600 800	Fujitsu Siemens Solaris 8 02/02[4]	Fujitsu Siemens PRIMECLUSTER 3.0[2] Veritas Cluster Server (VCS) 1.3	HA: 2 OPS: 2 RAC: 2	Fujitsu Siemens LP9802-E (GP70F-CF31)	FC-AL, FC-SW	See[1]

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
106	HP 9000: N-Class (N4000), V2200, V2250, V2500, V2600[10], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5405[17], rp5450 (L2000), rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A5158A[18]	FC-AL, FC-SW
107	HP 9000: V2200, V2250, V2500, V2600[10]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A5158A[18]	FC-AL, FC-SW
108	HP 9000: D270, D280, D370, D380, D390, R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A6684A[18]	FC-AL, FC-SW
109	HP 9000: K260, K360, K370, K380, K460, K570, K580	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A6685A[18]	FC-AL, FC-SW
110	HP 9000 rp7400[17, 21]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A6795A[18]	FC-AL, FC-SW
111	HP 9000: N-Class (N4000), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ: A5158A[18] A6795A[18]	FC-AL, FC-SW
112	HP 9000: K260, K360, K370, K380, K460, K570, K580	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16	HPQ A6685A[18]	FC-AL, FC-SW
113	HP 9000: V2200, V2250, V2500, V2600[10]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ A5158A[18]	FC-AL, FC-SW
114	HP 9000: D270, D280, D370, D380, D390, R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ A6684A[18]	FC-AL, FC-SW
115	HP 9000 rp7400[17, 21]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ A6795A[18]	FC-AL, FC-SW
116	HP 9000: N-Class (N4000), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ: A5158A[18] A6795A[18]	FC-AL, FC-SW
117	HP 9000: D270, D280, D370, D380, D390, R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard: 11.09[1, 4, 9], 11.13[1, 4, 25], 11.14[1, 4, 45]; Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ A6684A[18]	FC-AL, FC-SW
118	HP 9000: K260, K360, K370, K380, K460, K570, K580	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard: 11.09[1, 4, 9], 11.13[1, 4, 25], 11.14[1, 4, 45]; Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ A6685A[18]	FC-AL, FC-SW
119	HP 9000: V2200, V2250, V2500, V2600[10], rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A5158A[18]	FC-AL, FC-SW
120	HP 9000 rp7400[17, 21]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A6795A[18]	FC-AL, FC-SW
121	HP 9000: N-Class (N4000), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ: A5158A[18] A6795A[18]	FC-AL, FC-SW
122	HP 9000: V2200, V2250, V2500, V2600, rp2405[46], **rp7400**[17, 50], rp8400[27, 30, 49]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A5158A[18]	FC-AL, FC-SW
123	HP 9000: rp2405, rp7400[15, 17, 51], rp8400[49]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A6795A[18]	FC-AL, FC-SW
124	HP 9000: N-Class (N4000), **SUPERDOME**[19], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp2470, rp5400 (L1000), rp5405[17], rp5450 (L2000), rp5470 (L3000)[15, 16, 17], rp7405[43, 47], **rp7410**[42, 43], rp8400	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ: A5158A[18] A6795A[18]	FC-AL, FC-SW
125	HP 9000 N-Class (N4000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Legato LAAM (Legato Cluster) 4.7	HA: 16	HPQ A5158A[18]	FC-AL, FC-SW
126	HP 9000: V2200, V2250, V2500, V2600[10], rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A5158A[18]	FC-AL, FC-SW
127	HP 9000: V2200, V2250, V2500, V2600[31]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[6, 48], LAAM (Legato Cluster) 4.8[6]	HA: 16	HPQ A5158A[18]	FC-AL, FC-SW
128	HP 9000 rp5430	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[6, 52] LAAM (Legato Cluster) 4.8.1[6, 52]	HA: 16	HPQ: A5158A, A6795A	FC-AL, FC-SW
129	HP 9000: N-Class (N4000), V2200, V2250, V2500, V2600, rp5400 (L1000), rp5405[17], rp5450 (L2000), rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A5158A[18]	FC-AL, FC-SW
130	HP 9000: N-Class (N4000), rp5400 (L1000), rp5450 (L2000), rp7400[17, 21]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ A6795A[18]	FC-AL, FC-SW
131	HP 9000 rp2450, (A500/440MHz), (A500/550MHz)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ: A5158A[18] A6795A[18]	FC-AL, FC-SW
132	HP 9000: V2200, V2250, V2500, V2600[10], rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Veritas Cluster Server (VCS) 3.5[22, 53]	HA: 8	HPQ A5158A[18]	FC-AL, FC-SW
133	HP 9000: D270, D280, D370, D380, D390, R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Veritas Cluster Server (VCS) 3.5[22, 53]	HA: 8	HPQ A6684A[18]	FC-AL, FC-SW
134	HP 9000: K260, K360, K370, K380, K460, K570, K580	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Veritas Cluster Server (VCS) 3.5[22, 53]	HA: 8	HPQ A6685A[18]	FC-AL, FC-SW
135	HP 9000 rp7400[17, 21]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Veritas Cluster Server (VCS) 3.5[22, 53]	HA: 8	HPQ A6795A[18]	FC-AL, FC-SW
136	HP 9000: N-Class (N4000), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Veritas Cluster Server (VCS) 3.5[22, 53]	HA: 8	HPQ: A5158A[18] A6795A[18]	FC-AL, FC-SW
137	HP 9000 rp5405[15, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3], 11.11) Sept 2001[3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A5158A[18]	FC-AL, FC-SW
138	HP 9000 rp5405[17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3] 11.11) Sept 2001[3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A6795A[18]	FC-AL, FC-SW
139	HP 9000 **rp5430**[32], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3] 11.11) Sept 2001[3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ: A5158A[18] A6795A[18]	FC-AL, FC-SW
140	HP 9000 rp5405[15, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3], 11.11) Sept 2001[3]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 38] 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ A5158A[18]	FC-AL, FC-SW

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
141	HP 9000 rp5405[17]	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[3], 11.11) Sept 2001[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ A6795A[18]	FC-AL, FC-SW
142	HP 9000: **rp5430[32]**, rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[3], 11.11) Sept 2001[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ: A5158A[18] A6795A[18]	FC-AL, FC-SW
143	HP 9000: rp5405[17], **rp5430[32]**, rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[3], 11.11) Sept 2001[3]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A6795A[18]	FC-AL, FC-SW
144	HP 9000: rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[3], 11.11) Sept 2001[3]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ A6795A[18]	FC-AL, FC-SW
145	**HP 9000 rp5430[32]**	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[3], 11.11) Sept 2001[3]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ: A5158A[18] A6795A[18]	FC-AL, FC-SW
146	HP 9000: rp5405[17], **rp5430[32]**, rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[3], 11.11) Sept 2001[3]	Veritas Cluster Server (VCS) 3.5[22, 53]	HA: 8	HPQ A6795A[18]	FC-AL, FC-SW
147	HP 9000: N-Class (N4000), rp5400 (L1000), rp5450 (L2000), rp7400[17, 21]	HPQ HP-UX: 11.0[2, 3], 11.0 990P[2, 3, 41], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]; HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A6795A[18]	FC-AL, FC-SW
148	HP 9000: N-Class (N4000), rp5400 (L1000), rp5450 (L2000), rp7400[17, 21]	HPQ HP-UX: 11.0[2, 3], 11.0 990P[2, 3, 41], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A6795A[18]	FC-AL, FC-SW
149	HP 9000: N-Class (N4000), rp5400 (L1000), rp5450 (L2000), rp7400[17, 21]	HPQ HP-UX: 11.0[2, 3], 11.0 990P[2, 3, 41], 11.0 ACE[2, 3]	HPQ MC/Service Guard: 11.07[1], 11.12[1], 11.13[1, 4], 11.14[1, 4]; Veritas Cluster Server (VCS) 1.3.1.P3[22, 23]	HA: 16	HPQ A6795A[18]	FC-AL, FC-SW
150	HP 9000: N-Class (N4000), rp5400 (L1000), rp5450 (L2000), rp7400[17, 21]	HPQ HP-UX: 11.0[2, 3], 11.0 990P[2, 3, 41], 11.0 ACE[2, 3], 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard 11.09[1, 4]; Legato: Automated Availability Manager (LAAM) 5.0 (Base)[6, 48], LAAM (Legato Cluster) 4.7[6], LAAM (Legato Cluster) 4.8[6]	HA: 16	HPQ A6795A[18]	FC-AL, FC-SW
151	HP 9000: N-Class (N4000), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 990P[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]; HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A5158A	FC-AL, FC-SW
152	HP 9000: N-Class (N4000), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 990P[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A5158A	FC-AL, FC-SW
153	HP 9000: N-Class (N4000), V2200, V2250, V2500, rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 990P[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard: 11.07[1], 11.09[1, 4], 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A5158A	FC-AL, FC-SW
154	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard 11.13[1, 4]; Veritas Cluster Server (VCS) 1.3.1.P3[22, 23]	HA: 16	HPQ: A5158A, A6795A[18]	FC-AL, FC-SW
155	HP 9000: rp5405[15, 17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]	OPS: 8	HPQ A5158A	FC-AL, FC-SW
156	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]	OPS: 8	HPQ A6795A[18]	FC-AL, FC-SW
157	HP 9000: rp5405[15, 17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A5158A	FC-AL, FC-SW
158	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A6795A[18]	FC-AL, FC-SW
159	HP 9000 V2600	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard: 11.09[1, 4], 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A5158A	FC-AL, FC-SW
160	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard: 11.12[1], 11.14[1, 4]	HA: 16	HPQ A6795A[18]	FC-AL, FC-SW
161	HP 9000: rp5405[15, 17], **rp5430[32]**, rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A5158A	FC-AL, FC-SW
162	HP 9000 N-Class (N4000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	Legato LAAM (Legato Cluster) 4.7	HA: 16	HPQ A5158A	FC-AL, FC-SW
163	HP 9000: rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A5158A	FC-AL, FC-SW
164	HP 9000: rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A5158A	FC-AL, FC-SW
165	HP 9000: rp5405[17], **rp5430[32]**, rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3]	HPQ MC/Service Guard 11.12[1]; Veritas Cluster Server (VCS) 1.3.1.P3[22, 23]	HA: 16	HPQ A6795A[18]	FC-AL, FC-SW
166	HP 9000 rp5430	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]	OPS: 8	HPQ A5158A	FC-AL, FC-SW
167	HP 9000: rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]	OPS: 8	HPQ A6795A[18]	FC-AL, FC-SW
168	**HP 9000 rp5430[32]**	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3]	**HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]**	OPS: 8	**HPQ: A5158A, A6795A[18]**	FC-AL, FC-SW
169	HP 9000 rp5430	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A5158A	FC-AL, FC-SW
170	HP 9000: rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A6795A[18]	FC-AL, FC-SW
171	**HP 9000 rp5430[32]**	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3]	**HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]**	OPS: 16, RAC: 8[14]	**HPQ: A5158A, A6795A[18]**	FC-AL, FC-SW
172	**HP 9000 rp5430[32]**	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3]	HPQ MC/Service Guard: 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A6795A[18]	FC-AL, FC-SW
173	HP 9000: rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3]	HPQ MC/Service Guard: 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A5158A, A6795A[18]	FC-AL, FC-SW
174	HP 9000: rp5405[17], **rp5430[32]**, rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3], 11i v1.0 (HP-UX 11.11)[3], 11i v1.0 (HP-UX 11.11) Sept 2001[3]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A6795A[18]	FC-AL, FC-SW
175	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A6795A[18]	FC-AL, FC-SW

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
176	HP 9000: K-Class, T600	HPQ HP-UX 11.0 ACE[2,3]	HPQ MC/Service Guard OPS: 11.09[1,4,12], 11.12[1,12]; HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ 28696A	FWD
177	**HP 9000 K-Class**	HPQ HP-UX 11.0 ACE[2,3]	**HPQ MC/Service Guard OPS: 11.13[1,4,12], 11.14[1,4,12]**	OPS: 16	**HPQ 28696A**	FWD
178	HP 9000 T600	HPQ HP-UX 11.0 ACE[2,3]	HPQ MC/Service Guard OPS: 11.13[1,4,12], 11.14[1,4,12]	OPS: 16, RAC: 8[14]	HPQ 28696A	FWD
179	HP 9000: K-Class, T600	HPQ HP-UX 11.0 ACE[2,3]	HPQ MC/Service Guard: 11.07[1], 11.12[1], 11.13[1,4], 11.14[1,4]	HA: 16	HPQ 28696A	FWD
180	HP 9000: D-Class, R380	HPQ HP-UX 11.0 ACE[2,3]	HPQ MC/Service Guard: 11.07[1], 11.12[1], 11.13[1,4], 11.14[1,4]	HA: 16	HPQ A4107A	FWD
181	HP 9000 K-Class	HPQ HP-UX 11.0 ACE[3]	Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A2969A	FWD
182	HP 9000 K-Class	HPQ HP-UX 11.0[2,3]	HPQ MC/Service Guard OPS 11.09[1,4,12]	OPS: 8	HPQ A2969A	FWD
183	**HP 9000 K-Class**	**HPQ HP-UX 11.0[2,3]**	**HPQ MC/Service Guard OPS: 11.13[1,4,12], 11.14[1,4,12]**	OPS: 16	**HPQ A2969A**	FWD
184	HP 9000 K-Class	HPQ HP-UX 11.0[2,3]	HPQ MC/Service Guard: 11.13[1,4], 11.14[1,4]	HA: 16	HPQ A2969A	FWD
185	HP 9000: K-Class, T600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS 11.09[1,4,12,35]	OPS: 8	HPQ 28696A	FWD
186	HP 9000: K-Class, T600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS: 11.13[1,4,12,38], 11.14[1,4,12,44]	OPS: 16	HPQ 28696A	FWD
187	HP 9000: K-Class, T600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard: 11.13[1,4,25], 11.14[1,4,45]	HA: 16	HPQ 28696A	FWD
188	HP 9000: D-Class, R380	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard: 11.13[1,4,25], 11.14[1,4,45]	HA: 16	HPQ A4107A	FWD
189	HP 9000 K-Class	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3,5]	HPQ MC/Service Guard OPS 11.09[1,4,12,35]	OPS: 8	HPQ A2969A	FWD
190	HP 9000 T600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3,5]	HPQ MC/Service Guard OPS 11.09[1,4,12,35]	OPS: 8	HPQ A3644A[37]	FWD
191	HP 9000: D-Class, R380	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3,5]	HPQ MC/Service Guard OPS 11.09[1,4,12,35]	OPS: 8	HPQ A4107A[40]	FWD
192	HP 9000 K-Class	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3,5]	HPQ MC/Service Guard OPS: 11.13[1,4,12,38], 11.14[1,4,12,44]	OPS: 16	HPQ A2969A	FWD
193	HP 9000 T600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3,5]	HPQ MC/Service Guard OPS: 11.13[1,4,12,38], 11.14[1,4,12,44]	OPS: 16, RAC: 8[14]	HPQ A3644A[37]	FWD
194	HP 9000: D-Class, R380	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3,5]	HPQ MC/Service Guard OPS: 11.13[1,4,12,38], 11.14[1,4,12,44]	OPS: 16, RAC: 8[14]	HPQ A4107A[40]	FWD
195	HP 9000 K-Class	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3,5]	HPQ MC/Service Guard: 11.13[1,4,25], 11.14[1,4,45]; Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A2969A	FWD
196	HP 9000 T600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3,5]	HPQ MC/Service Guard: 11.13[1,4,25], 11.14[1,4,45]; Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A3644A	FWD
197	HP 9000: K-Class, T600	HPQ HP-UX: 11.0 ACE[2,3], 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard 11.09[1,4]	HA: 16	HPQ 28696A	FWD
198	HP 9000: D-Class, R380	HPQ HP-UX: 11.0 ACE[2,3], 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard 11.09[1,4]	HA: 16	HPQ A4107A	FWD
199	HP 9000 T600	HPQ HP-UX: 11.0[2,3], 11.0 ACE[2,3]	HPQ MC/Service Guard OPS: 11.09[1,4,12], 11.12[1,12]; HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A3644A[37]	FWD
200	HP 9000: D-Class, R380	HPQ HP-UX: 11.0[2,3], 11.0 ACE[2,3]	HPQ MC/Service Guard OPS: 11.09[1,4,12], 11.12[1,12]; HPQ MS/Service Guard OPS 11.08[1]	OPS. 8	HPQ A4107A	FWD
201	**HP 9000 D-Class**	HPQ HP-UX: **11.0[2,3]**, 11.0 ACE[2,3]	**HPQ MC/Service Guard OPS: 11.13[1,4,12], 11.14[1,4,12]**	OPS: 16	**HPQ A4107A**	FWD
202	HP 9000 T600	HPQ HP-UX 11.0[2,3], 11.0 ACE[2,3]	HPQ MC/Service Guard OPS: 11.13[1,4,12], 11.14[1,4,12]	OPS. 16, RAC 8[14]	HPQ A3644A[37]	FWD
203	HP 9000 R380	HPQ HP-UX 11.0[2,3], 11.0 ACE[2,3]	HPQ MC/Service Guard OPS. 11.13[1,4,12], 11.14[1,4,12]	OPS 16, RAC. 8[14]	HPQ A4107A	FWD
204	HP 9000 T600	HPQ HP-UX: 11.0[2,3], 11.0 ACE[2,3]	HPQ MC/Service Guard: 11.07[1], 11.12[1], 11.13[1,4], 11.14[1,4]	HA: 16	HPQ A3644A	FWD
205	HP 9000 T600	HPQ HP-UX: 11.0[2,3], 11.0 ACE[2,3], 11i v1.0 (HP-UX 11.11)[3,5]	HPQ MC/Service Guard 11.09[1,4]	HA. 16	HPQ A3644A	FWD
206	HP 9000: D-Class, R-Class, R380	HPQ HP-UX: 11.0[2,3], 11.0 ACE[2,3] 11i v1.0 (HP-UX 11.11)[3,5]	Veritas Cluster Server (VCS) 1.3.1 P3[22]	HA. 16	HPQ A4107A	FWD
207	HP 9000 K-Class	HPQ HP-UX. 11.0[2,3], 11i v1.0 (HP-UX 11.11)[3,5]	HPQ MC/Service Guard 11.09[1,4]	HA. 16	HPQ A2969A	FWD
208	HP 9000: rp2405[46], rp2430	HPQ HP-UX 11.0 March 2002[2,3]	HPQ MC/Service Guard OPS: 11.13[1,4,12], 11.14[1,4,12]	OPS: 16	HPQ A5838A[11]	U2 LVD
209	HP 9000: rp2405[46], rp2430	HPQ HP-UX 11.0 March 2002[2,3]	HPQ MC/Service Guard: 11.13[1,4], 11.14[1,4]	HA: 16	HPQ A5838A[11]	U2 LVD
210	HP 9000 rp2430	HPQ HP-UX 11.0 March 2002[2,3]	Legato LAAM (Legato Cluster): 4.7[23], 4.8[23]	HA: 16	HPQ A5838A[11]	U2 LVD
211	HP 9000 rp2405[46]	HPQ HP-UX 11.0 March 2002[2,3]	Veritas Cluster Server (VCS) 1.3.1 P3[22,23]	HA. 16	[illegible] A5838A[11]	[illegible]
212	HP 9000 rp7400[17,21]	HPQ HP-UX 11.0 Sept 2001[2,3,24]	HPQ MC/Service Guard: 11.07[1], 11.12[1], 11.13[1,4], 11.14[1,4]	HA 16	HPQ A5150A[11]	U2 LVD

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
213	HP 9000 rp5405[17]	HPQ HP-UX 11.0 Sept 2001[2, 3, 24]	HPQ MC/Service Guard: 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A5838A[11]	U2 LVD
214	**HP 9000 rp5430[32]**	HPQ HP-UX 11.0 Sept 2001[2, 3, 24, 33]	HPQ MC/Service Guard: 11.07[1], 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A5150A[11, 36]	U2 LVD
215	**HP 9000 rp5430[32]**	HPQ HP-UX 11.0 Sept 2001[3, 23, 24, 33]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 23]	HA: 16	HPQ A5149A[11]	U2 LVD
216	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0 Sept 2001[3, 24]	HPQ MC/Service Guard: 11.07[1], 11.12[1, 12], 11.13[1, 2, 4, 12], 11.14[1, 2, 4, 12]	HA: 16	HPQ A5149A[11]	U2 LVD
217	**HP 9000 rp5430[32]**	HPQ HP-UX 11.0 Sept 2001[3, 24, 33]	HPQ MC/Service Guard: 11.07[1], 11.12[1, 12], 11.13[1, 2, 4, 12], 11.14[1, 2, 4, 12]	HA: 16	HPQ A5149A[11, 36]	U2 LVD
218	**HP 9000 rp5430[32]**	HPQ HP-UX 11.0 Sept 2001[3, 24, 33]	Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A5149A[11]	U2 LVD
219	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0: ACE[2, 3], Sept 2001[2, 3, 15, 24]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]; HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ: A5150A[11] A5838A[11]	U2 LVD
220	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0: ACE[2, 3], Sept 2001[2, 3, 15, 24]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16	HPQ A5838A[11]	U2 LVD
221	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0: ACE[2, 3], Sept 2001[2, 3, 15, 24]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A5150A[11]	U2 LVD
222	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0: ACE[3], Sept 2001[3, 15, 24]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 39]	OPS: 16, RAC: 8[14]	HPQ A5149A[11]	U2 LVD
223	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0: ACE[3], Sept 2001[3, 15, 24]	HPQ MC/Service Guard OPS 11.14[1, 4, 39]	OPS: 16	HPQ A5149A[11]	U2 LVD
224	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0: ACE[3], Sept 2001[3, 15, 24]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]; HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A5149A[11]	U2 LVD
225	HP 9000: rp2405[46], rp2470	HPQ HP-UX 11.0[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	HA: 16, OPS: 8[14]	HPQ A5150A[11]	U2 LVD
226	HP 9000: rp2405[46], rp2470	HPQ HP-UX 11.0[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A5149A[11]	U2 LVD
227	HP 9000: rp2405[46], rp2470	HPQ HP-UX 11.0[2, 3]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	OPS: 16	HPQ A5150A[11]	U2 LVD
228	HP 9000: rp2405[46], rp2470	HPQ HP-UX 11.0[2, 3]	HPQ MC/Service Guard: 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A5149A[11]	U2 LVD
229	HP 9000 SUPERDOME[5]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[3, 5]	HPQ MC/Service Guard 11.09[1, 4, 12]; Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A5149A[11]	U2 LVD
230	HP 9000 SUPERDOME[5]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[3, 5]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A5149A[11]	U2 LVD
231	HP 9000 SUPERDOME[5]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[3, 5]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 38]	OPS: 16, RAC: 8[14]	HPQ A5149A[11]	U2 LVD
232	HP 9000 SUPERDOME[5]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[3, 5]	HPQ MC/Service Guard OPS 11.14[1, 4, 12, 44]	OPS: 16	HPQ A5149A[11]	U2 LVD
233	HP 9000 SUPERDOME[5]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[3, 5]	HPQ MC/Service Guard: 11.13[1, 4, 12, 25], 11.14[1, 4, 12, 45]	HA: 16, RAC: 8[14]	HPQ A5149A[11]	U2 LVD
234	HP 9000: rp7405[47], **rp7410[42]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 38]	OPS: 16, RAC: 8[14]	HPQ A5149A[11]	U2 LVD
235	HP 9000: rp7405[47], **rp7410[42]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard OPS 11.14[1, 4, 12, 44]	OPS: 16	HPQ A5149A[11]	U2 LVD
236	HP 9000 rp2430	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ A5838A[11]	U2 LVD
237	HP 9000: rp7405[43, 47], **rp7410[42, 43]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ: A5150A[11] A5838A[11]	U2 LVD
238	HP 9000: rp7405[47], **rp7410[42]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard: 11.13[1, 4, 12, 25], 11.14[1, 4, 12, 45]	HA: 16, RAC: 8[14]	HPQ A5149A[11]	U2 LVD
239	HP 9000 rp2430	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]; Legato LAAM (Legato Cluster). 4.7[6], 4.8[6]	HA: 16	HPQ A5838A[11]	U2 LVD
240	HP 9000: rp7405[43, 47], **rp7410[42, 43]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]; Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ: A5150A[11] A5838A[11]	U2 LVD
241	HP 9000 rp7405[47] **rp7410[42]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ A5149A[11]	U2 LVD
242	HP 9000 rp7400[17, 21]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 15, 24]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A5150A[11]	U2 LVD
243	HP 9000 rp7400[17, 21]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 15, 24]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ A5150A[11]	U2 LVD
244	**HP 9000 rp5430[32]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 15, 24]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A5150A[11, 36]	U2 LVD
245	**HP 9000 rp5430[32]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 23, 24]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ A5149A[11, 36]	U2 LVD
246	HP 9000 rp5470 (L3000)[15, 16]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard 11.09[1, 4, 12]	HA: 16	HPQ A5149A[11]	U2 LVD
247	HP 9000 rp8400[27]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard 11.09[1, 4, 12, 28]; Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ A5149A[11]	U2 LVD

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
248	HP 9000: rp7400[17, 21], rp8400[27]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A5149A[11]	U2 LVD
249	HP 9000: rp7400[17, 21], rp8400[27]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 38]	OPS: 16, RAC: 8 [14]	HPQ A5149A[11]	U2 LVD
250	HP 9000: rp7400[17, 21], rp8400[27]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard OPS 11.14[1, 4, 12, 44]	OPS: 16	HPQ A5149A[11]	U2 LVD
251	HP 9000: rp7400[17, 21], rp8400[27]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard: 11.13[1, 4, 12, 25], 11.14[1, 4, 12, 45]	HA: 16, RAC: 8 [14]	HPQ A5149A[11]	U2 LVD
252	**HP 9000 rp5430[32]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard: 11.13[1, 4, 12, 25], 11.14[1, 4, 12, 45]	HA: 16, RAC: 8 [14]	HPQ A5149A[11] 36	U2 LVD
253	HP 9000 rp7400[17, 21]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A5150A[11]	U2 LVD
254	HP 9000 rp5405[17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A5838A[11]	U2 LVD
255	**HP 9000 rp5430[32]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A5149A[11] 36	U2 LVD
256	HP 9000: rp2405[46], rp2470	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8 [14]	HPQ: A5149A[11] A5150A[11]	U2 LVD
257	HP 9000: rp2405[46], rp2470	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A5150A[11]	U2 LVD
258	HP 9000: rp2405[46], rp2470	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard: 11.13[1, 4, 45], 11.14[1, 4, 25]	HA: 16	HPQ A5149A[11]	U2 LVD
259	HP 9000: N-Class (N4000), V2500, V2600[10], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5405, rp5450 (L2000), rp5470 (L3000)[15, 16]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard 11.09[1, 4, 12, 13]	HA: 16	HPQ A5149A[11]	U2 LVD
260	HP 9000: N-Class (N4000), V2500, V2600[10], rp5400 (L1000), rp5405, **rp5430[32]**, rp5450 (L2000), rp5470 (L3000)[15, 16]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A5149A[11]	U2 LVD
261	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ: A5149A[11] A5150A[11]	U2 LVD
262	HP 9000: N-Class (N4000), V2500, V2600[10], rp5400 (L1000), rp5405, **rp5430[32]**, rp5450 (L2000), rp5470 (L3000)[15, 16]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 38]	OPS: 16, RAC: 8 [14]	HPQ A5149A[11]	U2 LVD
263	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 38]	OPS: 16, RAC: 8 [14]	HPQ: A5149A[11] A5150A[11]	U2 LVD
264	HP 9000: N-Class (N4000), V2500, V2600[10], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5405, **rp5430[32]**, rp5450 (L2000), rp5470 (L3000)[15, 16]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard OPS 11.14[1, 4, 12, 44]	OPS: 16	HPQ A5149A[11]	U2 LVD
265	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard OPS 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8 [14]	HPQ A5150A[11]	U2 LVD
266	HP 9000: N-Class (N4000), V2500, V2600[10], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard: 11.13[1, 4, 12, 25], 11.14[1, 4, 12, 45]	HA: 16, RAC: 8 [14]	HPQ A5149A[11]	U2 LVD
267	HP 9000: N-Class (N4000), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A5150A[11]	U2 LVD
268	HP 9000 rp5470 (L3000)[15, 16]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A5149A[11]	U2 LVD
269	HP 9000: V2500, V2600, rp5470 (L3000)[15, 16]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A5149A[11]	U2 LVD
270	HP 9000: N-Class (N4000), rp5400 (L1000), rp5405[17], **rp5430[32]**, rp5450 (L2000), rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5, 15]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A5150A[11]	U2 LVD
271	HP 9000: N-Class (N4000), rp5400 (L1000), rp5405[17], **rp5430[32]**, rp5450 (L2000), rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5, 15]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8 [14]	HPQ A5150A[11]	U2 LVD
272	HP 9000: rp5405, rp5470 (L3000)[15, 16]	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[3, 5], 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard: 11.13[1, 4, 12, 25], 11.14[1, 4, 12, 45]	HA: 16, RAC: 8 [14]	HPQ A5149A[11]	U2 LVD
273	HP 9000: rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[3, 5], 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A5150A[11]	U2 LVD
274	HP 9000 rp2430	HPQ HP-UX: 11.0 March 2002[2, 3], 11i v1.0 (HP-UX 11.11) March 2002[3]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[6, 48]	HA: 16	HPQ A5838A[11]	U2 LVD
275	**HP 9000 rp5430[32]**	HPQ HP-UX: 11.0 Sept 2001[2, 3, 24, 33] 11i v1.0 (HP-UX 11.11) Sept 2001[3, 15, 24]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A5150A[11] 36	U2 LVD
276	HP 9000 rp7400[17, 21]	HPQ HP-UX: 11.0 Sept 2001[2, 3, 24] 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A5150A[11]	U2 LVD
277	HP 9000 rp5405[17]	HPQ HP-UX: 11.0 Sept 2001[2, 3, 24] 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A5838A[11]	U2 LVD
278	**HP 9000 rp5430[32]**	HPQ HP-UX: 11.0 Sept 2001[3, 24, 33] 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard 11.09[1, 4, 12]	HA: 16	HPQ A5149A[11] 36	U2 LVD
279	HP 9000 rp7400[17, 21]	HPQ HP-UX: 11.0 Sept 2001[3, 24], 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard 11.09[1, 4, 12]	HA: 16	HPQ A5149A[11]	U2 LVD
280	HP 9000: N-Class (N4000), rp5405[17], **rp5430[32]** rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3, 15], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12], 11.12[1, 12], HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A5150A[11]	U2 LVD
281	HP 9000: N-Class (N4000), rp5405[17], **rp5430[32]** rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3, 15] 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8 [14]	HPQ A5150A[11]	U2 LVD
282	HP 9000 rp5405[17] rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard 11.07[1]	HA: 16	HPQ A5150A[11]	U2 LVD
283	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz) rp2450 (A500/550MHz)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard 11.07[1]	HA: 16	HPQ A5150A[11] A5838A[11]	U2 LVD
284	HP 9000: N-Class (N4000), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard 11.07[1]	HA: 16	HPQ A5150A[11] A5838A[11]	U2 LVD

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
285	HP 9000: N-Class (N4000), rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A5838A[11]	U2 LVD
286	HP 9000: N-Class (N4000), rp2400 (A400/440MHz)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]	OPS: 8	HPQ A5838A[11]	U2 LVD
287	HP 9000 rp2450: (A500/440MHz), (A500/550MHz); HP 9000: rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]	OPS: 8	HPQ: A5150A[11] A5838A[11]	U2 LVD
288	HP 9000: N-Class (N4000), rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16	HPQ A5838A[11]	U2 LVD
289	HP 9000 rp2450: (A500/440MHz), (A500/550MHz); HP 9000: rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A5150A[11]	U2 LVD
290	HP 9000 rp2400 (A400/440MHz)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard: 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A5838A[11]	U2 LVD
291	HP 9000: N-Class (N4000), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard: 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ: A5150A[11] A5838A[11]	U2 LVD
292	HP 9000 N-Class (N4000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A5838A[11]	U2 LVD
293	HP 9000: rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ: A5150A[11] A5838A[11]	U2 LVD
294	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A5150A[11]	U2 LVD
295	HP 9000: rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 23]	HA: 16	HPQ A5838A[11]	U2 LVD
296	HP 9000: rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3, 24]	HPQ MC/Service Guard: 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A5150A[11]	U2 LVD
297	HP 9000: rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3, 24], 11i v1.0 (HP-UX 11.11)[3, 5], 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A5150A[11]	U2 LVD
298	HP 9000: N-Class (N4000), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A5150A[11]	U2 LVD
299	HP 9000: N-Class (N4000), rp5405, **rp5430**[32], rp5470 (L3000)[15]	HPQ HP-UX: 11.0[3, 15], 11.0 ACE[3]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 39]	OPS: 16, RAC: 8[14]	HPQ A5149A[11]	U2 LVD
300	HP 9000: N-Class (N4000), rp5405, **rp5430**[32], rp5470 (L3000)[15]	HPQ HP-UX: 11.0[3, 15], 11.0 ACE[3]	HPQ MC/Service Guard OPS 11.14[1, 4, 39]	OPS: 16	HPQ A5149A[11]	U2 LVD
301	HP 9000: N-Class (N4000), rp5405, **rp5430**[32], rp5470 (L3000)[15]	HPQ HP-UX: 11.0[3, 15], 11.0 ACE[3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]; HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A5149A[11]	U2 LVD
302	HP 9000: N-Class (N4000), V2500, rp5400 (L1000), rp5405, rp5450 (L2000), rp5470 (L3000)[15]	HPQ HP-UX: 11.0[3], 11.0 ACE[3]	HPQ MC/Service Guard 11.07[1]	HA: 16	HPQ A5149A[11]	U2 LVD
303	HP 9000: N-Class (N4000), V2500, V2600[10], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000), rp5470 (L3000)[15]	HPQ HP-UX: 11.0[3], 11.0 ACE[3]	HPQ MC/Service Guard 11.09[1, 4, 12]	HA: 16	HPQ A5149A[11]	U2 LVD
304	HP 9000: V2500, V2600[10], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[3], 11.0 ACE[3]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 39]	OPS: 16, RAC: 8[14]	HPQ A5149A[11]	U2 LVD
305	HP 9000: V2500, V2600[10], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[3], 11.0 ACE[3]	HPQ MC/Service Guard OPS 11.14[1, 4, 39]	OPS: 16	HPQ A5149A[11]	U2 LVD
306	HP 9000: V2500, V2600[10], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[3], 11.0 ACE[3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]	OPS: 8	HPQ A5149A[11]	U2 LVD
307	HP 9000: N-Class (N4000), V2500, V2600[10], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5405, rp5450 (L2000), rp5470 (L3000)[15]	HPQ HP-UX: 11.0[3], 11.0 ACE[3]	HPQ MC/Service Guard: 11.12[1, 12], 11.13[1, 2, 4, 12], 11.14[1, 2, 4, 12]	HA: 16	HPQ A5149A[11]	U2 LVD
308	HP 9000: V2500, V2600[10], rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[3], 11.0 ACE[3]	HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A5149A[11]	U2 LVD
309	HP 9000 rp5470 (L3000)[15]	HPQ HP-UX: 11.0[3], 11.0 ACE[3]	Legato LAAM (Legato Cluster) 4.7[6]; Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A5149A[11]	U2 LVD
310	HP 9000: V2500, V2600	HPQ HP-UX: 11.0[3], 11.0 ACE[3]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 23]	HA: 16	HPQ A5149A[11]	U2 LVD
311	HP 9000 rp5405	HPQ HP-UX: 11.0[3], 11.0 ACE[3], 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard 11.09[1, 4, 12]	HA: 16	HPQ A5149A[11]	U2 LVD
312	HP 9000: N-Class (N4000), V2500, V2600[10], rp5400 (L1000), rp5405, rp5450 (L2000)	HPQ HP-UX: 11.0[3], 11.0 ACE[3], 11i v1.0 (HP-UX 11.11)[3, 5]	Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A5149A[11]	U2 LVD
313	HP 9000: N-Class (N4000), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5405, rp5450 (L2000)	HPQ HP-UX: 11.0[3], 11.0 ACE[3], 11i v1.0 (HP-UX 11.11)[3, 5]	Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A5149A[11]	U2 LVD
314	HP 9000: rp2405[46], rp2430, rp2470	HPQ HP-UX 11.0 March 2002[2, 3]	HPQ MC/Service Guard OPS 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A5159A[7]	UWD
315	HP 9000: rp2405[46], rp2430, rp2470	HPQ HP-UX 11.0 March 2002[2, 3]	HPQ MC/Service Guard: 11.13[1, 4], 11.14[1, 4]; Veritas Cluster Server (VCS) 1.3.1.P3[22, 23]	HA: 16	HPQ A5159A[7]	UWD
316	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0 Sept 2001[2, 3]	HPQ MC/Service Guard: 11.07[1], 11.09[1, 4], 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A4800A[7]	UWD
317	**HP 9000 rp5430**[32]	HPQ HP-UX 11.0 Sept 2001[2, 3, 23, 24, 33]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 23]	HA: 16	HPQ A5159A[7]	UWD
318	**HP 9000 rp5430**[32]	HPQ HP-UX 11.0 Sept 2001[2, 3, 23, 33]	Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A4800A[7]	UWD
319	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0 Sept 2001[2, 3, 24]	HPQ MC/Service Guard: 11.07[1], 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A5159A[7]	UWD
320	**HP 9000 rp5430**[32]	HPQ HP-UX 11.0 Sept 2001[2, 3, 24, 33]	HPQ MC/Service Guard: 11.07[1], 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A5159A[7]	UWD

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
321	**HP 9000 rp5430[32]**	HPQ HP-UX 11.0 Sept 2001[2, 3, 24, 33]	Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A5159A[7]	UWD
322	**HP 9000 rp5430[32]**	HPQ HP-UX 11.0 Sept 2001[2, 3, 33]	HPQ MC/Service Guard: 11.07[1], 11.09[1, 4], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A4800A[7]	UWD
323	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0: ACE[2, 3], Sept 2001[2, 3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]; HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A4800A[7]	UWD
324	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0: ACE[2, 3], Sept 2001[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8 [14]	HPQ A4800A[7]	UWD
325	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0: ACE[2, 3], Sept 2001[2, 3, 15, 24]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12]; HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A5159A[7]	UWD
326	HP 9000 rp7400[17, 21]	HPQ HP-UX 11.0: ACE[2, 3], Sept 2001[2, 3, 15, 24]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8 [14]	HPQ A5159A[7]	UWD
327	HP 9000 rp2470	HPQ HP-UX 11.0[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8 [14]	HPQ A4800A[7]	UWD
328	HP 9000 rp2470	HPQ HP-UX 11.0[2, 3]	HPQ MC/Service Guard: 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A4800A[7]	UWD
329	HP 9000 SUPERDOME[5]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A4800A[7]	UWD
330	HP 9000 SUPERDOME[5]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8 [14]	HPQ A4800A[7]	UWD
331	HP 9000 SUPERDOME[5]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[3]	HPQ MC/Service Guard: 11.09[1, 4, 9], 11.13[1, 4, 25], 11.14[1, 4, 45]; Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A4800A[7]	UWD
332	HP 9000 SUPERDOME[5]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[3, 5]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A5159A[7]	UWD
333	HP 9000 SUPERDOME[5]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Feb 2001 CD[3, 5]	HPQ MC/Service Guard: 11.09[1, 4], 11.13[1, 4, 25], 11.14[1, 4, 45]; Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A5159A[7]	UWD
334	HP 9000: rp2470, rp7405[43, 47], **rp7410[42, 43]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8 [14]	HPQ A4800A[7]	UWD
335	HP 9000: rp7405[47], **rp7410[42]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8 [14]	HPQ A5159A[7]	UWD
336	HP 9000: rp2470, rp7405[43, 47], **rp7410[42, 43]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A4800A[7]	UWD
337	HP 9000: rp7405[47], **rp7410[42]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]; Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ A5159A[7]	UWD
338	HP 9000: rp2405[46], rp2470, rp7405[43, 47], **rp7410[42, 43]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ A4800A[7]	UWD
339	HP 9000: rp7400[17, 21], **rp8400[29, 30]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A4800A[7]	UWD
340	HP 9000: rp7400[17, 21], **rp8400[29, 30]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8 [14]	HPQ A4800A[7]	UWD
341	HP 9000: **rp5430[32]**, rp7400[17, 21], **rp8400[29, 30]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3]	HPQ MC/Service Guard: 11.09[1, 4, 9], 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A4800A[7]	UWD
342	**HP 9000 rp8400[29, 30]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3]	**Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]**	HA: 16	**HPQ A4800A[7]**	UWD
343	**HP 9000 rp5430[32]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 15, 23, 24]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ A5159A[7, 36]	UWD
344	HP 9000 rp7400[17, 21]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 15, 24]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A5159A[7]	UWD
345	HP 9000 rp7400[17, 21]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 15, 24]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8 [14]	HPQ A5159A[7]	UWD
346	**HP 9000 rp5430[32]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 15, 24]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]; Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A5159A[7, 36]	UWD
347	HP 9000 rp8400[27, 30]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard 11.09[1, 4]; Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ A5159A[7]	UWD
348	HP 9000 rp8400[27, 30]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A5159A[7]	UWD
349	HP 9000 rp8400[27, 30]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8 [14]	HPQ A5159A[7]	UWD
350	HP 9000: rp7400[17, 21], rp8400[27, 30]	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A5159A[7]	UWD
351	**HP 9000 rp5430[32]**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3, 34]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 34]	HA: 16	HPQ A4800A[7]	UWD
352	HP 9000: V2200[8], V2250[8], V2500[8], V2600[10], rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard 11.09[1, 4, 9]	HA: 16	HPQ A4800A[7]	UWD
353	HP 9000: V2200[8], V2250[8], V2500[8], **rp5430[32]**, rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A4800A	UWD
354	HP 9000 rp2405[46]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 38]		HPQ A4800A[7]	UWD
355	HP 9000: V2200[8], V2250[8], V2500[8], **rp5430[32]**, rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS 11.13[1, 4, 12, 38]	OPS: 16, RAC: 8 [14]	HPQ A4800A[7]	UWD
356	HP 9000: V2200[8], V2250[8], V2500[8], rp2405[46], **rp5430[32]**, rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8 [14]	HPQ A4800A[7]	UWD

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
357	HP 9000: V2200[8], V2250[8], V2500[8], V2600[10], rp2405[46], rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A4800A[7]	UWD
358	HP 9000: V2200[8], V2250[8], V2500[8], rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A4800A[7]	UWD
359	HP 9000: V2200[8], V2250[8], V2500[8], V2600, rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A4800A[7]	UWD
360	HP 9000: rp5405[17], rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 15]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A4800A[7]	UWD
361	HP 9000: rp5405[17], rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 15]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ A4800A[7]	UWD
362	HP 9000 rp2450: (A500/440MHz), (A500/550MHz); HP 9000 rp5400 (L1000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard 11.09[1, 4, 9]	HA: 16	HPQ A4800A[7]	UWD
363	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ: A4800A[7], A5159A[7]	UWD
364	HP 9000 rp2450: (A500/440MHz), (A500/550MHz)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ: A4800A[7], A5159A[7]	UWD
365	HP 9000 N-Class (N4000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard: 11.09[1, 4], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A4800A[7]	UWD
366	HP 9000: N-Class (N4000), rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A5159A[7]	UWD
367	HP 9000 rp2450: (A500/440MHz), (A500/550MHz); HP 9000 rp5400 (L1000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ: A4800A[7], A5159A[7]	UWD
368	HP 9000: N-Class (N4000), rp5405[17], **rp5430[32]**, rp5450 (L2000), rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5, 15]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A5159A[7]	UWD
369	HP 9000 rp5400 (L1000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5, 15]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ: A4800A[7], A5159A[7]	UWD
370	HP 9000: N-Class (N4000), rp5405[17], **rp5430[32]**, rp5450 (L2000), rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5, 15]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ A5159A[7]	UWD
371	HP 9000 rp5400 (L1000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5, 15]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ: A4800A[7], A5159A[7]	UWD
372	HP 9000 N-Class (N4000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 5, 15]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A4800A[7]	UWD
373	HP 9000: rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[3, 5], 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard: 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A5159A[7]	UWD
374	HP 9000: rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX 11i v1.0 (HP-UX: 11.11)[3], 11.11) Sept 2001[3]	HPQ MC/Service Guard: 11.09[1, 4, 9], 11.13[1, 4, 25], 11.14[1, 4, 45]	HA: 16	HPQ A4800A[7]	UWD
375	**HP 9000 rp5430[32]**	HPQ HP-UX: 11.0 Sept 2001[2, 3, 24, 33], 11i v1.0 (HP-UX 11.11) Sept 2001[3, 15, 24]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A5159A[7, 36]	UWD
376	HP 9000 rp7400[17, 21]	HPQ HP-UX: 11.0 Sept 2001[2, 3, 24], 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A5159A[7]	UWD
377	**HP 9000 rp5430[32]**	HPQ HP-UX: 11.0 Sept 2001[2, 3, 33], 11i v1.0 (HP-UX 11.11) Sept 2001[3]	Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A4800A[7]	UWD
378	HP 9000: rp5405, rp5470 (L3000)[15, 16]	HPQ HP-UX: 11.0[2, 3, 15], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12], HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A4800A[7]	UWD
379	HP 9000: N-Class (N4000), rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3, 15], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12], HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A5159A[7]	UWD
380	**HP 9000 rp5430[32]**	HPQ HP-UX: 11.0[2, 3, 15], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.09[1, 4, 12], 11.12[1, 12], HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ: A4800A[7], A5159A[7]	UWD
381	HP 9000: rp5405, rp5470 (L3000)[15, 16]	HPQ HP-UX: 11.0[2, 3, 15], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A4800A[7]	UWD
382	HP 9000: N-Class (N4000), rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3, 15], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A5159A[7]	UWD
383	**HP 9000 rp5430[32]**	HPQ HP-UX: 11.0[2, 3, 15], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ: A4800A[7], A5159A[7]	UWD
384	HP 9000: N-Class (N4000), rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard 11.07[1]	HA: 16	HPQ A5159A[7]	UWD
385	HP 9000: rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard 11.07[1]	HA: 16	HPQ: A4800A[7], A5159A[7]	UWD
386	HP 9000: V2200, V2250, V2500, rp5405, rp5470 (L3000)[15, 16]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard 11.07[1], Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A4800A[7]	UWD
387	HP 9000: V2200, V2250, V2500, V2600[10], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A4800A[7]	UWD
388	HP 9000: V2200, V2250, V2500	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A4800A[7]	UWD
389	HP 9000 rp2450: (A500/440MHz), (A500/550MHz), HP 9000 rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12], 11.12[1, 12]	OPS: 8	HPQ A4800A[7] A5159A[7]	UWD
390	HP 9000: V2200, V2250, V2500	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 38], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ A4800A[7]	UWD
391	HP 9000 rp2450: (A500/440MHz), (A500/550MHz), HP 9000 rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard OPS 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A4800A[7] A5159A[7]	UWD
392	HP 9000: V2200, V2250, V2500, V2600[10]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard 11.12[1] 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A4800A[7]	UWD

HPQ – HPQ HP-UX						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
393	HP 9000 N-Class (N4000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard: 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A5159A[7]	UWD
394	HP 9000 rp2450: (A500/440MHz), (A500/550MHz); HP 9000: rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MC/Service Guard: 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ: A4800A[7], A5159A[7]	UWD
395	HP 9000: rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ: A4800A[7], A5159A[7]	UWD
396	HP 9000: V2200, V2250, V2500, V2600[10]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	HPQ: MC/Service Guard OPS 11.12[1, 12, 35], MS/Service Guard OPS 11.08[1]	OPS: 8	HPQ A4800A[7]	UWD
397	HP 9000: rp5405, rp5470 (L3000)[15, 16]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A4800A[7]	UWD
398	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3]	Veritas Cluster Server (VCS) 1.3.1.P3[22, 23]	HA: 16	HPQ A4800A[7]	UWD
399	HP 9000 rp5470 (L3000)[15, 16]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3]	HPQ MC/Service Guard: 11.09[1, 4], 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A4800A[7]	UWD
400	HP 9000 rp5405	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3, 24]	HPQ MC/Service Guard: 11.09[1, 4], 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A4800A[7]	UWD
401	HP 9000: rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3, 24]	HPQ MC/Service Guard: 11.12[1], 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A5159A[7]	UWD
402	HP 9000: rp5405[17], rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11.0 Sept 2001[2, 3, 24], 11i v1.0 (HP-UX 11.11)[3, 5], 11i v1.0 (HP-UX 11.11) Sept 2001[3, 24]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A5159A[7]	UWD
403	HP 9000 V2600[10]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS 11.09[1, 4, 12, 35]	OPS: 8	HPQ A4800A[7]	UWD
404	HP 9000 V2600[10]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11i v1.0 (HP-UX 11.11)[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12, 36], 11.14[1, 4, 12, 44]	OPS: 16, RAC: 8[14]	HPQ A4800A[7]	UWD
405	HP 9000: V2600[10], rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11i v1.0 (HP-UX 11.11)[3]	Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ A4800A[7]	UWD
406	HP 9000 rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11i v1.0 (HP-UX 11.11)[3]	Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A4800A[7]	UWD
407	HP 9000: N-Class (N4000), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11i v1.0 (HP-UX 11.11)[3, 5]	HPQ MC/Service Guard 11.09[1, 4]	HA: 16	HPQ A5159A[7]	UWD
408	HP 9000 rp5400 (L1000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11i v1.0 (HP-UX 11.11)[3, 5]	Legato LAAM (Legato Cluster) 4.7[6]	HA: 16	HPQ: A4800A[7], A5159A[7]	UWD
409	HP 9000: N-Class (N4000), rp5405[17], rp5450 (L2000), rp5470 (L3000)[15, 16, 17]	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11i v1.0 (HP-UX 11.11)[3, 5]	Legato LAAM (Legato Cluster) 4.7[6]; Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A5159A[7]	UWD
410	HP 9000 rp2450: (A500/440MHz), (A500/550MHz); HP 9000 rp5400 (L1000)	HPQ HP-UX: 11.0[2, 3], 11.0 ACE[2, 3], 11i v1.0 (HP-UX 11.11)[3, 5]	Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ: A4800A[7], A5159A[7]	UWD
411	HP 9000 rp2405[46]	HPQ HP-UX: 11.0[2, 3], 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard OPS: 11.13[1, 4, 12], 11.14[1, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A4800A[7]	UWD
412	HP 9000 rp2405[46]	HPQ HP-UX: 11.0[2, 3], 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ MC/Service Guard: 11.13[1, 4], 11.14[1, 4]	HA: 16	HPQ A4800A[7]	UWD
413	HP 9000 N-Class (N4000)	HPQ HP-UX: 11.0[3, 15], 11.0 ACE[3]	HPQ MC/Service Guard OPS: 11.13[1, 2, 4, 12], 11.14[1, 2, 4, 12]	OPS: 16, RAC: 8[14]	HPQ A4800A[7]	UWD
414	HP 9000 N-Class (N4000)	HPQ HP-UX: 11.0[3, 15], 11.0 ACE[3]	HPQ: MC/Service Guard OPS 11.12[1, 12], MS/Service Guard OPS 11.08[1, 2]	OPS: 8	HPQ A4800A[7]	UWD
415	HP 9000 N-Class (N4000)	HPQ HP-UX: 11.0[3, 15], 11.0 ACE[3], 11i v1.0 (HP-UX 11.11)[3, 5, 15]	HPQ MC/Service Guard OPS 11.09[1, 4, 12]	OPS: 8	HPQ A4800A[7]	UWD
416	HP 9000 N-Class (N4000)	HPQ HP-UX: 11.0[3], 11.0 ACE[3]	HPQ MC/Service Guard: 11.07[1], 11.09[1, 4, 14], 11.12[1, 14], 11.13[1, 2, 4, 14], 11.14[1, 2, 4]	HA: 16	HPQ A4800A[7]	UWD
417	HP 9000 N-Class (N4000)	HPQ HP-UX: 11.0[3], 11.0 ACE[3], 11i v1.0 (HP-UX 11.11)[3, 5]	Legato LAAM (Legato Cluster) 4.7[6]; Veritas Cluster Server (VCS) 1.3.1.P3[22]	HA: 16	HPQ A4800A[7]	UWD

1 Refer to MC/Service Guard Release Notes at www.docs.hp.com for patch requirements.
2 On HP-UX 11.00 LVM support only – no VxVM
3 For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set
4. Can mix HP-UX 11.00 and HP-UX 11i in same cluster all nodes must be MC/SG 11.09, 11.13 or later
5. Symmetrix microcode version 5266 33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher
6 LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
7 A4800A and A5159A HBAs are both capable of Ultra 1 speeds, but ship from HP with a default setting of FWD. Symmetrix is supported at Ultra 1 speeds with both these HBAs. Ultra 1 can be enabled in the V-Class, N-Class, and L-Class A-Class and Superdome PDC firmware. V-Class supports the A4800A Only

HP e3000 MPE SYSTEMS – The above note applies but only includes the A-Class and N-Class Servers The HP e3000 A-Class does not support the dual port HBA A5159A.
8 PDC firmware V2200, 2250: Arbitrated loop and fabric, use TSSW 5.3 or higher V2500, 2600: Arbitrated loop, use TSSW 3.1 or higher. Fabric, use TSSW 3.2 or higher
9 Volume Managers Supported LVM
10. Minimum OS version is HP-UX 11.0 990P
11 Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DF3-U2SD4L).
12 Number of nodes supported is dependent upon LVM, SLVM, VxVM, and CVM Refer to EMC Host Connectivity Guide for HP-UX.
13. HP-UX 11i supported with MC/Service Guard 11.09 only
14 HP-UX 11.0 and 11i 64-bit only Oracle RAC9i (9.0.1, 9.2) PowerPath 2.1.x and 3.0 Support A SAN implementation with ISLs will observe significant delay in failover times if link failures non-contiguous to host HBA occur
15 PA-8700 processors Initial support with HP-UX 11.0 Sept 2001, HP-UX 11i Sept 2001.
16 Virtual Partitions (VPAR) is supported on the L-class/rp5470 server
VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later
Requirements Minimum VPAR product release of A.02.01.00 or later Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 36.1 or later, Symmetrix microcode supported 5266.33.23 or higher, 5566.41.26 or higher, 5267.27.19 or higher, 5567.34.19 or higher
17 rp5405, rp5430, rp5470, rp7400 (PA-8700 processors) Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001 Symmetrix microcode supported 5266.33.23 or higher, 5566.41.26 or higher, 5267.27.19 or higher, 5567.34.19 or higher
18 For driver versions refer to Base Connectivity Section
19 **Virtual Partitions (VPAR) is supported on the SuperDome server with 4.x and 5.x Symmetrix models and DMX series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 36.1 or later.**
20 For driver versions, see Hewlett-Packard Base Connectivity table

21. Virtual Partitions (VPAR) is supported on the N-class/rp7400 server with 4.x and 5.x Symmetrix models. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later.
22. GAB disks (membership and service group heartbeat disks) are not supported.
23. VCS supported with LVM only
24. Symmetrix microcode supported:5266.40.28 or higher, 5566.41.28 or higher. 5267.27.19 or higher, 5567.34.19 or higher.
25. Volume Managers Supported. LVM, VxVM 3.2
26. HP A5158A FC-SW is enabled in the March 2000 HWCR bundle XSWHWCR1100.48. Additional patches may be required for support.
27. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later
Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or
28. Please refer to the MC/Service Guard Release Notice for patch requirements
29. **Virtual Partitions (VPAR) is supported on the rp8400 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 16.009 or later.**
30. rp8400 requires minimum PDC firmware 13.10 or higher.
31. Minimum OS revision is HP-UX 11.0 990P
32. **rp5405, rp5430, rp5470, rp7400: (PA-8700 processors): Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001.**
33. Symmetrix 8000 Series & 66/67 support: HP-UX 10.20,11.0,11.10, 11.0 ACE,11.i, MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01: Symmetrix 8000 Series 5568 support: HP-UX 10.20, 11.0, 11i, MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
34. VCS supported with LVM or VxVM and PowerPath. Refer to Table HP single section for supported versions.
35. Volume Managers Supported. LVM, SLVM
36. These qualified HBAs for EMC Symmetrix storage in the HP9000 server model and the HP-UX revision installed may co-exist in that same server or the same hard partition. Other supported HBAs not used to attach to the Symmetrix may also co-exist on the same server unless specified by EMC and/or HP.
37. T600 only
38. Volume Managers Supported. LVM, SLVM, VxVM 3.2
39. MC/Service Guard 11.13 and 11.14 LVM only
40. D, R Class only
41. Initial support for fabric is enabled with fabric device driver version B.11.00.03; minimum operating system level HP/UX 11.0 990P with March 2000 HW-CR bundle and dependency patch PHKL_21381; Symmetrix microcode versions 5265.49.31, 5266.20, 5566.22. Please refer to the Base Connectivity section for the latest driver and OS support.
42. **Virtual Partitions (VPAR) is supported on the rp7405/7410 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.**
43. For rp7405 and rp7410 required minimum PDC firmware is 15.005
44. Volume Managers Supported: LVM, SLVM, VxVM 3.2, VxVM 3.5
45. Volume Managers Supported: LVM, VxVM 3.2, VxVM 3.5
46. Supported in 2-CPU systems only (2-way)
47. Virtual Partitions (VPAR) is supported on the rp7405 server with 4.x and 5.x Symmetrix models. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.
48. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
49. Virtual Partitions (VPAR) is supported on the rp8400 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later
50. **Virtual Partitions (VPAR) is supported on the N-class/rp7400 server with 4.x and 5.x Symmetrix models and DMX series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later.**
51. Virtual Partitions (VPAR) is supported on the N-class/rp7400 server with 4.x and 5.x Symmetrix models. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later. Powerpath support on Virtual Partitions has to be RPQ'ed at this time.
52. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24, 5568.58.12 or 5x69
53. Review the single attach table for supported PowerPath versions and volume manager restrictions.

HPQ MPE/ix

HPQ

HPQ – HPQ MPE/ix						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	e3000 900 Series	HPQ MPE/ix 7.5[6, 7, 8, 9]	HPQ ClusterIX[1]	HA: 2, OPS: 2, RAC: 2	HPQ 28696A	FWD
2	e3000 900 Series	HPQ MPE/ix 6.5.02, 7.0.01[2, 3], 7.5[6, 7, 8, 9]	HPQ ClusterIX[1]	HA: 2	HPQ 28696A	FWD
3	e3000 N-Class (N4000)	HPQ MPE/ix 7.0.01[2, 3]	HPQ ClusterIX[1]	HA: 2	HPQ: A5149A[5], A5150A[5]	U2 LVD
4	e3000 A-Class	HPQ MPE/ix 7.0.01[2, 3]	HPQ ClusterIX[1]	HA: 2	HPQ A4800A[4]	UWD
5	e3000 N-Class (N4000)	HPQ MPE/ix 7.0.01[2, 3]	HPQ ClusterIX[1]	HA: 2	HPQ: A4800A[4], A5159A[4]	UWD

1. ClusterIX has the following limitations: Requires operator invervention (it is not fully automated); Does not support the boot volume, only user volumes; Does not support data sharing; Is not supported on mirrored disks (using MPE MirrorIX).
2. Symmetrix 8000 Series & 66/67 support: HP-UX 10.20,11.0,11.10, 11.0 ACE,11.i.
Symmetrix 8000 Series 5568 support: HP-UX 10.20, 11.0, 11i
Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01:
Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
3. Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01: Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
4. A4800A and A5159A HBAs are both capable of Ultra 1 speeds, but ship from HP with a default setting of FWD. Symmetrix is supported at Ultra 1 speeds with both these HBAs. Ultra 1 can be enabled in the V-Class, N-Class, and L-Class. A-Class and Superdome PDC firmware. V-Class supports the A4800A Only.

   HP e3000 MPE SYSTEMS – The above note applies but only includes the A-Class and N-Class Servers. The HP e3000 A-Class does not support the dual port HBA A5159A.
5. Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L).
6. Symmetrix 8000 Series & 66/67 support:HP-UX 10.20, 11.0, 11.0 ACE, 11i
Symmetrix 8000 Series 5568 support: HP-UX 10.20, 11.0, 11i
Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
7. Symmetrix 8000 Series & 66/67 support.
MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01, 7.5
Symmetrix 8000 Series 5568 support:
MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01, 7.5
8. LDEV1, the boot volume, has no size limit in MPE/iX 7.5. The 4GB limit that existed in previous releases has been eliminated.
9. Requires Symmetrix microcode
5266.40.28 or higher
5566.40.27 or higher
5267.25.17 or higher
5567.32.16 or higher
5568.34.14 or higher

HPQ Open VMS

HPQ

HPQ – HPQ Open VMS						
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	AlphaServer 1200, 4000, 4100, GS140, GS60	HPQ Open VMS V7.2-1H1[2]	HPQ VMS Cluster License only[1]	HA: 16 OPS: 4	HPQ KGPSA-BC (380574-001)[10, 11, 1	FC-SW
2	AlphaServer DS25[13]	HPQ Open VMS V7.3-1	HPQ VMS Cluster License only[1]	HA: 16 OPS: 4	HPQ: FCA2354 (LP9002), **FCA2384** (LP9802), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21), **KGPSA-EA**[14, 15]	FC-SW

HPQ – HPQ Open VMS						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
3	AlphaServer GS1280	HPQ Open VMS V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)[14]**, KGPSA-DA (261329-B21), **KGPSA-EA[14, 15]**	FC-SW
4	AlphaServer: ES47, ES80	HPQ Open VMS V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ: FCA2354 (LP9002)[8, 9], **FCA2384 (LP9802)[14]**, KGPSA-DA (261329-B21), **KGPSA-EA[14, 15]**	FC-SW
5	AlphaServer: GS140, GS60	HPQ Open VMS: V7.2-1[2], V7.2-1H1[2], V7.2-2[5], V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ KGPSA-CA (168794-B21)	FC-SW
6	AlphaServer: 8200, 8400, DS10, DS10L, DS20, DS20E, ES40	HPQ Open VMS: V7.2-1[2], V7.2-1H1[2], V7.2-2[5], V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	FC-SW
7	AlphaServer: GS140, GS60	HPQ Open VMS: V7.2-1[2], V7.2-2[5], V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ KGPSA-BC (380574-001)	FC-SW
8	AlphaServer: 1200, 4000, 4100	HPQ Open VMS: V7.2-1[2], V7.2-2[5], V7.3[6] V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	FC-SW
9	AlphaServer GS160	HPQ Open VMS: V7.2-1H1[2], V7.2-2[5], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ KGPSA-CA (168794-B21)	FC-SW
10	AlphaServer: GS320, GS80	HPQ Open VMS: V7.2-1H1[2], V7.2-2[5], V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ KGPSA-CA (168794-B21)	FC-SW
11	AlphaServer: DS10, DS10L, DS20, DS20E	HPQ Open VMS: V7.2-2[5], V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ KGPSA-DA (261329-B21)	FC-SW
12	AlphaServer: GS160, GS320, GS80	HPQ Open VMS: V7.2-2[5], V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)**, KGPSA-DA (261329-B21), **KGPSA-EA**	FC-SW
13	AlphaServer: 8200, 8400, GS140, GS60	HPQ Open VMS: V7.2-2[5], V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ: FCA2354 (LP9002), KGPSA-DA (261329-B21)	FC-SW
14	AlphaServer ES40	HPQ Open VMS: V7.2-2[5], V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ: **FCA2384 (LP9802)**, KGPSA-DA (261329-B21), **KGPSA-EA**	FC-SW
15	AlphaServer ES45	HPQ Open VMS: V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)[14]**, KGPSA-CA (168794-B21), KGPSA-DA (261329-B21), **KGPSA-EA[14, 15]**	FC-SW
16	AlphaServer: 1200, 4000, 4100	HPQ Open VMS V7.2-1H1[2]	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ KGPSA-CA (168794-B21)	FC-SW[7]
17	AlphaServer GS160	HPQ Open VMS V7.3[6]	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ KGPSA-CA (168794-B21)	FC-SW[7]
18	AlphaServer: 1200, 4000, 4100, 8200, 8400, GS140, GS60	HPQ Open VMS: V7.1-2[3], V7.2-1[2], V7.2-1H1[2], V7.2-2[5], V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ KZPSA-BB[4]	FWD
19	AlphaServer: 1200, 4000, 4100, 8200, 8400, DS10, DS20, ES40, GS140, GS60	HPQ Open VMS: V7.1-2[3], V7.2-1[2], V7.2-1H1[2], V7.2-2[5], V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ: 4A-KZPBA-CY, KZPBA-CB, KZPBA-CY	UWD
20	AlphaServer: DS10L, DS20E	HPQ Open VMS: V7.1-2[3], V7.2-1[2], V7.2-1H1[2], V7.2-2[5], V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ: KZPBA-CB, KZPBA-CY	UWD
21	AlphaServer: GS160, GS320, GS80	HPQ Open VMS: V7.2-1H1[2], V7.2-2[5], V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ: 4A-KZPBA-CY, KZPBA-CB, KZPBA-CY	UWD
22	AlphaServer ES45	HPQ Open VMS: V7.3[6], V7.3-1	HPQ VMS Cluster License only[1]	HA: 16, OPS: 4	HPQ: 4A-KZPBA-CY, KZPBA-CB, KZPBA-CY	UWD

1. No specific clustering s/w required.
2. OpenVMS 7.2-1, 7.2-1H1 FC-SW requires console firmware 5.6 or later and patch VMS721_fibre_SCSI-V0400. Available from http://ftp1.support.compaq.com/public/
3. Open VMS 7.1-2 requires console firmware 5.6 or later and patch VMS712_SCSI-V0300.
4. KZPSA-BB [FWD] has been discontinued by HPQ (Compaq).
5. Open VMS 7.2-2 FC-SW requires console firmware 5.6 or later and patch VMS722_fibre_SCSI-V0100.
6. Open VMS 7.3 FC-SW requires console firmware 5.6 or later and patch VMS73_update-V0100 or patch VMS73_fibre_SCSI-V0200.
7. KGPSA-CA, KGPSA-DA: Latest/Minimum firmware revision 3.82a1
8. KGPSA-CA/KGPSA-DA(FCA2354): Minimum firmware revision 3.81A4
9. KGPSA-CA/KGPSA-DA(FCA2354): Latest firmware revision 3.82A1
10. The KGPSA-BC login to switch may fail if the Brocade switch port speed is set to auto-negotiate. Set the port speed to 1 Gb.
11. KGPSA-BC: Latest firmware revision 3.20X7
12. KGPSA-BC: Minimum firmware revision 3.03A1
13. Latest qualified Alpha Systems firmware is V6.4.
14. **KGPSA-EA(FCA2384): Latest qualified firmware revision 1-00X6.**
15. **KGPEA-EA(FCA2384): Latest qualified firmware revision 1-00X6.**

HPQ Tru64 UNIX

HPQ

HPQ – HPQ Tru64 UNIX						
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	AlphaServer GS160, GS320, GS80	HPQ Tru64 UNIX V4.0G[1]	HPQ TruCluster Available Server V1.6[2]	HA: 4	HPQ KGPSA-CA (168794-B21)	FC-SW
2	AlphaServer GS160, GS320, GS80	HPQ Tru64 UNIX V4.0G[1]	HPQ TruCluster Production Server V1.6[2]	HA, 4 OPS: 8	HPQ KGPSA-CA (168794-B21)	FC-SW
3	AlphaServer 1200, 4000, 4100, 8200, 8400, DS10, DS10L, DS20, DS20E, ES40, GS140, GS60	HPQ Tru64 UNIX V5.0A[6]	HPQ TruCluster V5.0A[5]	HA, 8 OPS: 8, RAC: 8	HPQ, KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	FC-SW

HPQ – HPQ Tru64 UNIX						
No.	**Host System**	**Operating System**	**Cluster Software**	**Max # Nodes**	**Host Bus Adapter**	**Adapter Type**
4	**AlphaServer: DS10, DS10L, DS20, DS20E, ES40**	**HPQ Tru64 UNIX V5.1[6, 7]**	**HPQ TruCluster V5.1[5]**	HA: 8, OPS: 8, RAC: 8	**HPQ: FCA2354 (LP9002), KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	FC-SW
5	**AlphaServer: GS160, GS320, GS80**	**HPQ Tru64 UNIX V5.1[6, 7]**	**HPQ TruCluster V5.1[5]**	HA: 8, OPS: 8, RAC: 8	**HPQ: FCA2354 (LP9002), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	FC-SW
6	**AlphaServer: 1200, 4000, 4100, 8200, 8400, GS140, GS60**	**HPQ Tru64 UNIX V5.1[6, 7]**	**HPQ TruCluster V5.1[5]**	HA: 8, OPS: 8, RAC: 8	**HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)**	FC-SW
7	AlphaServer DS20L	HPQ Tru64 UNIX V5.1A[6, 8]	HPQ TruCluster V5.1A[5]	HA: 8, OPS: 8, RAC: 8	HPQ KGPSA-CA (168794-B21)	FC-SW
8	AlphaServer: DS10, DS20E, ES40	HPQ Tru64 UNIX V5.1A[6, 8]	HPQ TruCluster V5.1A[5]	HA: 8, OPS: 8, RAC: 8	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)[13, 14]**, KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)	FC-SW
9	AlphaServer: DS25, ES45, GS160, GS320, GS80	HPQ Tru64 UNIX V5.1A[6, 8]	HPQ TruCluster V5.1A[5]	HA: 8, OPS: 8, RAC: 8	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)[13, 14]**, KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)	FC-SW
10	AlphaServer: DS10L, DS20	HPQ Tru64 UNIX V5.1A[6, 8]	HPQ TruCluster V5.1A[5]	HA: 8, OPS: 8, RAC: 8	HPQ: FCA2354 (LP9002), KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)	FC-SW
11	AlphaServer: 1200, 4000, 4100, 8200, 8400, GS140, GS60	HPQ Tru64 UNIX V5.1A[6, 8]	HPQ TruCluster V5.1A[5]	HA: 8, OPS: 8, RAC: 8	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	FC-SW
12	AlphaServer: SC20[10], SC40[10], SC45[10]	HPQ Tru64 UNIX V5.1A[6, 8, 9]	HPQ TruCluster V5.1A[5, 9]		HPQ KGPSA-CA (168794-B21)	FC-SW
13	**AlphaServer DS20L**	**HPQ Tru64 UNIX V5.1B[6, 11]**	**HPQ TruCluster V5.1B[5]**	HA: 8, OPS: 8, RAC: 8	**HPQ KGPSA-CA (168794-B21)**	FC-SW
14	**AlphaServer: DS10, DS20E, ES40**	**HPQ Tru64 UNIX V5.1B[6, 11]**	**HPQ TruCluster V5.1B[5]**	HA: 8, OPS: 8, RAC: 8	**HPQ: FCA2354 (LP9002), FCA2384 (LP9802)[13, 14], KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	FC-SW
15	**AlphaServer: DS25, ES45, GS160, GS320, GS80**	**HPQ Tru64 UNIX V5.1B[6, 11]**	**HPQ TruCluster V5.1B[5]**	HA: 8, OPS: 8, RAC: 8	**HPQ: FCA2354 (LP9002), FCA2384 (LP9802)[13, 14], KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	FC-SW
16	**AlphaServer: DS10L, DS20**	**HPQ Tru64 UNIX V5.1B[6, 11]**	**HPQ TruCluster V5.1B[5]**	HA: 8, OPS: 8, RAC: 8	**HPQ: FCA2354 (LP9002), KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	FC-SW
17	**AlphaServer: 1200, 4000, 4100, 8200, 8400, GS140, GS60**	**HPQ Tru64 UNIX V5.1B[6, 11]**	**HPQ TruCluster V5.1B[5]**	HA: 8, OPS: 8, RAC: 8	**HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)**	FC-SW
18	**AlphaServer: ES47, ES80, GS1280**	**HPQ Tru64 UNIX V5.1B[6, 11, 12]**	**HPQ TruCluster V5.1B[5]**	HA: 8, OPS: 8, RAC: 8	**HPQ: FCA2354 (LP9002), FCA2384 (LP9802)[13, 14], KGPSA-DA (261329-B21)**	FC-SW
19	AlphaServer: 1200, 4000, 4100, 8200, 8400, DS10, DS10L, DS20, DS20E, ES40, GS140, GS60	HPQ Tru64 UNIX: V4.0F[4], V4.0G[1]	HPQ TruCluster Available Server V1.6[2]	HA: 4	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	FC-SW
20	AlphaServer: 1200, 4000, 4100, 8200, 8400, DS10, DS10L, DS20, DS20E, ES40, GS140, GS60	HPQ Tru64 UNIX: V4.0F[4], V4.0G[1]	HPQ TruCluster Production Server V1.6[2]	HA: 4, OPS: 8	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	FC-SW
21	**AlphaServer: 1200, 4000, 4100, 8200, 8400, GS140, GS60**	**HPQ Tru64 UNIX V5.1[7]**	**HPQ TruCluster V5.1[5]**	HA: 8, OPS: 8, RAC: 8	**HPQ KZPSA-BB[3]**	FWD
22	AlphaServer: 1200, 4000, 4100, 8200, 8400, GS140, GS60	HPQ Tru64 UNIX V5.1A[8]	HPQ TruCluster V5.1A[5]	HA: 8, OPS: 8, RAC: 8	HPQ KZPSA-BB[3]	FWD
23	AlphaServer: 1200, 4000, 4100, 8200, 8400, GS140, GS60	HPQ Tru64 UNIX, V4.0F[4], V4.0G[1]	HPQ TruCluster Available Server V1.6[2]	HA: 4	HPQ KZPSA-BB[3]	FWD
24	AlphaServer 1200, 4000, 4100, 8200, 8400, GS140, GS60	HPQ Tru64 UNIX: V4.0F[4], V4.0G[1]	HPQ TruCluster Production Server V1.6[2]	HA: 4, OPS: 8	HPQ KZPSA-BB[3]	FWD
25	AlphaServer: GS160, GS320, GS80	HPQ Tru64 UNIX V4.0G[1]	HPQ TruCluster Available Server V1.6[2]	HA: 4	HPQ: 4A-KZPBA-CY, KZPBA-CB, KZPBA-CY	UWD
26	AlphaServer: GS160, GS320, GS80	HPQ Tru64 UNIX V4.0G[1]	HPQ TruCluster Production Server V1.6[2]	HA: 4, OPS: 8	HPQ: 4A-KZPBA-CY, KZPBA-CB, KZPBA-CY	UWD
27	AlphaServer: 1200, 4000, 4100, 8200, 8400, DS10, DS10L, DS20, DS20E, ES40, GS140, GS60	HPQ Tru64 UNIX V5.0A	HPQ TruCluster V5.0A[5]	HA: 8, OPS: 8, RAC: 8	HPQ: 4A-KZPBA-CY, KZPBA-CB, KZPBA-CY	UWD
28	**AlphaServer: 1200, 4000, 4100, 8200, 8400, DS10, DS10L, DS20, DS20E, ES40, GS140, GS160, GS320, GS60, GS80**	**HPQ Tru64 UNIX V5.1[7]**	**HPQ TruCluster V5.1[5]**	HA: 8, OPS: 8, RAC: 8	**HPQ: 4A-KZPBA-CY, KZPBA-CB, KZPBA-CY**	UWD
29	AlphaServer: 1200, 4000, 4100, 8200, 8400, DS10, DS10L, DS20, DS20E, DS20L, ES40, ES45, GS140, GS160, GS320, GS60, GS80	HPQ Tru64 UNIX V5.1A[8]	HPQ TruCluster V5.1A[5]	HA: 8, OPS: 8, RAC: 8	HPQ: 4A-KZPBA-CY, KZPBA-CB, KZPBA-CY	UWD
30	**AlphaServer: 1200, 4000, 4100, 8200, 8400, DS10, DS10L, DS20, DS20E, DS20L, ES40, ES45, GS140, GS160, GS320, GS60, GS80**	**HPQ Tru64 UNIX V5.1B[11]**	**HPQ TruCluster V5.1B[5]**	HA: 8, OPS: 8, RAC: 8	**HPQ: 4A-KZPBA-CY, KZPBA-CB, KZPBA-CY**	UWD
31	AlphaServer: 1200, 4000, 4100, 8200, 8400, DS10, DS10L, DS20, DS20E, ES40, GS140, GS60	HPQ Tru64 UNIX: V4.0F[4], V4.0G[1]	HPQ TruCluster Available Server V1.6[2]	HA: 4	HPQ: 4A-KZPBA-CY, KZPBA-CB, KZPBA-CY	UWD
32	AlphaServer: 1200, 4000, 4100, 8200, 8400, DS10, DS10L, DS20, DS20E, ES40, GS140, GS60	HPQ Tru64 UNIX, V4.0F[4], V4.0G[1]	HPQ TruCluster Production Server V1.6[2]	HA: 4, OPS: 8	HPQ: 4A-KZPBA-CY, KZPBA-CB, KZPBA-CY	UWD

1 Tru64 V4.0G latest qualified patch kit-0003 (T64V40GAS0003-20010613)
2 TruCluster v1.6 SCSI requires shared buses with 'Y' cables or HPQ (Compaq) Ultra SCSI hubs DS-DWZZH-03, DS-DWZZH-05. Straight cables used on interconnects are 038-001-537 (6M), 038-001-538 (12M), 038-001-539(20M). Maximum bus length must not exceed 25 meters. Refer to Symmetrix High Availability Environment Product Guide P/N 200-999-566 for more details.
3 KZPSA-BB [FWD] has been discontinued by HPQ (Compaq)
4 Tru64 V4.0F BL13 Patch Kit 2 may introduce problems with KZPBA adapters. Tru64 V4.0F latest qualified Patch Kit-0007 (DUV40FB18AS0007-20010102)
5 TruCluster V5.x Persistent Reservation support requires minimum 5567.33.18, Symm "PER" Volume flag, minimum V5.1 Patch Kit-0003 (BL17) and "ubyte[0] = 8" in /etc/ddr.dbase EMC entry. Configurations that cannot support Persistent Reservation must set "ubyte[0] = 25" to enable alternate barrier patch and direct access devices. PowerPath 2.1.0 does not support

Persistent Reservation, alternate barrier must be enabled or upgrade to minimum PowerPath 2.1.1. Configurations with TimeFinder BCV devices in the cluster must set "ubyte[0] = 25" to enable alternate barrier.

6. V5.x: 255 LUNs/Symmetrix Fibre director port (LUNs 000-0FE valid) on Symmetrix 8000 Series, requires OVMS director bit setting (minimum 5265.48.30 or 5566.26.19), LUN 000 must be mapped to gatekeeper device, the LUN 000 array controller device will not be usable by the Tru64 host.
7. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
8. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
9. AlphaServer SC systems have special Tru64 UNIX operating system and AlphaServer SC System Software requirements.
10. Requires RPQ
11. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
12. **AlphaServer GS1280,ES80,ES47: Minimum Tru64 V5.1B with Patch Kit 1 (T64V51BB1AS0001-20021229)**
13. **FCA2384(KGPSA-EA): Latest firmware revision 1.00X6**
14. **FCA2384(KGPSA-EA): Minimum firmware revision 1.00X2**

IBM AIX

Bull

Bull – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Escala: E230, E250, EPC1200, EPC1200A, EPC400, EPC430, EPC440, RL470, T430, T450, T610	IBM AIX 4.3.3	IBM HACMP 4.4.0	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL, FC-SW	
2	Escala: E230, E250, EPC1200, EPC400, EPC430, EPC440, RL470, T430, T450, T610	IBM AIX 4.3.3	IBM HACMP/ES 4.4.0	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL, FC-SW	
3	Escala: EPC2400, EPC2450, EPC450, EPC610, EPC810, PL220T, PL400T, PL600R, PL600T	IBM AIX 4.3.3	IBM HACMP/ES: 4.3.1, 4.4.0	HA: 8, OPS: 4	Bull: DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL, FC-SW	
4	Escala: E230, EPC1200, EPC400, EPC430, EPC440, RL470, T430	IBM AIX 4.3.3[2]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL, FC-SW	
5	Escala: E250, T450, T610	IBM AIX 4.3.3[2]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[2], DCCG148-0000[2]	FC-AL, FC-SW	
6	Escala: EPC2400, EPC2450, EPC450, EPC610, EPC810, PL220T, PL400T, PL600R, PL600T	IBM AIX 4.3.3[2]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG147-0000[2], DCCG148-0000[2]	FC-AL, FC-SW	
7	Escala: E230, E250, EPC1200, EPC400, RL470, T430, T450, T610	IBM AIX: 4.3.0, 4.3.1, 4.3.2	IBM HACMP 4.2.2	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL, FC-SW	
8	Escala: E230, E250, EPC1200, EPC400, RL470, T430, T450, T610	IBM AIX: 4.3.0, 4.3.1, 4.3.2, 4.3.3	IBM: HACMP 4.3.1, HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL, FC-SW	
9	Escala EPC430	IBM AIX: 4.3.1, 4.3.2	IBM HACMP 4.2.2	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL, FC-SW	
10	Escala EPC430	IBM AIX: 4.3.1, 4.3.2, 4.3.3	IBM: HACMP 4.3.1, HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL, FC-SW	
11	Escala: EPC1200A, EPC440	IBM AIX: 4.3.2, 4.3.3	IBM: HACMP 4.3.1, HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL, FC-SW	
12	Escala EPC1200A	IBM AIX: 4.3.3, 5.1	IBM HACMP/ES 4.4.0	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL, FC-SW	
13	Escala EPC1200A	IBM AIX: 4.3.3[2], 5.1[1, 2]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL, FC-SW	
14	Escala PL800R	IBM AIX 4.3.3	IBM HACMP/ES: 4.3.1, 4.4.0	HA: 8, OPS: 4	Bull: DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL[5] FC-SW[5, 6]	
15	Escala: E230, EPC1200, EPC430, EPC440, T430	IBM AIX 5.1	IBM HACMP/ES 4.4.0	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL[5] FC-SW[5, 6]	
16	Escala: E230, EPC1200, EPC430, EPC440, T430	IBM AIX 5.1[1, 2]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG141-0000[1, 2], DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL[5] FC-SW[5, 6]	
17	Escala: EPC2400, EPC2450, EPC610, EPC810, PL220T, PL400T, PL600R, PL600T, T610	IBM AIX 5.1[1, 2]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG147-0000[2], DCCG148-0000[2]	FC-AL[5] FC-SW[5, 6]	
18	Escala: PL1600[1, 7], PL3200[1, 7]	IBM AIX 5.1[1, 8]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG147-0000[1, 2], DCCG148-0000[1, 2]	FC-AL[5] FC-SW[5, 6]	
19	Escala PL800R	IBM AIX: 4.3.3[2], 5.1[1, 2]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG147-0000[2], DCCG148-0000[2]	FC-AL[5] FC-SW[5, 6]	
20	Escala: D Series, EPC800, M Series, RL450, RL470	IBM AIX 4.3.1	IBM HACMP: 4.2.2, 4.3.1	HA: 8, OPS: 4	Bull: MSCG012-0000, MSCG020-0000	FWD	See[3]
21	Escala EPC1200	IBM AIX 4.3.3	IBM: HACMP 4.4.0, HACMP/ES 4.4.0	HA: 8, OPS: 4	Bull MSCG032-0000	FWD	See[3]
22	Escala: EPC1200, RL470	IBM AIX 4.3.3	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG032-0000	FWD	See[3]
23	Escala: EPC1200, RL470	IBM AIX: 4.3.0, 4.3.1, 4.3.2	IBM HACMP 4.2.2	HA: 8, OPS: 4	Bull MSCG032-0000	FWD	See[3]
24	Escala: EPC1200, RL470	IBM AIX: 4.3.0, 4.3.1, 4.3.2, 4.3.3	IBM: HACMP 4.3.1, HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull MSCG032-0000	FWD	See[3]
25	Escala: E230, EPC1200, EPC430, RL470, T430	IBM AIX 4.3.3	IBM HACMP 4.4.0	HA: 8, OPS: 4	Bull MSCG041-0000	U2 LVD	See[3]
26	Escala EPC1200A	IBM AIX 4.3.3	IBM HACMP 4.4.0	HA: 8, OPS: 4	Bull MSCG043-0000	U2 LVD	See[4]
27	Escala: E250, EPC450, T450	IBM AIX 4.3.3	IBM HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull MSCG041-0000	U2 LVD	See[3]
28	Escala: E250, T450	IBM AIX 4.3.3	IBM HACMP/ES 4.4.0	HA: 8, OPS: 4	Bull MSCG041-0000	U2 LVD	See[3]
29	Escala: EPC2400, EPC2450, EPC610, EPC810, PL600R, PL600T, T610	IBM AIX 4.3.3	IBM HACMP/ES 4.3.1, 4.4.0	HA: 8, OPS: 4	Bull MSCG043-0000	U2 LVD	See[3]
30	Escala E250	IBM AIX 4.3.3	IBM HACMP 4.4.1 HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG041-0000	U2 LVD	See[3]
31	Escala: PL1600[7], PL3200[7]	IBM AIX 5.1[8]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG043-0000	U2 LVD	See[3]

Bull – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
32	Escala: EPC1200, RL470	IBM AIX: 4.3.0, 4.3.1, 4.3.2	IBM HACMP 4.2.2	HA: 8, OPS: 4	Bull MSCG041-0000	U2 LVD	See[3]
33	Escala: EPC1200, RL470	IBM AIX: 4.3.0, 4.3.1, 4.3.2, 4.3.3	IBM: HACMP 4.3.1, HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull MSCG041-0000	U2 LVD	See[3]
34	Escala: E230, EPC430, T430	IBM AIX: 4.3.1, 4.3.2	IBM HACMP 4.2.2	HA: 8, OPS: 4	Bull MSCG041-0000	U2 LVD	See[3]
35	Escala: E230, EPC430, T430	IBM AIX: 4.3.1, 4.3.2, 4.3.3	IBM: HACMP 4.3.1, HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull MSCG041-0000	U2 LVD	See[3]
36	Escala EPC1200A	IBM AIX: 4.3.2, 4.3.3	IBM: HACMP 4.3.1, HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull MSCG043-0000	U2 LVD	See[4]
37	Escala: E230, EPC1200, EPC430, EPC450, RL470, T430	IBM AIX: 4.3.3, 5.1	IBM HACMP/ES 4.4.0	HA: 8, OPS: 4	Bull MSCG041-0000	U2 LVD	See[3]
38	Escala EPC1200A	IBM AIX: 4.3.3, 5.1	IBM HACMP/ES 4.4.0	HA: 8, OPS: 4	Bull MSCG043-0000	U2 LVD	See[4]
39	Escala: EPC450, T450	IBM AIX: 4.3.3, 5.1	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG041-0000	U2 LVD	See[3]
40	Escala: EPC2400, EPC2450, EPC610, EPC810, PL220T, PL400T, PL600R, PL600T, PL800R, T610	IBM AIX: 4.3.3, 5.1	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG043-0000	U2 LVD	See[3]
41	Escala: E230, EPC1200, EPC430, RL470, T430	IBM AIX: 4.3.3, 5.1[1]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG041-0000	U2 LVD	See[3]
42	Escala EPC1200A	IBM AIX: 4.3.3, 5.1[1]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG043-0000	U2 LVD	See[4]
43	Escala: E230, E250, EPC400, EPC430, S100, S120, T430, T450, T610	IBM AIX 4.3.3	IBM HACMP 4.4.0	HA: 8, OPS: 4	Bull MSCG023-0000	UWD	See[3]
44	Escala: EPC1200A, EPC440	IBM AIX 4.3.3	IBM HACMP 4.4.0	HA: 8, OPS: 4	Bull: MSCG030-0000, MSCG032-0000	UWD	See[4]
45	Escala EPC450	IBM AIX 4.3.3	IBM HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull MSCG023-0000	UWD	See[3]
46	Escala: EPC2400, EPC2450, EPC610, EPC810, PL600R, PL600T, T610	IBM AIX 4.3.3	IBM HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull MSCG044-0000	UWD	See[3]
47	Escala: E250, EPC400, EPC450, S100, S120, T450	IBM AIX 4.3.3	IBM HACMP/ES 4.4.0	HA: 8, OPS: 4	Bull MSCG023-0000	UWD	See[3]
48	Escala: EPC2400, EPC2450, EPC610, EPC810, PL600R, PL600T	IBM AIX 4.3.3	IBM HACMP/ES 4.4.0	HA: 8, OPS: 4	Bull MSCG044-0000	UWD	See[3]
49	Escala T610	IBM AIX 4.3.3	IBM HACMP/ES 4.4.0	HA: 8, OPS: 4	Bull: MSCG023-0000, MSCG044-0000	UWD	See[3]
50	Escala: EPC1200, RL470	IBM AIX 4.3.3	IBM HACMP: 4.4.0, 4.4.1; IBM HACMP/ES: 4.4.0, 4.4.1	HA: 8, OPS: 4	Bull MSCG030-0000	UWD	See[3]
51	Escala: EPC400, S100, S120, T610	IBM AIX 4.3.3	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG023-0000	UWD	See[3]
52	Escala: PL1600[7], PL3200[7]	IBM AIX 5.1[8]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG044-0000	UWD	See[3]
53	Escala: EPC1200, RL470	IBM AIX: 4.3.0, 4.3.1, 4.3.2	IBM HACMP 4.2.2	HA: 8, OPS: 4	Bull MSCG030-0000	UWD	See[3]
54	Escala: EPC1200, RL470	IBM AIX: 4.3.0, 4.3.1, 4.3.2, 4.3.3	IBM: HACMP 4.3.1, HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull MSCG030-0000	UWD	See[3]
55	Escala: E230, E250, EPC400, EPC430, S100, S120, T430, T450, T610	IBM AIX: 4.3.1, 4.3.2	IBM HACMP 4.2.2	HA: 8, OPS: 4	Bull MSCG023-0000	UWD	See[3]
56	Escala: E230, E250, EPC400, EPC430, S100, S120, T430, T450, T610	IBM AIX: 4.3.1, 4.3.2, 4.3.3	IBM: HACMP 4.3.1, HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull MSCG023-0000	UWD	See[3]
57	Escala: EPC1200A, EPC440	IBM AIX: 4.3.2, 4.3.3	IBM: HACMP 4.3.1, HACMP/ES 4.3.1	HA: 8, OPS: 4	Bull: MSCG030-0000, MSCG032-0000	UWD	See[4]
58	Escala: E230, EPC430, T430	IBM AIX: 4.3.3, 5.1	IBM HACMP/ES 4.4.0	HA: 8, OPS: 4	Bull MSCG023-0000	UWD	See[3]
59	Escala: EPC1200A, EPC440	IBM AIX: 4.3.3, 5.1	IBM HACMP/ES 4.4.0	HA: 8, OPS: 4	Bull: MSCG030-0000, MSCG032-0000	UWD	See[4]
60	Escala: E250, EPC450, T450	IBM AIX: 4.3.3, 5.1	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG023-0000	UWD	See[3]
61	Escala: EPC2400, EPC2450, EPC610, EPC810, PL220T, PL400T, PL600R, PL600T, PL800R, T610	IBM AIX: 4.3.3, 5.1	IBM: HACMP 4.4.1 HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG044-0000	UWD	See[3]
62	Escala: EPC1200A, EPC440	IBM AIX: 4.3.3, 5.1[1]	IBM HACMP 4.4.1	HA: 8 OPS: 4	Bull: MSCG030-0000, MSCG032-0000	UWD	See[4]
63	Escala: E230, EPC430, T430	IBM AIX: 4.3.3, 5.1[1]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG023-0000	UWD	See[3]

1 Fibre Channel HBAs, DCCG141-0000: LP7000e copper DCCG147-0000: LP8000 copper DCCG148-0000, LP8000 fibre
2 Fibre Channel device driver distributed and supported by Bull
3. Multi-port SCSI or Common SCSI Bus
4 Multi-port SCSI (preferred) or Common SCSI Bus
5 Mixed FC-AL and FC-SW are supported on the same server.
6 MSKG0008-0000 = Brocade® Silkworm® 2800.
7 Supported in SMP and LPAR mode.
8. AIX 5.1 32/64-bit kernel support.

IBM

IBM – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	7013-S70 as SP2 node; 7013-S7A as SP2 node, 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1	IBM PSSP 3.5 RVSD 3.5 and GPFS 2.1[28, 41, 43, 50]		IBM 6227[1, 8, 45, 46, 47, 48, 49]	FC-AL	
2	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[2, 23, 25, 26]	IBM HACMP/ES 4.5	HA: 32, OPS: 8, RAC: 8 [3]	IBM 6227[7]	FC-AL	
3	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[18], 08 T70[18]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node	IBM AIX 5.1[2, 23, 25, 26]	IBM: HACMP/ES 4.4.1, PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29, 31]	HA: 32, OPS: 8, RAC: 8 [3]	IBM 6227[7, 8]	FC-AL	
	7013-S70; 7015-S70; 7017-S70; 7025-F80; 7026-H80; 7026-M80; 7044-170; 7044-270	IBM AIX 4.3.3[2]	IBM HACMP 4.3	HA: 8, OPS: 8	EMC CKIT-E70-AIX[5, 6]	FC-AL, FC-SW	
5	7013-S7A; 7015-S7A; 7017-S7A; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270; p640 7026-B80	IBM AIX 4.3.3[2]	IBM HACMP 4.3	HA: 8, OPS: 8, RAC: 8 [3]	IBM 6228[1, 8, 16, 17]	FC-AL, FC-SW	
6	7013-S70; 7015-S70; 7017-S70; 7017-S80; 7025-F80; 7026-H80; 7026-M80; 7044-170 7044-270	IBM AIX 4.3.3[2]	IBM HACMP 4.3.1	HA: 8, OPS: 8	EMC CKIT-E70-AIX[5, 6]	FC-AL, FC-SW	
7	7013-S7A; 7015-S7A; 7017-S7A; 7017-S80; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270	IBM AIX 4.3.3[2]	IBM HACMP 4.3.1	HA: 8, OPS: 8, RAC: 8 [3]	IBM 6228[1, 8, 16, 17]	FC-AL, FC-SW	
8	7013-S70 7015-S70 7017-S70 7017-S80, 7025-F80; 7026-H80; 7026-M80, 7044-170, 7044-270, p620: 7025-6F0 7025-6F1, p640 7026-B80, p660: 7026-6H0, 7026-6H1	IBM AIX 4.3.3[2]	IBM HACMP 4.4.0	HA: 8 OPS: 8	EMC CKIT-E70-AIX[5, 6]	FC-AL, FC-SW	
9	7013-S7A, 7015-S7A, 7017-S7A, 7017-S80 7025-F50, 7025-F80; 7025-H70 7026-H50 7026-H70 7026-H80 7026-M80 7044-170 7044-270 p620 7025-6F0 7025-6F1 p640 7026-B80, p660 7026-6H0, 7026-6H1	IBM AIX 4.3.3[2]	IBM HACMP 4.4.0	HA: 8, OPS: 8, RAC: 8 [3]	IBM 6228[1, 8, 16, 17]	FC-AL, FC-SW	
10	p610 7028-6C1 7028-6E1	IBM AIX 4.3.3[2]	IBM HACMP 4.4.0	HA: 8, OPS: 8 RAC: 8 [3]	IBM 6228[8, 16, 17]	FC-AL, FC-SW	

IBM – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
11	7017-S80; 7025-F80; 7026-H80; 7026-M80; 7044-170; 7044-270; p610: 7028-6C1, 7028-6E1, p620: 7025-6F0, 7025-6F1, p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1 p680 7017-S85	IBM AIX 4.3.3[2]	IBM HACMP 4.4.1	HA: 8, OPS: 8	EMC CKIT-E70-AIX[1, 5, 6]	FC-AL, FC-SW	
12	7013-S7A; 7015-S7A, 7017-S7A, 7017-S80; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270; p610: 7028-6C1, 7028-6E1, p620: 7025-6F0, 7025-6F1, p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1 p680 7017-S85	IBM AIX 4.3.3[2]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6228[1, 8, 16, 17]	FC-AL, FC-SW	
13	7017-S70 as SP2 node	IBM AIX 4.3.3[2]	IBM HACMP/ES 4.4.0	HA: 32, OPS: 8	EMC CKIT-E70-AIX	FC-AL, FC-SW	
14	p680 7017-S85	IBM AIX 4.3.3[2]	IBM HACMP/ES: 4.3.1, 4.4.0	HA: 8, OPS: 8	EMC CKIT-E70-AIX[5, 6]	FC-AL, FC-SW	
15	p680 7017-S85	IBM AIX 4.3.3[2]	IBM HACMP/ES: 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6228[1, 8, 16, 17]	FC-AL, FC-SW	
16	7017-S70 as SP2 node	IBM AIX 4.3.3[2]	IBM HACMP/ES: 4.3, 4.3.1	HA: 32, OPS: 8	EMC CKIT-E70-AIX[5, 6]	FC-AL, FC-SW	
17	7013-S70 as SP2 node; 7015-S70 as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM HACMP/ES: 4.3[13, 14], 4.3.1[13, 14], 4.4.0[13, 14]	HA: 32, OPS: 8	EMC CKIT-E70-AIX[5, 6]	FC-AL, FC-SW	
18	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM HACMP/ES: 4.3[13, 14], 4.3.1[13, 14], 4.4.0[13, 14]; IBM PSSP 3.2 RVSD 3.2[13, 14]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6228[1, 8, 16, 17]	FC-AL, FC-SW	
19	7013-S7A as SP2 node, 7015-S7A as SP2 node, 7017-S7A as SP2 node, 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node, SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]; p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP 3.1.1 RVSD[13, 14]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6228[1, 8, 16, 17]	FC-AL, FC-SW	
20	7013-S70 as SP2 node; 7015-S70 as SP2 node 7017-S70 as SP2 node 7017-S80 as SP2 node, 7026-H80 as SP2 node, 7026-M80 as SP2 node, p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP 3.1.1 RVSD[13, 14, 20]	HA: 32, OPS: 8	EMC CKIT-E70-AIX[5, 6]	FC-AL, FC-SW	
21	7013-S70 as SP2 node, 7015-S70 as SP2 node; 7017-S70 as SP2 node, 7017-S80 as SP2 node, 7026-H80 as SP2 node, 7026-M80 as SP2 node, p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP 3.2 RVSD 3.2[13, 14, 20]	HA: 32, OPS: 8	EMC CKIT-E70-AIX[5, 6]	FC-AL, FC-SW	
22	SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[20, 28, 29]	HA: 32, OPS: 8, RAC: 8[3]	EMC CKIT-E70-AIX[1, 5, 6]	FC-AL, FC-SW	
23	7017-S80 as SP2 node 7026-H80 as SP2 node 7026-M80 as SP2 node p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[20, 28, 29]	HA: 8, OPS: 8, RAC: 8[3]	EMC CKIT-E70-AIX[1, 5, 6]	FC-AL, FC-SW	
24	SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 32, OPS: 8 RAC: 8[3]	IBM 6228[8, 16, 17]	FC-AL, FC-SW	
25	7013-S7A as SP2 node 7015-S7A as SP2 node 7017-S7A as SP2 node 7017-S80 as SP2 node 7026-H80 as SP2 node 7026-M80 as SP2 node p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 8, OPS: 8, RAC: 8[3]	IBM 6228[1, 8, 17, 30]	FC-AL, FC-SW	

IBM – IBM AIX

No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
26	7044-170	IBM AIX 5.1[2, 23, 24, 25]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[7, 8], 6228[8], 6239	FC-AL, FC-SW	
27	7013-S70; 7015-S70; 7017-S70	IBM AIX 5.1[2, 23, 24, 25]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6227[7, 8]	FC-AL, FC-SW	
28	7015-S7A; 7017-S7A; 7017-S80; 7025-F80; 7025-H70; 7026-H80; 7026-M80; p680 7017-S85	IBM AIX 5.1[2, 23, 24, 25]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[7, 8], 6228[7, 8]	FC-AL, FC-SW	
29	p670 7040-671; p690: 7040-61D, 7040-61R, 7040-681	IBM AIX 5.1[2, 23, 24, 25]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6228, 6239	FC-AL, FC-SW	
30	p610 7028-6E1	IBM AIX 5.1[2, 23, 24, 25]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6228[8], 6239	FC-AL, FC-SW	
31	p650 7038-6M2; p655 7039-651	IBM AIX 5.1[2, 23, 24, 25]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6228[33, 34], 6239	FC-AL, FC-SW	
32	7044-170; 7044-270; p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1	IBM AIX 5.1[2, 23, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.4.1, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[7, 8], 6228[7, 8], 6239	FC-AL, FC-SW	
33	7013-S70; 7015-S70; 7017-S70	IBM AIX 5.1[2, 23, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM 6227[7]	FC-AL, FC-SW	
34	p615: 7029-6C3, 7029-6E3	IBM AIX 5.1[2, 23, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM 6239[8]	FC-AL, FC-SW	
35	7013-S7A; 7015-S7A; 7017-S7A; 7017-S80; 7025-F80; 7025-H70; 7026-H80; 7026-M80	IBM AIX 5.1[2, 23, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[7, 8], 6228[7, 8]	FC-AL, FC-SW	
36	p680 7017-S85	IBM AIX 5.1[2, 23, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[7], 6228[7]	FC-AL, FC-SW	
37	p670 7040-671; p690: 7040-61D, 7040-61R, 7040-681	IBM AIX 5.1[2, 23, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6228[17], 6239	FC-AL, FC-SW	
38	p610: 7028-6C1, 7028-6E1; p630: 7028-6C4, 7028-6E4	IBM AIX 5.1[2, 23, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6228[7, 8], 6239	FC-AL, FC-SW	
39	7013-S70; 7015-S70; 7017-S70	IBM AIX 5.1[2, 23, 24, 25]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[35, 36]; Veritas Cluster Server (VCS) 2.0[37, 38, 39, 40]	HA: 8	IBM 6227[7]	FC-AL, FC-SW	
40	p650 7038-6M2; p655 7039-651	IBM AIX 5.1[2, 23, 24, 25]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[35, 36]; Veritas Cluster Server (VCS) 2.0[37, 38, 39, 40]	HA: 8	IBM 6228[33, 34]	FC-AL, FC-SW	
41	p610 7028-6E1	IBM AIX 5.1[2, 23, 24, 25]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[35, 36]; Veritas Cluster Server (VCS) 2.0[37, 38, 39, 40]	HA: 8	IBM 6228[7]	FC-AL, FC-SW	
42	p610 7028-6C1; p630: 7028-6C4, 7028-6E4	IBM AIX 5.1[2, 23, 24, 25]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[35, 36]; Veritas Cluster Server (VCS) 2.0[37, 38, 39, 40]	HA: 8	IBM 6228[7, 8]	FC-AL, FC-SW	
43	p670 7040-671; p690: 7040-61D, 7040-61R, 7040-681	IBM AIX 5.1[2, 23, 24, 25]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[35, 36]; Veritas Cluster Server (VCS) 2.0[37, 38, 39, 40]	HA: 8	IBM 6228[8]	FC-AL, FC-SW	
44	7013-S7A; 7015-S7A; 7017-S7A; 7017-S80; 7025-F80; 7025-H70; 7026-H80; 7026-M80; 7044-170; 7044-270; p620 7025-6F0; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1; p680 7017-S85	IBM AIX 5.1[2, 23, 24, 25]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[35, 36]; Veritas Cluster Server (VCS) 2.0[37, 38, 39, 40]	HA: 8	IBM: 6227[7, 8], 6228[7, 8]	FC-AL, FC-SW	
45	p620 7025-6F1	IBM AIX 5.1[2, 23, 24, 25]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[35, 36]; Veritas Cluster Server (VCS) 2.0[37, 38, 39, 40]	HA: 8	IBM: 6227[7], 6228[7]	FC-AL, FC-SW	
46	7026-H70	IBM AIX 5.1[2, 23, 25, 26]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[7, 8], 6228[8]	FC-AL, FC-SW	

IBM – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
47	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[2, 23, 25, 26]	IBM HACMP/ES 4.5	HA: 32, OPS: 8, RAC: 8[3]	IBM 6228[7]	FC-AL, FC-SW	
48	7025-F50; 7026-H50; 7026-H70	IBM AIX 5.1[2, 23, 25, 26]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[7], 6228[7]	FC-AL, FC-SW	
49	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[18], 08 T70[18]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node	IBM AIX 5.1[2, 23, 25, 26]	IBM: HACMP/ES 4.4.1, PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29, 31]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6228[7, 8]	FC-AL, FC-SW	
50	7025-F50; 7026-H50; 7026-H70	IBM AIX 5.1[2, 23, 25, 26]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[35, 36]; Veritas Cluster Server (VCS) 2.0[37, 38, 39, 40]	HA: 8	IBM: 6227[7], 6228[7]	FC-AL, FC-SW	
51	7013-S7A, 7015-S7A, 7017-S7A, 7017-S80; 7025-F80; 7025-H70; 7026-H80; 7026-M80; p680 7017-S85	IBM AIX 5.1[2, 24, 25]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[1, 7, 8], 6228[1, 7, 8]	FC-AL, FC-SW	
52	7044-270; p620: 7025-6F0, 7025-6F1; p660: 7026-6H0, 7026-6H1, 7026-6M1	IBM AIX 5.1[2, 24, 25]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[1, 7, 8], 6228[1, 7, 8], 6239	FC-AL, FC-SW	
53	p640 7026-B80	IBM AIX 5.1[2, 24, 25]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[1, 7, 8], 6228[1, 8], 6239	FC-AL, FC-SW	
54	p610: 7028-6C1, 7028-6E1	IBM AIX 5.1[2, 24, 25]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6228[1, 8], 6239	FC-AL, FC-SW	
55	7013-S7A	IBM AIX 5.1[2, 24, 25, 26]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[7, 8], 6228[8]	FC-AL, FC-SW	
56	7025-F50; 7026-H50; 7026-H70	IBM AIX 5.1[2, 25, 26]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[1, 7, 8], 6228[1, 8]	FC-AL, FC-SW	
57	7025-F50; 7026-H50	IBM AIX 5.1[2, 25, 26]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6227[7, 8], 6228[8]	FC-AL, FC-SW	
58	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node. 7026-H80 as SP2 node; 7026-M80 as SP2 node. SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18], p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[43, 52]	IBM PSSP 3.5 RVSD 3.5 and GPFS 2.1[28, 41, 43, 50]		IBM 6228[1, 8, 46, 47, 51]	FC-AL, FC-SW	
59	SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]	IBM AIX: 4.3.0[2], 4.3.1[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[20, 28, 29]	HA: 32, OPS: 8, RAC: 8	EMC CKIT-E70-AIX[1, 5, 6]	FC-AL, FC-SW	
60	7025-F50; 7026-H50	IBM AIX: 4.3.0[2], 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM HACMP 4.4.1	HA: 8, OPS: 8	EMC CKIT-E70-AIX[1, 5, 6]	FC-AL, FC-SW	
61	SP2 9076 +: 06 50X[18] 07 55X[18], 08 T70[18]	IBM AIX: 4.3.0[2], 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM HACMP/ES: 4.3[13, 14], 4.3.1[13, 14], 4.4.0[13, 14]; IBM PSSP: 3.1.1 RVSD[13, 14, 20], 3.2 RVSD 3.2[13, 14, 20]	HA: 32, OPS: 8	EMC CKIT-E70-AIX[5, 6]	FC-AL, FC-SW	
62	7025-F50, 7026-H50	IBM AIX: 4.3.0[2], 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM HACMP: 4.3[11], 4.3.1[11], 4.4.0[11]	HA: 8 OPS: 8	EMC CKIT-E70-AIX[5, 6]	FC-AL, FC-SW	
63	7013-S70; 7015-S70; 7017-S70	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM HACMP 4.4.1	HA: 8, OPS: 8	EMC CKIT-E70-AIX[1, 5, 6]	FC-AL, FC-SW	
64	7013-S70 as SP2 node, 7015-S70 as SP2 node; 7017-S70 as SP2 node	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[20, 28, 29]	HA: 8 OPS: 8, RAC: 8[3]	EMC CKIT-E70-AIX[1, 5, 6]	FC-AL, FC-SW	
65	7013-S7A, 7015-S7A, 7017-S7A, 7025-H70 7026-H70	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.4.1	HA: 8, OPS: 8	EMC CKIT-E70-AIX[1, 5, 6]	FC-AL, FC-SW	
66	7013-S7A as SP2 node. 7015-S7A as SP2 node 7017-S7A as SP2 node	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP/ES: 4.3[11, 13, 14], 4.3.1[11, 13, 14] 4.4.0[11, 13, 14]; IBM PSSP: 3.1.1 RVSD[11, 13, 14, 20] 3.2 RVSD 3.2[11, 13, 14, 20]	HA: 32, OPS: 8	EMC CKIT-E70-AIX[5, 6]	FC-AL, FC-SW	
67	7013-S7A, 7015-S7A, 7017-S7A 7025-H70 7026-H70	IBM AIX: 4.3.2[2] 4.3.3[2]	IBM HACMP: 4.3[11] 4.3.1[11], 4.4.0[11]	HA: 8 OPS: 8	EMC CKIT-E70-AIX[5, 6]	FC-AL, FC-SW	

IBM – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
68	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[20, 28, 29]	HA: 8, OPS: 8, RAC: 8[3]	EMC CKIT-E70-AIX[1, 5, 6]	FC-AL, FC-SW	
69	7013-S70; 7013-S7A; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270	IBM AIX 4.3.3[2]	IBM HACMP 4.3	HA: 8, OPS: 8, RAC: 8[3]	IBM 6227[1, 7, 8]	FC-AL[10], FC-SW[9]	
70	p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1	IBM AIX 4.3.3[2]	IBM HACMP 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6227[1, 7, 8]	FC-AL[10], FC-SW[9]	See[10]
71	7013-S70; 7013-S7A; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7017-S80; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1; p680 7017-S85	IBM AIX 4.3.3[2]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6227[1, 7, 8]	FC-AL[10], FC-SW[9]	
72	p680 7017-S85	IBM AIX 4.3.3[2]	IBM HACMP/ES: 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6227[1, 7, 8]	FC-AL[10], FC-SW[9]	See[10]
73	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]	IBM AIX 4.3.3[2]	IBM HACMP/ES: 4.3[13, 14], 4.3.1[13, 14], 4.4.0[13, 14]; IBM PSSP: 3.1.1 RVSD[13, 14], 3.2 RVSD 3.2[13, 14]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6227[1, 7, 8]	FC-AL[10], FC-SW[9]	
74	p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM HACMP/ES: 4.3[13, 14], 4.3.1[13, 14]; IBM PSSP 3.1.1 RVSD[13, 14]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6227[1, 7, 8]	FC-AL[10], FC-SW[9]	See[10]
75	7013-S70; 7013-S7A; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7017-S80; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270	IBM AIX 4.3.3[2]	IBM HACMP: 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6227[1, 7, 8]	FC-AL[10], FC-SW[9]	
76	SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6227[7, 8]	FC-AL[10], FC-SW[9]	
77	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 8, OPS: 8, RAC: 8[3]	IBM 6227[1, 7, 8]	FC-AL[10], FC-SW[9]	
78	p660, 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM HACMP/ES 4.4.0[13, 14], PSSP 3.2 RVSD 3.2[13, 14]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6227[1, 7, 8]	FC-AL[10], FC-SW[9]	See[10]
79	7013-S7A as SP2 node 7015-S7A as SP2 node 7017-S7A as SP2 node	IBM AIX 4.3.2[1, 2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 32, OPS: 8 RAC: 8	IBM 6209	FWD	
80	7015-R40	IBM AIX 4.3.2[2]	IBM HACMP 4.2.x	HA: 8, OPS: 4	IBM 2412[1]	FWD	
81	7013-J30	IBM AIX 4.3.2[2]	IBM HACMP 4.2.x	HA: 8, OPS: 4	IBM 2416	FWD	
82	7015-R30	IBM AIX 4.3.2[2]	IBM HACMP 4.2.x	HA: 8 OPS: 4	IBM 2416[1]	FWD	
83	7015-R50	IBM AIX 4.3.2[2]	IBM HACMP 4.3	HA: 8, OPS: 4	IBM 2412[1]	FWD	
84	7013-J40	IBM AIX 4.3.2[2]	IBM HACMP 4.3	HA: 8 OPS: 4	IBM 2416	FWD	

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No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
85	7015-R40	IBM AIX 4.3.2[2]	IBM HACMP 4.3	HA: 8, OPS: 4	IBM 2416[1]	FWD	
86	7015-R30	IBM AIX 4.3.2[2]	IBM HACMP 4.3.1	HA: 8, OPS: 4	IBM 2412	FWD	
87	7013-J50	IBM AIX 4.3.2[2]	IBM HACMP 4.3.1	HA: 8, OPS: 4	IBM 2416	FWD	
88	7015-R50	IBM AIX 4.3.2[2]	IBM HACMP 4.3.1	HA: 8, OPS: 4	IBM 2416[1]	FWD	
89	SP2 9076 + 01: 00X[18], A0X[18]	IBM AIX 4.3.2[2]	IBM HACMP/ES 4.2.2	HA: 16, OPS: 8	IBM 2416	FWD	
90	SP2 9076 +: 01 10X[18], 02 XX1[18]	IBM AIX 4.3 2[2]	IBM HACMP/ES 4.2.2[12, 13, 14, 15]	HA: 16, OPS: 8	IBM 2416[1]	FWD	
91	SP2 9076 + 01: 00X[18], A0X[18]; SP2 9076 + 03: XX2[18], XX4[18], XX6[18]; SP2 9076 +: 04 XX8[18], 05 XX9[18]	IBM AIX 4.3.2[2]	IBM PSSP 3.2 RVSD 3.2	HA: 16, OPS: 8	IBM 2412	FWD	
92	SP2 9076 +: 01 10X[18], 02 XX1[18], 03 XX3[18], 03 XX5[18], 04 XX7[18], 04 XXA[18]	IBM AIX 4.3.2[2]	IBM PSSP 3.2 RVSD 3.2[12, 13, 14, 15]	HA: 16, OPS: 8	IBM 2412[1]	FWD	
93	SP2 9076 +: 07 55X[18], 08 T70[18]	IBM AIX 4.3.2[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 8, OPS: 8, RAC: 8[3]	IBM 6207[1, 22]	FWD	
94	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node	IBM AIX 4.3.3[1, 2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6209	FWD	
95	7015-R40	IBM AIX 4.3.3[2]	IBM HACMP 4.2.x	HA: 8, OPS: 4	IBM 2412	FWD	
96	7015-R30	IBM AIX 4.3.3[2]	IBM HACMP 4.2.x	HA: 8, OPS: 4	IBM 2416	FWD	
97	7013-J30	IBM AIX 4.3.3[2]	IBM HACMP 4.2.x	HA: 8, OPS: 4	IBM 2416[1]	FWD	
98	7015-R50	IBM AIX 4.3.3[2]	IBM HACMP 4.3	HA: 8, OPS: 4	IBM 2412	FWD	
99	7015-R40	IBM AIX 4.3.3[2]	IBM HACMP 4.3	HA: 8, OPS: 4	IBM 2416	FWD	
100	7013-J40	IBM AIX 4.3.3[2]	IBM HACMP 4.3	HA: 8, OPS: 4	IBM 2416[1]	FWD	
101	7015-R30	IBM AIX 4.3.3[2]	IBM HACMP 4.3.1	HA: 8, OPS: 4	IBM 2412[1]	FWD	
102	7015-R50	IBM AIX 4.3.3[2]	IBM HACMP 4.3.1	HA: 8, OPS: 4	IBM 2416	FWD	
103	7013-J50	IBM AIX 4.3.3[2]	IBM HACMP 4.3.1	HA: 8, OPS: 4	IBM 2416[1]	FWD	
104	7017-S80; 7025-F80	IBM AIX 4.3.3[2]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6209[1, 22]	FWD	
105	SP2 9076 +: 01 10X[18], 02 XX1[18]	IBM AIX 4.3.3[2]	IBM HACMP/ES 4.2.2	HA: 16, OPS: 8	IBM 2416	FWD	
106	SP2 9076 + 01: 00X[18], A0X[18]	IBM AIX 4.3.3[2]	IBM HACMP/ES 4.2.2[12, 13, 14, 15]	HA: 16, OPS: 8	IBM 2416[1]	FWD	
107	7017-S80	IBM AIX 4.3.3[2]	IBM HACMP/ES. 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6209[1]	FWD	
108	SP2 9076 +: 06 50X[18], 07 55X[18]	IBM AIX 4.3.3[2]	IBM HACMP/ES. 4.3[12, 13, 14, 15], 4.3.1[12, 13, 14, 15], 4.4.0[12, 13, 14, 15]; IBM PSSP: 2.2 RVSD 1.2[12, 13, 14, 15], 2.4 RVSD 2.1.1[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6204[1, 19]	FWD	
109	7017-S80 as SP2 node	IBM AIX 4.3.3[2]	IBM HACMP/ES: 4.3[12, 13, 14, 15], 4.3.1[12, 13, 14, 15], 4.4.0[12, 13, 14, 15]. IBM PSSP: 2.2 RVSD 1.2[12, 13, 14, 15], 2.4 RVSD 2.1.1[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6209[1]	FWD	
110	7025-F80	IBM AIX 4.3.3[2]	IBM HACMP 4.3 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6209[1]	FWD	
111	SP2 9076 +: 01 10X[18], 02 XX1[18], 03 XX3[18] 03 XX5[18], 04 XX7[18], 04 XXA[18]	IBM AIX 4.3.3[2]	IBM PSSP 3.2 RVSD 3.2	HA: 16, OPS: 8	IBM 2412	FWD	
112	SP2 9076 + 01: 00X[18], A0X[18]; SP2 9076 + 03: XX2[18], XX4[18], XX6[18]; SP2 9076 + 04 XX8[18], 05 XX9[18]	IBM AIX 4.3.3[2]	IBM PSSP 3.2 RVSD 3.2[12, 13, 14, 15]	HA: 16, OPS: 8	IBM 2412[1]	FWD	
113	SP2 9076 + 06 50X[18]	IBM AIX 4.3.3[2]	IBM PSSP 3 4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 8, OPS: 8, RAC: 8[3]	IBM 6204[19]	FWD	
114	SP2 9076 + 08 T70[18]	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3 4 and GPFS 1 5[28, 29]	HA: 8 OPS: 8, RAC: 8[3]	IBM 6207	FWD	
115	SP2 9076 + 07 55X[18]	IBM AIX 4.3.3[2]	IBM PSSP 3 4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 8, OPS: 8, RAC: 8[3]	IBM 6204[19], 6207	FWD	
116	7013-S70 as SP2 node, 7013-S7A as SP2 node 7015-S70 as SP2 node, 7015-S7A as SP2 node 7017-S70 as SP2 node 7017-S7A as SP2 node 7017-S80 as SP2 node SP2 9076 + 06 50X[18]	IBM AIX 5 1	IBM PSSP 3.5 RVSD 3 5 and GPFS 2 1[28, 41, 42, 43, 44]		IBM 6209		

IBM – IBM AIX

No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
117	7013-S70; 7015-S70; 7017-S70	IBM AIX 5.1[1, 2, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM 6209[22]	FWD	
118	7013-S70 as SP2 node; 7015-S70 as SP2 node; 7017-S70 as SP2 node	IBM AIX 5.1[1, 2, 25, 26]	IBM HACMP/ES 4.5	HA: 32, OPS: 8, RAC: 8[3]	IBM 6209[22]	FWD	
119	7013-S70; 7015-S70; 7017-S70	IBM AIX 5.1[2, 23, 24, 25]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6209	FWD	
120	7013-S70 as SP2 node; 7015-S70 as SP2 node; 7017-S70 as SP2 node	IBM AIX 5.1[2, 23, 25, 26]	IBM: HACMP/ES 4.4.1, PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29, 31]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6209	FWD	
121	7013-S70 as SP2 node; 7015-S70 as SP2 node; 7017-S70 as SP2 node	IBM AIX: 4.3.1[1, 2], 4.3.2[1, 2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 32, OPS: 8, RAC: 8	IBM 6209	FWD	
122	7013-S70; 7015-S70; 7017-S70	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6209[1, 22]	FWD	
123	7013-S70 as SP2 node	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM HACMP/ES: 4.3, 4.3.1, 4.4.0; IBM PSSP: 2.2 RVSD 1.2, 2.4 RVSD 2.1.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6209[1]	FWD	
124	7015-S70 as SP2 node; 7017-S70 as SP2 node	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM HACMP/ES: 4.3[12, 13, 14, 15], 4.3.1[12, 13, 14, 15], 4.4.0[12, 13, 14, 15]; IBM PSSP: 2.2 RVSD 1.2[12, 13, 14, 15], 2.4 RVSD 2.1.1[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6209[1]	FWD	
125	7013-S70; 7015-S70; 7017-S70	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM HACMP: 4.2.x, 4.3, 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6209[1]	FWD	
126	7013-J30; 7015-R30	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.2.x	HA: 8, OPS: 4	IBM 2412[1]	FWD	
127	7015-R40	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.2.x	HA: 8, OPS: 4	IBM 2416[1]	FWD	
128	7013-J40; 7013-J50; 7015-R50	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.2.x	HA: 8, OPS: 4	IBM: 2412[1], 2416[1]	FWD	
129	7025-F50; 7025-H70; 7026-H50; 7026-H70	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.2.x	HA: 8, OPS: 8, RAC: 8[3]	IBM 6209[1]	FWD	
130	7013-J40; 7015-R40	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.3	HA: 8, OPS: 4	IBM 2412[1]	FWD	
131	7015-R50	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.3	HA: 8, OPS: 4	IBM 2416[1]	FWD	
132	7013-J30; 7013-J50; 7015-R30	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.3	HA: 8, OPS: 4	IBM: 2412[1], 2416[1]	FWD	
133	7013-J50; 7015-R50	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.3.1	HA: 8, OPS: 4	IBM 2412[1]	FWD	
134	7015-R30	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.3.1	HA: 8, OPS: 4	IBM 2416[1]	FWD	
135	7013-J30; 7013-J40; 7015-R40	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.3.1	HA: 8, OPS: 4	IBM: 2412[1], 2416[1]	FWD	
136	7013-S7A; 7015-S7A; 7017-S7A; 7025-F50; 7025-H70; 7026-H50; 7026-H70	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6209[1, 22]	FWD	
137	SP2 9076 + 01: 00X[18], 10X[18], A0X[18]; SP2 9076 + 02 XX1[18]	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP/ES 4.2.2[12, 13, 14, 15]	HA: 16, OPS: 8	IBM 2412[1]	FWD	
138	SP2 9076 + 03: XX2[18], XX3[18], XX4[18], XX5[18], XX6[18]; SP2 9076 + 04: XX7[18], XX8[18], XXA[18]; SP2 9076 + 05 XX9[18]	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP/ES 4.2.2[12, 13, 14, 15]	HA: 16, OPS: 8	IBM: 2412[1], 2416[1]	FWD	
139	SP2 9076 + 01: 00X[18], 10X[18], A0X[18] SP2 9076 + 02 XX1[18], 03 XX2[18], 03 XX3[18], 03 XX4[18], 03 XX5[18], 03 XX6[18], 04 XX7[18], 04 XX8[18], 04 XXA[18], 05 XX9[18]	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP/ES: 4.3[12, 13, 14, 15, 21], 4.3.1[12, 13, 14, 15, 21]; IBM PSSP: 2.2 RVSD 1.2[12, 13, 14, 15], 2.4 RVSD 2.1.1[12, 13, 14, 15], 3.1.1 RVSD[12, 13, 14, 15]	HA: 16, OPS: 8	IBM: 2412[1], 2416[1]	FWD	
140	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; SP2 9076 + 06 50X[18]	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP/ES: 4.3[12, 13, 14, 15], 4.3.1[12, 13, 14, 15], 4.4.0[12, 13, 14, 15]; IBM PSSP: 2.2 RVSD 1.2[12, 13, 14, 15], 2.4 RVSD 2.1.1[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6209[1]	FWD	
141	SP2 9076 + 07 55X[18], 08 T70[18]	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP/ES: 4.3[12, 13, 14, 15], 4.3.1[12, 13, 14, 15], 4.4.0[12, 13, 14, 15]; IBM PSSP: 2.2 RVSD 1.2[12, 13, 14, 15], 2.4 RVSD 2.1.1[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM: 6207[1], 6209[1]	FWD	
142	7013-S7A; 7015-S7A; 7017-S7A; 7025-F50; 7025-H70; 7026-H50; 7026-H70	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP: 4.3, 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6209[1]	FWD	
143	SP2 9076 + 01: 00X[18], 10X[18], A0X[18] SP2 9076 + 02 XX1[18], 03 XX2[18], 03 XX3[18], 03 XX4[18], 03 XX5[18], 03 XX6[18], 04 XX7[18], 04 XX8[18], 04 XXA[18], 05 XX9[18]	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM PSSP 3.2 RVSD 3.2[12, 13, 14, 15]	HA: 16, OPS: 8	IBM 2416[1]	FWD	

IBM – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
144	SP2 9076 +: 06 50X[18], 07 55X[18] 08 T70[18]	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 8, OPS: 8, RAC: 8[3]	IBM 6209[1, 22]	FWD	
145	7025-F50; 7025-H70; 7026-H50; 7026-H70	IBM AIX 4.3.3[2]	IBM HACMP 4.2.x	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4]	U2 LVD	
146	7017-S80; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270; 7046-B50; p620: 7025-6F0, 7025-6F1, p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1, p680 7017-S85	IBM AIX 4.3.3[2]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[4, 22]	U2 LVD	
147	7026-M80 as SP2 node, p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node	IBM AIX 4.3.3[2]	IBM HACMP/ES 4.3	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4]	U2 LVD	
148	7017-S80; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node; p680 7017-S85	IBM AIX 4.3.3[2]	IBM HACMP/ES 4.3.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4]	U2 LVD	
149	7017-S80; 7026-M80 as SP2 node, p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node, p680 7017-S85	IBM AIX 4.3.3[2]	IBM HACMP/ES 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4]	U2 LVD	
150	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM HACMP/ES: 4.3[12, 13, 14, 15], 4.3.1[12, 13, 14, 15], 4.4.0[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6205[1, 4]	U2 LVD	
151	SP2 9076 +: 06 50X[18], 07 55X[18] 08 T70[18]	IBM AIX 4.3.3[2]	IBM HACMP/ES: 4.3[12, 13, 14, 15], 4.3.1[12, 13, 14, 15], 4.4.0[12, 13, 14, 15]; IBM PSSP: 2.2 RVSD 1.2[12, 13, 14, 15], 2.4 RVSD 2.1.1[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6205[1, 4, 19]	U2 LVD	
152	7013-S7A; 7015-S7A; 7017-S7A; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270; 7046-B50	IBM AIX 4.3.3[2]	IBM HACMP: 4.3, 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4]	U2 LVD	
153	p660 7026-6M1 as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP 3.2 RVSD 3.2	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4]	U2 LVD	
154	7013-S7A as SP2 node, 7015-S7A as SP2 node, 7017-S7A as SP2 node, 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node, p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6205[1, 4, 22]	U2 LVD	
155	SP2 9076 +: 06 50X[18], 07 55X[18] 08 T70[18]	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 22]	U2 LVD	
156	7013-S7A as SP2 node 7015-S7A as SP2 node 7017-S7A as SP2 node 7017-S80 as SP2 node 7026-H80 as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP: 2.2 RVSD 1.2[12, 13, 14, 15], 2.4 RVSD 2.1.1[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6205[1, 4]	U2 LVD	
157	p640 7026-B80; p660: 7026-6H0, 7026-6H1 7026-6M1	IBM AIX 5.1[1, 2, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 32, OPS: 8, RAC: 8[3]	IBM 6205[4, 22]	U2 LVD	
158	7013-S7A, 7015-S7A, 7017-S7A, 7017-S80 7025-F80, 7025-H70 7026-H80 7026-M80; 7044-170 7044-270 7046-B50 p620 7025-6F0, 7025-6F1	IBM AIX 5.1[1, 2, 24, 25]	IBM HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[4, 22]	U2 LVD	
159	7017-S80 as SP2 node 7026-H80 as SP2 node 7026-M80 as SP2 node p660 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node p680 7017-S85 as SP2 node	IBM AIX 5.1[1, 2, 25, 26]	IBM HACMP/ES 4.5	HA: 32, OPS: 8, RAC: 8[3]	IBM 6205[4, 22]	U2 LVD	
160	SP2 9076 + 06 50X[18] 07 55X[18] 08 T70[18]	IBM AIX 5.1[1, 2, 25, 26]	IBM HACMP/ES 4.5	HA: 32, OPS: 8, RAC: 8[3]	IBM 6205[32]	U2 LVD	

IBM – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
161	7025-F50	IBM AIX 5.1[1, 2, 25, 26]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[4, 22]	U2 LVD	
162	7015-S7A; 7017-S7A, 7017-S80; 7025-F80; 7025-H70: 7026-H80: 7026-M80; 7044-170: 7044-270: 7046-B50; p620: 7025-6F0, 7025-6F1: p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1; p680 7017-S85	IBM AIX 5.1[2, 23, 24, 25]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4, 22]	U2 LVD	
163	7026-H70	IBM AIX 5.1[2, 23, 25, 26]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4, 22]	U2 LVD	
164	7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node, SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[2, 23, 25, 26]	IBM: HACMP/ES 4.4.1, PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29, 31]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6205[4]	U2 LVD	
165	7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[2, 24]	IBM PSSP 3.5 RVSD 3.5 and GPFS 2.1[28, 41, 43, 50]		IBM 6205[1, 4]	U2 LVD	
166	7015-S7A; 7017-S7A; 7017-S80; 7025-F80; 7025-H70; 7026-H80; 7026-M80; 7044-170; 7044-270; 7046-B50; p680 7017-S85	IBM AIX 5.1[2, 24, 25]	IBM HACMP/ES 4.4 1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4, 22]	U2 LVD	
167	7013-S7A	IBM AIX 5.1[2, 24, 25, 26]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4, 22]	U2 LVD	
168	7026-H50; 7026-H70	IBM AIX 5.1[2, 24, 25, 26]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4, 22]	U2 LVD	
169	7013-S7A	IBM AIX 5.1[2, 24, 25, 27]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4, 22]	U2 LVD	
170	7025-F50; 7026-H50	IBM AIX 5.1[2, 25, 26]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4, 22]	U2 LVD	
171	7025-F50	IBM AIX 5.1[2, 25, 26, 27]	IBM HACMP/ES 4 4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4, 22]	U2 LVD	
172	p620: 7025-6F0, 7025-6F1: p640 7026-B80: p660: 7026-6H0, 7026-6H1, 7026-6M1	IBM AIX: 4.3.3[2], 5.1[2, 24, 25]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6205[1, 4, 22]	U2 LVD	
173	7013-S70 as SP2 node; 7013-S7A as SP2 node, 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node	IBM AIX 4.3.2[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 32, OPS: 8, RAC: 8	IBM 6207[1]	UWD	
174	SP2 9076 + 06 50X[18]	IBM AIX 4.3.2[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 8, OPS: 8, RAC: 8[3]	IBM 6207[1, 22]	UWD	
175	p640 7026-B80	IBM AIX 4 3 3[1, 2]	IBM HACMP/ES 4 4 1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6207	UWD	
176	7026-M80; 7044-170; 7044-270; p610: 7028-6C1, 7028-6E1	IBM AIX 4.3.3[2]	IBM HACMP 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6204[1]	UWD	
177	7017-S80; 7025-F80, 7026-H80; 7046-B50; p640 7026-B80; p680 7017-S85	IBM AIX 4 3 3[2]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6207[1, 22]	UWD	
178	p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node	IBM AIX 4.3.3[2]	IBM HACMP/ES 4 4 0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6204[1]	UWD	
179	7017-S80, p680 7017-S85	IBM AIX 4 3 3[2]	IBM HACMP/ES 4.3.1, 4 4 0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6204[1], 6207[1]	UWD	
180	7026-M80 as SP2 node	IBM AIX 4 3 3[2]	IBM HACMP/ES 4.3[12, 13, 14, 15] 4 3 1[12, 13, 14, 15] 4 4 0[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6204[1]	UWD	
181	7017-S80 as SP2 node 7026-H80 as SP2 node p680 7017-S85 as SP2 node	IBM AIX 4 3 3[2]	IBM HACMP/ES 4.3[12, 13, 14, 15] 4.3 1[12, 13, 14, 15] 4 4 0[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6204[1] 6207[1]	UWD	

IBM – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
182	SP2 9076 + 08 T70[18]	IBM AIX 4.3.3[2]	IBM HACMP/ES: 4.3[12, 13, 14, 15], 4.3.1[12, 13, 14, 15], 4.4.0[12, 13, 14, 15]; IBM PSSP: 2.2 RVSD 1.2[12, 13, 14, 15], 2.4 RVSD 2.1.1[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6204[1, 19]	UWD	
183	7026-M80; 7044-170; 7044-270	IBM AIX 4.3.3[2]	IBM HACMP: 4.3, 4.3.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6204[1]	UWD	
184	7025-F80; 7026-H80; 7046-B50	IBM AIX 4.3.3[2]	IBM HACMP: 4.3, 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6204[1], 6207[1]	UWD	
185	7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6204[1, 22]	UWD	
186	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6207[1]	UWD	
187	7017-S80 as SP2 node; 7026-H80 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 32, OPS: 8, RAC: 8[3]	IBM: 6204[1, 22], 6207[1]	UWD	
188	SP2 9076 + 08 T70[18]	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 8, OPS: 8, RAC: 8[3]	IBM 6204[19]	UWD	
189	SP2 9076 + 06 50X[18]	IBM AIX 4.3.3[2]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29]	HA: 8, OPS: 8, RAC: 8[3]	IBM 6207	UWD	
190	7017-S80 as SP2 node; 7026-H80 as SP2 node	IBM AIX 4.3.3[2]	IBM PSSP: 2.2 RVSD 1.2[12, 13, 14, 15], 2.4 RVSD 2.1.1[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM: 6204[1], 6207[1]	UWD	
191	p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1	IBM AIX 5.1[1, 2, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 32, OPS: 8, RAC: 8[3]	IBM 6204[22]	UWD	
192	7017-S80; 7025-F80, 7026-H80; 7026-M80; 7044-170; 7044-270; p610: 7028-6C1, 7028-6E1; p620: 7025-6F0, 7025-6F1; p670 7040-671; p690: 7040-61D, 7040-61R, 7040-681	IBM AIX 5.1[1, 2, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM 6204[22]	UWD	
193	7013-S70; 7015-S70; 7017-S70	IBM AIX 5.1[1, 2, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM 6207[22]	UWD	
194	7046-B50; p680 7017-S85	IBM AIX 5.1[1, 2, 24, 25]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[3]	IBM: 6204[22], 6207[22]	UWD	
195	7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node	IBM AIX 5.1[1, 2, 25, 26]	IBM HACMP/ES 4.5	HA: 32, OPS: 8, RAC: 8[3]	IBM 6204[22]	UWD	
196	SP2 9076 + 08 T70[18]	IBM AIX 5.1[1, 2, 25, 26]	IBM HACMP/ES 4.5	HA: 32, OPS: 8, RAC: 8[3]	IBM 6207	UWD	
197	7013-S70 as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node	IBM AIX 5.1[1, 2, 25, 26]	IBM HACMP/ES 4.5	HA: 32, OPS: 8, RAC: 8[3]	IBM 6207[22]	UWD	
198	p680 7017-S85 as SP2 node	IBM AIX 5.1[1, 2, 25, 26]	IBM HACMP/ES 4.5	HA: 32, OPS: 8, RAC: 8[3]	IBM: 6204[22], 6207[22]	UWD	
199	SP2 9076 +: 06 50X[18], 07 55X[18]	IBM AIX 5.1[1, 2, 25, 26]	IBM HACMP/ES 4.5	HA: 32, OPS: 8, RAC: 8[3]	IBM: 6204[32], 6207	UWD	
200	7013-S70; 7015-S70; 7017-S70; 7017-S80; 7046-B50	IBM AIX 5.1[2, 23, 24, 25]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6207	UWD	
201	7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node	IBM AIX 5.1[2, 23, 25, 26]	IBM: HACMP/ES 4.4.1, PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29, 31]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6204	UWD	
202	7013-S70 as SP2 node; 7015-S70 as SP2 node; 7017-S70 as SP2 node; SP2 9076 + 08 T70[18]	IBM AIX 5.1[2, 23, 25, 26]	IBM: HACMP/ES 4.4.1, PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29, 31]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6207	UWD	
203	SP2 9076 +: 06 50X[18], 07 55X[18]; p680 7017-S85 as SP2 node	IBM AIX 5.1[2, 23, 25, 26]	IBM: HACMP/ES 4.4.1, PSSP 3.4 RVSD 3.4 and GPFS 1.5[28, 29, 31]	HA: 32, OPS: 8, RAC: 8[3]	IBM: 6204, 6207	UWD	
204	7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 + 06 50X[18], 07 55X[18]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[2, 24]	IBM PSSP 3.5 RVSD 3.5 and GPFS 2.1[28, 41, 42, 43, 44]		IBM 6204[1]	UWD	

IBM – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
205	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]; p680 7017-S85 as SP2 node	IBM AIX 5.1[2, 24]	IBM PSSP 3.5 RVSD 3.5 and GPFS 2.1[28, 41, 43, 50]		IBM 6207[1]	UWD	
206	7017-S80; 7025-F80; 7026-H80; 7026-M80; 7044-170; 7044-270; 7046-B50; p610: 7028-6C1, 7028-6E1; p670 7040-671; p680 7017-S85; p690: 7040-61D, 7040-61R, 7040-681	IBM AIX 5.1[2, 24, 25]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6204[1, 22]	UWD	
207	7013-S70 as SP2 node	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM HACMP/ES: 4.3, 4.3.1, 4.4.0; IBM PSSP: 2.2 RVSD 1.2, 2.4 RVSD 2.1.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6207[1]	UWD	
208	7015-S70 as SP2 node; 7017-S70 as SP2 node	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM HACMP/ES: 4.3[12, 13, 14, 15], 4.3.1[12, 13, 14, 15], 4.4.0[12, 13, 14, 15]; IBM PSSP: 2.2 RVSD 1.2[12, 13, 14, 15], 2.4 RVSD 2.1.1[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6207[1]	UWD	
209	7013-S70; 7015-S70; 7017-S70	IBM AIX: 4.3.1[2], 4.3.2[2], 4.3.3[2]	IBM HACMP: 4.2.x, 4.3, 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6207[1]	UWD	
210	7025-F50; 7025-H70; 7026-H50; 7026-H70	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.2.x	HA: 8, OPS: 8, RAC: 8[3]	IBM 6207[1]	UWD	
211	7013-S70; 7013-S7A; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7025-F50; 7025-H70; 7026-H50; 7026-H70	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6207[1, 22]	UWD	
212	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; SP2 9076 + 06 50X[18]	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP/ES: 4.3[12, 13, 14, 15], 4.3.1[12, 13, 14, 15], 4.4.0[12, 13, 14, 15]; IBM PSSP: 2.2 RVSD 1.2[12, 13, 14, 15], 2.4 RVSD 2.1.1[12, 13, 14, 15]	HA: 32, OPS: 8, RAC: 8[3]	IBM 6207[1]	UWD	
213	7013-S7A; 7015-S7A; 7017-S7A; 7025-F50; 7025-H70; 7026-H50; 7026-H70	IBM AIX: 4.3.2[2], 4.3.3[2]	IBM HACMP: 4.3, 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[3]	IBM 6207[1]	UWD	
214	7017-S80; 7025-F80; 7026-H80; 7026-M80; 7044-170; 7044-270; 7046-B50; p610: 7028-6C1, 7028-6E1; p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1, p680 7017-S85	IBM AIX: 4.3.3[2], 5.1[2, 23, 24, 25]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6204[1, 22]	UWD	
215	p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1	IBM AIX: 4.3.3[2], 5.1[2, 24, 25]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[3]	IBM 6204[1, 22]	UWD	

1 For all PCI-based hosts only: See http://www-1.ibm.com/servers/eserver/pseries/library/hardware_docs/sa38/380538.pdf for appropriate HBA placement guidelines.
2 Symmetrix 8000 Series:66/67 support AIX 4.3.x, 5.1. 5568 support at AIX 4.3.3, 5.1
3 For IBM AIX 4.3.3: requires Oracle RAC9i (9.0.1). HACMP/ES 4.4.x. PowerPath 2.1 or greater is supported. Symmetrix microcode 5566/5567/5568. A SAN implementation with ISLs will observe significant delay in failover times if link failures non-contiguous to host HBA occur. For IBM AIX 5.1: requires Oracle RAC9i (9.2). HACMP/ES 4.4.x. PowerPath 3.0.1 or greater is supported. Symmetrix microcode 5566/5567/5568. A SAN implementation with ISLs will observe significant delay in failover times if link failures non-contiguous to host HBA occur.
4 Symmetrix 5567 code is required to support Ultra2 LVD SCSI director (DP3-U2SD4L).
5 Mixed FC-AL and FC-SW are supported on the same server.
6 HBA and driver available exclusively as EMC Fibre Channel Interface V2.0 for AIX Platforms. Latest PTF package (V2.0.0.3_PTF.tar.Z) can be downloaded from the EMC FTP server at ftp://ftp.emc.com/pub/elab/aix/EMC-FC-Kit
7 Requires minimum HACMP IY07313, concurrent resource groups not supported with HACMP 4.3 or 4.3.1. For HACMP 4.4.0 and 4.4.1 concurrent resource groups supported with APAR IY14528. Requires minimum AIX APAR IY08960, IY03872, IY06844. Requires minimum Symmetrix microcode level 5265.48.30
8 IBM Native Fibre Channel drivers with feature code 6227 and with feature code 6228 are supported on the same server. Feature 6228 and 6239 are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server. 6227 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f7.rte; 6228 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f9.diag, devices.pci.df1000f9.rte. 6239 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1080f9.diag, devices.pci.df1080f9.rte
9 Requires minimum Symmetrix microcode level 5265.48.30. Requires minimum AIX APAR IY08960, IY03872. Requires minimum EMC ODM fileset support (4.3.3.1 IBM Fibre Channel interface support for Symmetrix). Supported adapter firmware, 3.22A1.
10 Requires minimum Symmetrix microcode level 5265.39.25. Requires minimum AIX APAR IY05369. Requires minimum EMC ODM fileset support (4.3.3.0 IBM Fibre Channel interface support for Symmetrix). Supported adapter firmware, 3.22A1.
11 RS/6000 nodes only, 8 nodes. RS/6000 SP nodes only, 32 nodes, mix RS/6000 and RS/6000 SP in same cluster: 8 nodes.
12 Latest APAR for PSSP 2.4 is IY17776.
13 Latest APAR for PSSP 3.2 is IY17872.
14 Latest APAR for PSSP 3.1.1 is IY17670.
15 Latest APAR for PSSP 2.2 is IY15360.
16 Requires minimum EMC ODM fileset support (4.3.3.1 IBM Fibre Channel interface support for Symmetrix). Device driver df1000f9 is distributed by IBM.
17 Requires minimum AIX 4.3.3 with maintenance level 08 and adapter firmware 3.82a1. Requires minimum HACMP IY07313. Concurrent resource groups not supported with HACMP 4.3 or 4.3.1. For HACMP 4.4.0 and 4.4.1 concurrent resource groups supported with APAR IY14528. Requires minimum Symmetrix microcode level 5265.48.30.
18 The following link provides detailed data for all 9076-SP2 models and feature codes: http://www1.ibmlink.ibm.com/cgi-bin/master?request=salesmanual&parms=SMS&xh=NTZH*daEMSRi4n1USenGnN9332&xhr=usa main%7Csalesmanual%5E&type=D&search=9076&title=7&product
19 These feature codes are supported: 2054 Power 3 High Node, 2055 SP expansion I/O, 2056 375 MHz Power 3 thin node, 2057 375 MHz Power 3 wide node, 2058 375 MHz Power 3 high node.
20 Requires PowerPath version 2.0.2 or higher

21. RVSD 3.2 supported with IBM 6227/6228 host bus adapter.
22. Channel configurations: multi-port SCSI preferred or common SCSI bus.
23. AIX 5.1 supported with 32/64-bit kernel. Requires minimum EMC ODM fileset support 5.0.0.0.
24. AIX 5.1 32/64 bit Kernel supported. Minimum PowerPath Version 2.1.2 supported . Requires minimum EMC ODM fileset support 5.0.0.0.
25. Minimum PowerPath 2.1.2 supported.
26. AIX 5.1 supported with 32-bit kernel. Requires minimum EMC ODM fileset support 5.0.0.0.
27. AIX 5.1 only supported with 32-bit kernel. Minimum PowerPath Version 2.1.2 supported. Requires minimum EMC ODM fileset support 5.0.0.0.
28. Refer to Primus case #1.0.128870403.2749464 for configuration instructions.
29. Requires minimum AIX 4.3.3 with APAR IY22024, Requires PSSP 3.4 with APAR IY32625
30. Requires minimum EMC ODM fileset support (4.3.3.1 IBM Fibre Channel interface support for Symmetrix).
31. Requires minimum PSSP 3.4 APAR IY33448.
32. Feature codes supported: 2054: Power 3 High Noise, 2055: SP expansion I/O, 2056: 375 MHz Power 3 thin node, 2057: 375 MHz Power 3 wide node. 2058: 375 MHz Power 3 high node.
33. IBM 6227 and 6228 adapters are supported on the same server.Mixed FC-AL and FC-SW are supported on the same server.
34. Requires minimum HACMP APAR IY07313. Latest APAR for PSSP 3.1.1 is IY17870. Requires minimum RVSD APAR IY07130.
35. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567 46.24 or 5568.58.12
36. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
37. GAB disks (membership and service group heartbeat disks) are not supported.
38. VxVM and VxFS are not currently supported in this configuration. Please review the Host Attach and Veritas Support sections for current listings of PowerPath, VxVM and VxFS support for Clariion storage arrays.
39. Minimum PowerPath 3.0.2 is supported.
40. PowerPath is supported with LVM and JFS
41. Requires minimum PSSP APAR IY38509
42. Minimum Powerpath version 3.0.3 is supported.
43. Requires minimum AIX5.1 with maintenance level 03 APAR IY32749
44. PSSP 3.5 supports a 32 or 64 bit kernel
45. Requires adapter firmware 3.22A1, CLArrayS3.5.1 fileset support. Supports FC4700 with minimum flare code 8.46.xx.
46. Requires minimum ODM fileset support (5.0.0.0 EMC Symmetrix Fibre Channel support software).
47. See http://www.rs6000.ibm.com/resource/hardware_docs/sa38-0538/380538.pdf for appropriate HBA placement guidelines
48. Requires minimum HBA firmware 3.22A1.
49. IBM 6227 and IBM 6228 adapters are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server.
    6227 Filesets: devices.pci/df1000f7.com, devices.pci/df1000f7.diag, devices.pci/df1000f7.rte ;
    6228 Filesets: devices.pci/df1000f7.com, devices.pci/df1000f7.diag, devices.pci/df1000f9.diag. devices.pci/df1000f9.rte
50. AIX 5.1 supported with 32/64 bit kernel.
51. Requires minimum HBA firmware 3.82A1.
52. AIX 5.1 32/64 bit Kernel supported. Requires minimum EMC ODM fileset support 5.0.0.0.

IBM DYNIX/ptx

IBM

IBM – IBM DYNIX/ptx							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	xSeries NUMA-Q 2000	IBM DYNIX/ptx 4.6.1[4, 5]	IBM ptx/Cluster: 2.3.0, 2.3.1	HA: 2, OPS: 2	IBM: IOC-210-52 (LP6500)[7, 8], IOC-210-54 (LP7000E-N1)[8]	FC-AL, FC-SW	
2	xSeries NUMA-Q 2000	IBM DYNIX/ptx: 4.4.6[4, 5], 4.4.7[4, 5]	IBM ptx/Cluster 2.1.1	HA: 2, OPS: 2	IBM IOC-210-54 (LP7000E-N1)[8]	FC-AL, FC-SW	
3	xSeries NUMA-Q 2000	IBM DYNIX/ptx 4.5.2	IBM ptx/Cluster 2.2.1	HA: 2, OPS: 2	IBM FC to SCSI Bridge	FC-BR	
4	xSeries NUMA-Q 2000	IBM DYNIX/ptx 4.5.2	IBM ptx/Cluster 2.2.1	HA: 2, OPS: 2	IBM FCB 1000-MB[6]	FC-BR	See[3]
5	xSeries NUMA-Q 2000	IBM DYNIX/ptx 4.6.1[4, 5]	IBM ptx/Cluster: 2.3.0, 2.3.1	HA: 2, OPS: 2	IBM FCB 1000-MB[6]	FC-BR	See[3]
6	xSeries NUMA-Q 2000	IBM DYNIX/ptx: 4.4.6[4, 5], 4.4.7[4, 5], 4.4.8[4, 5]	IBM ptx/Cluster 2.1.1	HA: 2, OPS: 2	IBM FCB 1000-MB[6]	FC-BR	See[3]
7	xSeries NUMA-Q 2000	IBM DYNIX/ptx 4.4.8[4, 5]	IBM ptx/Cluster 2.1.1	HA: 2, OPS: 2	IBM IOC-210-54 (LP7000E-N1)[8]	FC-SW	
8	xSeries NUMA-Q 2000	IBM DYNIX/ptx 4.5.2	IBM ptx/Cluster 2.2.1	HA: 2, OPS: 2 [4, 5]	IBM: IOC-210-52 (LP6500)[7, 8], IOC-210-54 (LP7000E-N1)[7, 8]	FC-SW	
9	xSeries NUMA-Q 2000	IBM DYNIX/ptx 4.5.3	IBM ptx/Cluster 2.2.2	HA: 2 [4, 5], OPS: 2	IBM: IOC-210-52 (LP6500)[8, 9], IOC-210-54 (LP7000E-N1)[8, 9]	FC-SW	
10	xSeries NUMA-Q 2000	IBM DYNIX/ptx: 4.4.6[4, 5], 4.4.7[4, 5], 4.4.8[4, 5]	IBM ptx/Cluster 2.1.1	HA: 2, OPS: 2	IBM IOC-210-52 (LP6500)[7, 8]	FC-SW	
11	Symmetry: 2000, 5000	IBM DYNIX/ptx 4.2.4	IBM ptx/Cluster 1.2.2	OPS: 2	IBM: QCIC-E, QCIC-W-CTLR-01	FWD	See[1, 2]
12	Symmetry: 2000, 5000	IBM DYNIX/ptx: 4.4.6, 4.4.7, 4.4.8	IBM ptx/Cluster 2.1.1	OPS: 2	IBM: QCIC-E, QCIC-W-CTLR-01	FWD	See[1, 2]

1. These clustered hosts require Symmetrix Host Adapter model OSD4-SW, WSD4-SW, DP-USD4-SW, or DP-WSD4-SW. Symmetrix gatekeeper devices cannot be configured to shared SCSI busses for DYNIX/ptx 4.2.x. Only configure gatekeepers to private SCSI busses.
2. Common SCSI Bus.
3. Multi-port SCSI.
4. Can support up to 4-node clusters for DYNIX/ptx 4.6.0 and later, for both HA and OPS.
5. Can support up to 4-node clusters without SVM for DYNIX/ptx 4.4.5 and later, but only 2-node clusters with SVM shared disk groups
6. FC to SCSI Bridge and firmware v1.5.5
7. EMC DP3-FCD4 supported on DYNIX/ptx 4.4.8, 4.4.9, 4.4.10, 4.5.2, 4.5.3, and 4.6.1 only. Requires minimum 5x67 microcode 5567.34.19A, or 5568.27.12A.
8. EMC DP3-FCD42G and EMC DP3-FCD42GS supported on DYNIX/ptx 4.4.8, 4.4.9 and 4.4.10 only.
9. Not supported on the EMC DP3-FCD4 or on the DP3-FCD42G(S).

Microsoft Windows 2000

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual

memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

DG

DG – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	AViiON: AV1400, AV2800, AV3800	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	QLogic QLA2200F-EMC	FC-AL
2	AViiON: AV1400, AV2800, AV3800	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[5, 6]	HA: 4	QLogic QLA2200F-EMC	FC-AL
3	AViiON: AV1400, AV2800, AV3800	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[4], LP850-EMC; QLogic: QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
4	AViiON: AV1400, AV2800, AV3800	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[5, 6]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[4], LP850-EMC; QLogic: QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
2. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
6. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.

Dell

Dell – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	**PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650**	**Microsoft Windows 2000 Datacenter: SP2[4], SP3[4]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[7], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**		
2	**PowerEdge 8450**	**Microsoft Windows 2000 Datacenter: SP2[4], SP3[4]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E;** **QLogic: QLA2310F-E-SP, QLA2342-E-SP**		
3	PowerVault: 750N, 755N	Microsoft Windows 2000 Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP7000E-EMC, LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		
4	PowerVault: 770N, 775N	Microsoft Windows 2000 Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP7000E-EMC, LP850-EMC, LP9802-E, LP9802DC-E, LP982-E; QLogic QLA2200F-EMC		
5	PowerEdge 6350	Microsoft Windows 2000 Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E		
6	PowerEdge 6300	Microsoft Windows 2000 Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802DC-E, LP982-E		
7	PowerEdge 1550	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 2	QLogic QLA2200F-EMC	FC-AL	
8	PowerEdge 1550	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[10, 11]; Veritas Cluster Server (VCS) 2.0[12]	HA: 4	QLogic QLA2200F-EMC	FC-AL	
9	PowerVault: 750N, 755N	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP7000E-EMC, LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
10	PowerVault: 770N, 775N	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP7000E-EMC, LP850-EMC, LP9802-E, LP9802DC-E, LP982-E, QLogic QLA2200F-EMC	FC-AL, FC-SW	
11	PowerEdge 6350	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4 Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW	
12	PowerEdge 6300	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4 Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802DC-E, LP982-E	FC-AL, FC-SW	

Dell – Microsoft Windows 2000

No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
13	**PowerEdge 8450**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4** **Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4,** **Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[7], LP9802-E, LP9802DC-E, LP982-E;** **QLogic QLA2340-E-SP**	FC-AL, FC-SW	
14	**PowerEdge: 2600, 2650, 4600 6400, 6450, 6600, 6650**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4** **Microsoft Windows 2000 Datacenter SP4, Server SP2[4] Server SP3[4], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[7], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E,** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
15	**PowerEdge 8450**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4] SP4** **Microsoft Windows 2000 Datacenter SP4, Server SP2[4] Server SP3[4], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E;** **QLogic: QLA2310F-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
16	PowerEdge: 1650, 1750, 2400, 2450, 2500, 2550[6], 2600, 4400, 4600, 6400, 6450, 6600, 6650, 8450	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
17	PowerEdge 1550	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
18	PowerEdge 6300	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[7], LP850-EMC, LP9802-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
19	PowerEdge: 2300, 6100, 6350	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[7], LP850-EMC; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
20	PowerEdge 2650	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E: QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
21	PowerVault: 770N 775N	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000, Datacenter SP4 Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E; QLogic: QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
22	PowerEdge: 1650, 1750, 2400, 2450, 2500, 2550[6], 2600, 4400, 4600, 6300, 6350, 6400, 6450, 6600, 6650, 8450; PowerVault: 750N, 755N, 770N 775N	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[10, 11]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E. QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
23	PowerEdge 1550	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[10, 11] Veritas Cluster Server (VCS) 2.0[12]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E: QLogic: QLA2300F-E-SP QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
24	PowerEdge, 2300, 6100	Microsoft Windows 2000 Advanced Server, SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[10, 11] Veritas Cluster Server (VCS) 2.0[12]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[7], LP850-EMC; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
25	PowerEdge 2650	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[10, 11] Veritas Cluster Server (VCS) 2.0[12]	HA, 4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E. QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
26	PowerEdge: 1650, 1750, 2650 4600, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Oracle 9i RAC 9.2.0.1.0[9]	RAC, 8	QLogic: QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[8]
27	PowerEdge 2600	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Oracle 9i RAC 9.2.0.1.0[9]	RAC, 8	QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[8]

Dell – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
28	PowerEdge: 1650, 1750, 2400, 2450, 2500, 2550[6], 2600, 4400, 4600, 6300, 6350, 6400, 6450, 6600, 6650, 8450	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Veritas Cluster Server (VCS) 2.0[12]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
29	PowerVault: 750N, 755N, 770N, 775N	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Veritas Cluster Server (VCS) 2.0[12]	HA: 4	Emulex: LP7000E-EMC, LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
30	PowerEdge 8450	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[4], Datacenter SP3[4], Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 4	Emulex LP8000-EMC[7]; QLogic QLA2340-E-SP	FC-AL, FC-SW	
31	PowerEdge: 2400[3], 2450[3], 6300[3], 6350[3], 6400[3], 6600[3], 6650[3], 8450[3]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2]	HA: 2	Adaptec AHA-2944UW[1]	UWD	

1. Requires Legacy PCI slot (not available on new servers.)
2. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
3. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
6. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
8. Symmetrix 8000 Series only.
9. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0
. VxVm not supported. PowerPath 3.0 supported.
10. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
11. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
12. GAB disks (membership and service group heartbeat disks) are not supported.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**Primergy: B210, C200, E200, F200, H200, H250[7], H400, K400, L200, N200, N400, N800, P200, P250, R450**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
2	**Primergy: B210, C200, E200, F200, F250[7], H200, H250[7], H400, H450, K400, L200, N200, N400, P200, P250, R450, T850**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E**	
3	**Primergy N800**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E, LP982-E**	
4	**Primergy: F250[7], H450, T850**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]; Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
5	Primergy: F250[7], H450, T850	Microsoft Windows 2000 Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP7000E-EMC, LP850-EMC; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	
6	**Primergy: F250[7], H450, T850**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL FC-SW
7	Primergy: F250[7], H450, T850	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP7000E-EMC, LP850-EMC; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
8	**Primergy N800**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3] SP4, Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E) LP9002DC-E**	FC-AL, FC-SW
9	Primergy: B210, C200, E200, F200, F250[7], H200, H250[7], H400, H450, K400, L200, N200, N400, P200, P250, R450, T850	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4. Microsoft Windows 2000 Datacenter SP4, Server SP2[3] Server SP3[3], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL FC-SW

Fujitsu Siemens – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
10	**Primergy N800**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E, LP982-E**	FC-AL, FC-SW
11	Primergy: H450[4], T850[4]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E)	FC-AL, FC-SW
12	Primergy: B210[4], C200[4], E200[4], F200[4], F250[4, 7], H250[4, 7], H400[4], K400[4], L200[4], N200[4], N400[4], N800[4], P200[4], P250[4], R450[4], RX100	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW
13	Primergy: RX200, RX300, TX200, TX300	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP850-EMC, LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW
14	Primergy: H450, T850	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW
15	Primergy F250[7]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 2	Emulex: LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW
16	Primergy: F250[7], H450, T850	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[8, 9]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[6], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E, QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
17	Primergy: B210, C200, E200, F200, H250[7], H400, K400, L200, N200, N400, N800, P200, P250, R450, RX100	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[8, 9]	HA: 4	Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW
18	Primergy: RX200, RX300, TX200, TX300	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[8, 9]; Veritas Cluster Server (VCS) 2.0[10]	HA: 4	Emulex: LP850-EMC, LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW
19	Primergy: F250[7], H450, T850	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Veritas Cluster Server (VCS) 2.0[10]	HA: 4	Emulex: LP7000E-EMC, LP850-EMC, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
20	Primergy: B210[4], C200[4], E200[4], F200[4], F250[4, 7], H250[4, 7], H400[4], H450[4], K400[4], L200[4], N200[4], N400[4], N800[4], P200[4], P250[4], R450[4], RX100, T850[4]	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Veritas Cluster Server (VCS) 2.0[10]	HA: 4	Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW
21	Primergy N800	Microsoft Windows 2000: Advanced Server SP3[3], Datacenter SP2[3], Datacenter SP3[3], Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 4	Emulex: LP8000-EMC[6], LP9002-E (LP9002L-E)[3], LP9002DC-E	FC-AL, FC-SW
22	Primergy: RX200, RX300, TX200, TX300	Microsoft Windows 2000: Advanced Server SP3[3], Datacenter SP2[3], Datacenter SP3[3], Datacenter SP4, Server SP4	Microsoft MSCS[2, 5]	HA: 4	Emulex: LP850-EMC, LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW
23	Primergy: H400, K400, N400	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2]	HA: 2	Adaptec AHA-2944UW[1]	UWD

1. Requires Legacy PCI slot (not available on new servers.)
2. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
5. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. Must use standard PCI 32bit/33MHz slot for SCSI
8. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
9. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s
10. GAB disks (membership and service group heartbeat disks) are not supported

HPQ

HPQ – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	**Proliant BL40p, DL320[6], DL360[6], DL360(G2)[6], DL360(G3), DL380[6], DL380(G2)[6], DL380(G3), DL560, DL580[6], DL580(G2)[6], DL580(G3), DL740, DL760[6], DL760 (G2), ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML570(G2), ML750[6]**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4** **Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4** **Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)**		

HPQ – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
2	**Proliant DL380(G3)**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP4**	**Microsoft MSCS[2]**	**HA: 2**	**Adaptec AHA-2944UW[5]**		
3	**Proliant: BL40p, DL320[6], DL360[6], DL360(G2)[6], DL360(G3), DL380[6], DL380(G2)[6], DL560, DL580[6], DL580(G2)[6], DL580(G3), ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML570(G2), ML750[6]**	**Microsoft Windows 2000 Datacenter: SP2[4], SP3[4]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[11], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**		
4	**Proliant DL380(G3)**	**Microsoft Windows 2000 Datacenter: SP2[4], SP3[4]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[11], LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2340-E-SP, QLA2342-E-SP**		
5	**Proliant 8500**	**Microsoft Windows 2000 Datacenter: SP2[4], SP3[4]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2340-E-SP, QLA2342-E-SP**		
6	**Proliant 8500**	**Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)**		
7	**Proliant DL380(G2)[3, 6]**	**Microsoft Windows 2000 Server SP4**	**Microsoft MSCS[2]**	HA: 2	**Adaptec AHA-2944UW[5]**		
8	Proliant 8000 Pro[3, 6]	Microsoft Windows 2000 Server SP4	Microsoft MSCS[2, 9]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC; QLogic QLA2200F-EMC		
9	Proliant: **8500**, DL560, DL580[6]	Microsoft Windows 2000 Advanced Server SP2[4]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[17, 18]	HA: 4	Emulex LP9002-E (LP9002L-E)[10]	FC-AL, FC-SW	
10	Proliant: **8500**, DL560, DL580[3, 6]	Microsoft Windows 2000 Advanced Server SP2[4]	Veritas Cluster Server (VCS) 2.0[26]	HA: 4	Emulex LP9002-E (LP9002L-E)[10]	FC-AL, FC-SW	
11	Proliant: DL560, DL580[6]	Microsoft Windows 2000 Advanced Server SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[17, 18]	HA: 4	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	
12	Proliant 8500	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP[19, 20, 21], QLA2340-E-SP[19, 20, 21], QLA2342-E-SP[19, 20]	FC-AL, FC-SW	
13	Proliant: BL40p, DL360[6], **DL380[6]**, DL560, DL580[6], DL740, DL760[6], DL760 (G2)	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP[19, 20], QLA2340-E-SP[19, 20], QLA2342-E-SP[19, 20]	FC-AL, FC-SW	
14	Proliant BL20p (G2)[24, 25]	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	HPQ Dual-port mezzanine controller card[22, 23]	FC-AL, FC-SW	
15	Proliant: **8500**, DL560, DL580[3, 6]	Microsoft Windows 2000 Advanced Server SP4	Veritas Cluster Server (VCS) 2.0[26]	HA: 4	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	
16	Proliant: ML370(G2), **ML370(G3)**	Microsoft Windows 2000 Advanced Server: SP2[4], [15], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[3]
17	Proliant: ML370(G2) **ML370(G3)**	Microsoft Windows 2000 Advanced Server: SP2[4], [15], SP4	Veritas Cluster Server (VCS) 2.0[26]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP QLA2342-E-SP	FC-AL, FC-SW	See[3]
18	Proliant: **8500** DL580[3, 6]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4]	Microsoft MSCS[2, 9]	HA: 2	Emulex LP9002-E (LP9002L-E)[10]	FC-AL, FC-SW	
19	Proliant DL560	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4]; Microsoft Windows 2000 Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	Emulex LP9002-E (LP9002L-E)[10]	FC-AL, FC-SW	

HPQ – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
20	Proliant 8000 Pro[3, 6]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[2, 9]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC; QLogic QLA2200F-EMC	FC-AL, FC-SW	
21	**Proliant: DL740, DL760[6], DL760 (G2)**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[11], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
22	**Proliant 8500**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[11], LP9002-E (LP9002L-E), LP9002DC-E; QLogic QLA2310F-E-SP**	FC-AL, FC-SW	
23	**Proliant DL380(G3)**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4, Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E; QLogic QLA2310F-E-SP**	FC-AL, FC-SW	
24	**Proliant BL20p (G2)[24, 25]**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ Dual-port mezzanine controller card[22, 23]**	FC-AL, FC-SW	
25	**Proliant: BL40p, DL320[6], DL360[6], DL360(G2)[6], DL360(G3), DL380[6], DL380(G2)[6], DL560, DL580[6], DL580(G2)[6], DL580(G3), ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML570(G2), ML750[6]**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[11], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
26	**Proliant DL380(G3)**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[11], LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
27	**Proliant 8500**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
8	Proliant DL580(G2)[6]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC	FC-AL, FC-SW	
29	Proliant: 8500[3, 6], DL320[3, 6], DL360[3, 6], DL360(G2)[3, 6], DL360(G3), **DL380[3, 6], DL380(G2)[3, 6], DL380(G3), DL580(G3)** DL760[3, 6], DL760 (G2), ML350[3, 6], ML370[3, 6], ML530[3, 6], ML530(G2)[3, 6], ML570[3, 6], ML570(G2)[3], ML750[3, 8]	Microsoft Windows 2000 Advanced Server: SP2[4] SP3[4], SP4. Microsoft Windows 2000. Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
30	Proliant, **8500** DL560, DL580[3, 6]	Microsoft Windows 2000 Advanced Server, SP2[4], SP3[4], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA. 2	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC, LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E, QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
31	Proliant: 3000[3, 6] 7000[3, 6, 7]	Microsoft Windows 2000 Advanced Server SP2[4] SP3[4] SP4 Microsoft Windows 2000 Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA. 2	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC, QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	

HPQ – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
32	Proliant DL740	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	Emulex: LP8000-EMC[11], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
33	Proliant BL40p	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	Emulex: LP8000-EMC[11], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
34	Netserver LC: 2000 U3, 2000r[16]; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW	See[3]
35	Proliant DL580(G2)[3, 6]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
36	Proliant BL20p (G2)[24, 25]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	HPQ Dual-port mezzanine controlier card[22, 23]	FC-AL, FC-SW	
37	Netserver LC: 2000 U3, 2000r[16]; Netserver LH: 3000, 4, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	HPQ: D8602A (Agilent HHBA-5101B)[4, 14], D8602B (Agilent HHBA-5101C)[4, 12, 13]	FC-AL, FC-SW	
38	Proliant 6500[6, 7]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
39	Proliant 8000 Pro[3, 6]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	QLogic: QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
40	**Proliant DL380(G3)**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP4**	**Legato Automated Availability Manager (LAAM) 5.0 (Base)[17]**	HA: 4	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
41	Proliant: 8500, DL320[6], DL360[6], DL360(G2)[6], DL360(G3), **DL380[6], DL380(G2)[6], DL380(G3)**, DL580(G2)[6], **DL580(G3)**, DL760[6], DL760 (G2), ML350[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML570(G2)[3], ML750[8]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[17, 18]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
42	Proliant: DL560, DL580[6]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[17, 18]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC, LP9002DC-E LP9802-E, LP9802DC-E LP982-E, QLogic: QLA2200F-EMC QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP QLA2342-E-SP	FC-AL, FC-SW	
43	Proliant: 3000[6] 6500[6, 7] 7000[6, 7] 8000[6, 7]	Microsoft Windows 2000 Advanced Server: SP2[4] SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[17, 18]	HA: 4	Emulex: LP7000E-EMC LP8000-EMC[11], LP850-EMC, QLogic: QLA2200F-EMC QLA2300F-E-SP QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	

HPQ – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
44	Proliant DL740	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[17, 18]; Veritas Cluster Server (VCS) 2.0[26]	HA: 4	Emulex: LP8000-EMC[11], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
45	Proliant BL40p	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[17, 18]; Veritas Cluster Server (VCS) 2.0[26]	HA: 4	Emulex: LP8000-EMC[11], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
46	Proliant BL20p (G2)[24, 25]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[17, 18]; Veritas Cluster Server (VCS) 2.0[26]	HA: 4	HPQ Dual-port mezzanine controller card[22, 23]	FC-AL, FC-SW	
47	Proliant DL580(G2)[6]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Veritas Cluster Server (VCS) 2.0[26]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC	FC-AL, FC-SW	
48	Proliant: 8500[3, 6], DL320[3, 6], DL360[3, 6], DL360(G2)[3, 6], DL360(G3), **DL380**[3, 6], **DL380(G2)**[3, 6], **DL380(G3)**, **DL580(G3)**, DL760[3, 6], DL760 (G2), ML350[3, 6], ML370[3, 6], ML530[3, 6], ML530(G2)[3, 6], ML570[3, 6], ML570(G2)[3], ML750[3, 6]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Veritas Cluster Server (VCS) 2.0[26]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
49	Proliant: **8500**, DL560, DL580[3, 6]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Veritas Cluster Server (VCS) 2.0[26]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC, LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
50	Proliant: 3000[3, 6], 7000[3, 6, 7], 8000 Pro[3, 6]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Veritas Cluster Server (VCS) 2.0[26]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[11], LP850-EMC; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
51	Proliant DL580(G2)[3, 6]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Veritas Cluster Server (VCS) 2.0[26]	HA: 4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
52	Proliant 6500[6, 7]	Microsoft Windows 2000 Advanced Server: SP2[4], SP4	Veritas Cluster Server (VCS) 2.0[26]	HA: 4	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
53	Proliant DL560	Microsoft Windows 2000 Advanced Server: **SP3**[4], SP4	Microsoft MSCS[2, 9]	HA: 2	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	
54	Proliant: **8500**, DL580[3, 6]	Microsoft Windows 2000 Advanced Server: SP3[4], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 2	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	
55	Proliant 8500	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[4], Datacenter SP3[4], Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 4	Emulex: LP8000-EMC[11], LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW	
56	Proliant: DL740, DL760[6], DL760 (G2)	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[4], Datacenter SP3[4], Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E; QLogic QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	
57	Netserver LXR 8500	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[4], Datacenter SP3[4], Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 4	HPQ D8602B (Agilent HHBA-5101C)[4, 12]	FC-AL, FC-SW	

HPQ – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
58	Proliant BL20p (G2)[24, 25]	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[4], Datacenter SP3[4], Datacenter SP4, Server SP4	Microsoft MSCS[2, 9]	HA: 4	HPQ Dual-port mezzanine controller card[22, 23]	FC-AL, FC-SW	
59	**Proliant 8500**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4;** **Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)**	**FC-SW**	
60	**Proliant DL380(G2)[3, 6]**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS[2]**	HA: 2	**Adaptec AHA-2944UW[5]**	UWD	
61	Proliant: 6000[3, 6, 7], 6400R[3, 6], 7000[3, 6, 7], 8000[3, 6, 7], 8500[3, 6], DL320[3, 6], DL360[3, 6], **DL380[3, 6]**, DL580[3, 6], DL580(G2)[3, 6], **DL580(G3)**, ML350[3, 6], ML370[3, 6], ML370(G2)[3, 6], **ML370(G3)**, ML530[3, 6], ML570[3, 6]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2]	HA: 2	Adaptec AHA-2944UW[5]	UWD	
62	Netserver LC: 2000_U3[3], 2000[3]; Netserver LH: 3000[3], 6000[3]; Netserver: LT 6000R[3], LXR 8500[3]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2]	HA: 2	Adaptec AHA-2944UW[5]; HPQ: A5252A[1], A5252B[1]	UWD	

1. (Adaptec AHA-2944UW)
MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
3. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Requires Legacy PCI slot (not available on new servers.)
6. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
7. Includes both Pentium PRO and XEON models
8. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
9. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
10. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
11. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
12. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
13. Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper_rnotes/bsdmatrix/matrix213991.html
14. (HHBA-5101BK-01)
15. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
16. HP NetServer LC2000 is only supported with two processors. Uni-Processor configurations are not supported
17. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
18. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
19. Requires QLogic driver v6.04.02 and BIOS v1.34.
20. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
21. Host must be offline for interfamily Symmetrix microcode upgrade.
22. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
23. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN];817789
24. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
25. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
26. GAB disks (membership and service group heartbeat disks) are not supported.

IBM

IBM – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	**xSeries x255**	**Microsoft Windows 2000 Datacenter SP3[3]**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2340-E-SP**		
2	**xSeries: x235, x345**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E LP9802DC-E, LP982-E,** **IBM 19K1246(QLA2310)[8], QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**		
3	**xSeries: X342, x360**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **IBM: 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]**		
4	**xSeries: X330, X335, X340 (4500R), x230, x232, x240, x250, x350 (6000R)**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **IBM: 19K1246(QLA2310)[8], 24P0960(QLA2340)[16];** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**		
5	**xSeries x370**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E LP9802DC-E, LP982-E,** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**		

IBM – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
6	**xSeries: x440, x445**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2340-E-SP, QLA2342-E-SP**		
7	**xSeries x255**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E. LP982-E:** **IBM 24P0960(QLA2340)[16];** **QLogic QLA2342-E-SP**		
8	Netfinity: 6000R, 8500	Microsoft Windows 2000 Server SP4	Microsoft MSCS[2]	HA: 2	Adaptec AHA-2944UW[1]		
9	Netfinity 6000R	Microsoft Windows 2000 Server SP4	Microsoft MSCS[2, 6]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E. LP9802-E. LP9802DC-E, LP982-E; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		
10	Netfinity 8500	Microsoft Windows 2000 Server SP4	Microsoft MSCS[2, 6]	HA: 2	QLogic: QLA2300F-E-SP, QLA2310F-E-SP		
11	Netfinity 6000R	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[2, 6]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E. LP982-E; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]; QLogic: QLA2200F-EMC, QLA2300F-E-SP. QLA2340-E-SP. QLA2342-E-SP	FC-AL, FC-SW	
12	Netfinity 8500	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[2, 6]	HA: 2	QLogic QLA2300F-E-SP	FC-AL, FC-SW	
13	**xSeries x255**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E). LP9002DC-E:** **IBM 19K1246(QLA2310)[8]**	FC-AL, FC-SW	
14	**xSeries: x440, x445**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9002-E (LP9002L-E). LP9002DC-E:** **IBM: 19K1246(QLA2310)[8]. 24P0960(QLA2340)[16];** **QLogic QLA2310F-E-SP**	FC-AL, FC-SW	
15	**xSeries: x235, x345**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4:** **Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**IBM 24P0960(QLA2340)[16]**	FC-AL, FC-SW	
6	**xSeries x370**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3] SP4,** **Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Server SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**IBM: 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]**	FC-AL, FC-SW	
17	xSeries: X342, x360	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Server SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
18	xSeries x255	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3] SP4:** **Microsoft Windows 2000 Datacenter: SP2[3], SP4:** **Microsoft Windows 2000 Server SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2340-E-SP**	FC-AL, FC-SW	
19	xSeries x235 x345	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3] SP4** **Microsoft Windows 2000 Datacenter SP4 Server SP2[3] Server SP3[3], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E). LP9002DC-E. LP9802-E, LP9802DC-E. LP982-E** **IBM 19K1246(QLA2310)[8];** **QLogic QLA2310F-E-SP QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	

IBM – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
20	**xSeries: X342, x360**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **IBM: 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]**	FC-AL, FC-SW	
21	**xSeries: X330, X335, X340 (4500R), x230, x232, x240, x250, x350 (6000R)**	**Microsoft Windows 2000 Advanced Server, SP2[3], SP3[3], SP4,** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **IBM: 19K1246(QLA2310)[8], 24P0960(QLA2340)[16];** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
22	**xSeries x370**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
23	**xSeries: x440, x445**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[9], LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
24	**xSeries x255**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E, LP982-E;** **IBM 24P0960(QLA2340)[16];** **QLogic QLA2342-E-SP**	FC-AL, FC-SW	
25	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7100	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 6]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
26	Netfinity: 5600, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x235, x240, x250, **x345**, x350 (6000R), **x360**, x440, **x445**	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 6]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
27	Netfinity 8500R: **xSeries x255**	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 6]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
28	Netfinity 8500	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 6]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
29	xSeries x370	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 6]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
30	Netfinity 7000 M10[5]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4, Microsoft Windows 2000 Datacenter SP4 Server SP4	Microsoft MSCS[2, 6]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC. QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
31	xSeries x370[4]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4 Microsoft Windows 2000 Datacenter SP4, Server SP4	Microsoft MSCS[2, 6]	HA: 2	IBM 00N6881 (QLA2200)[10]	FC-AL, FC-SW	

IBM – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
32	Netfinity 7000 M10[4, 5]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 6]	HA: 2	IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8] 24P0960(QLA2340)[16]	FC-AL, FC-SW	
33	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[5], 7100	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[14, 15]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8] 24P0960(QLA2340)[16]; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
34	Netfinity: 5600, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x235, x240, x250, **x345**, x350 (6000R), **x360**, x370, x440, **x445**	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[14, 15]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8] 24P0960(QLA2340)[16]; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
35	Netfinity 8500R; **xSeries x255**	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[14, 15]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8] 24P0960(QLA2340)[16]; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
36	xSeries: X330[4], X335, X340 (4500R)[4]	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato LAAM (Legato Cluster) 4.7	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8] 24P0960(QLA2340)[16]	FC-AL, FC-SW	
37	xSeries: X330[4], X335, X340 (4500R)[4], x440[4], **x445**	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato LAAM (Legato Cluster) 4.8	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8] 24P0960(QLA2340)[16]	FC-AL, FC-SW	
38	xSeries: X330[4], X335, X340 (4500R)[4], x440[4], **x445**	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato LAAM (Legato Cluster) 4.8.1		Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8] 24P0960(QLA2340)[16]	FC-AL, FC-SW	
39	xSeries x370	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Oracle 9i RAC 9.2.0.1.0[12]	RAC: 8	QLogic QLA2200F-EMC	FC-AL, FC-SW	See[11]
40	xSeries x370	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Oracle 9i RAC 9.2.0.1.0[12, 13]	RAC: 8	IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8] 24P0960(QLA2340)[16]	FC-AL, FC-SW	See[11]
41	xSeries: X330, X335, X340 (4500R), X342, x230, x235, x240, x250, **x345**, x350 (6000R), **x360**, x440, **x445**	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Veritas Cluster Server (VCS) 2.0[17]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8] 24P0960(QLA2340)[16]; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
42	**xSeries x255**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP4**	**Veritas Cluster Server (VCS) 2.0[17]**	HA: 4	**Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **IBM: 00N6881 (QLA2200)[10],** **19K1246(QLA2310)[8]** **24P0960(QLA2340)[16];** **QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
43	xSeries x370	Microsoft Windows 2000 Advanced Server, SP2[3], SP4	Veritas Cluster Server (VCS) 2.0[17]	HA: 4	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E, IBM: 19K1246(QLA2310)[8], 24P0960(QLA2340)[16]; QLogic: QLA2200F-EMC, QLA2300F-E-SP, QLA2310F-E-SP QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
44	xSeries x370[4]	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Veritas Cluster Server (VCS) 2.0[17]	HA: 4	IBM 00N6881 (QLA2200)[10]	FC-AL, FC-SW	
45	**xSeries x255**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]** **Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP**	FC-AL, FC-SW	
46	Netfinity 8500R **xSeries x255**	Microsoft Windows 2000 Server SP4	Microsoft MSCS[2, 6]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	

IBM – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
47	Netfinity 8500R; xSeries: x370, x440, **x445**	Microsoft Windows 2000: Advanced Server SP3[3], Datacenter SP2[3], Datacenter SP3[3], Datacenter SP4, Server SP4	Microsoft MSCS[2, 6]	HA: 4	IBM: 00N6881 (QLA2200)[10], 19K1246(QLA2310)[8] 24P0960(QLA2340)[16]	FC-AL, FC-SW	
48	**xSeries x255**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP**	FC-AL[7], FC-SW	
49	Netfinity: 6000R, 8500, 8500R; **xSeries x255**	Microsoft Windows 2000 Advanced Server, SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[2, 6]	HA: 2	QLogic QLA2310F-E-SP	FC-AL[7], FC-SW	
50	Netfinity 8500R; **xSeries x255**	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[14, 15]	HA: 4	QLogic QLA2310F-E-SP	FC-AL[7], FC-SW	
51	**xSeries x255**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP4**	**Veritas Cluster Server (VCS) 2.0[17]**	HA: 4	**QLogic QLA2310F-E-SP**	FC-AL[7], FC-SW	
52	**eServer BladeCenter HS20 (Model 8678)[4, 20]**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS[2, 6, 18]**	HA: 4	**IBM HS20 FC Expansion card 48P7061[19]**	**FC-SW**	
53	Netfinity: 6000R, 8500	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[2]	HA: 2	Adaptec AHA-2944UW[1]	UWD	
54	Netfinity: 5000[4], 5500[4], 5500 M10[4], 5500 M20[4], 5600[4], 7000[4], 7000 M10[4, 5], 7100[4], 7600[4], 8500R[4]; xSeries: X330[4], X335, X340 (4500R)[4], X342[4], x230, x240[4], x250[4], x350 (6000R)[4], x370[4]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2]	HA: 2	Adaptec AHA-2944UW[1]	UWD	

1. Requires Legacy PCI slot (not available on new servers.)
2. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
5. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
6. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
7. Supported by direct attach only
8. This HBA is equivalent to the qLogic QLA2310.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
10. (QLA2200) For IBM xSeries and Netfinity servers only.
11. Symmetrix 8000 Series only.
12. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0
. VxVm not supported. PowerPath 3.0 supported.
13. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0.
VxVM not supported.
PowerPath 3.0 supported.
14. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
15. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
16. This HBA is equivalent to the qLogic QLA2340.
17. GAB disks (membership and service group heartbeat disks) are not supported.
18. **Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.**
19. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"**

This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.
EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.

NCR

NCR – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**Worldmark 4500, 45xx, 4700, 4850, 4900, 4950, 5100 Series, 5150, 5250, 5300, 5350, 8550**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Server: SP2[1], SP3[1] SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
2	Worldmark 47XX, 48XX, 52XX, S50	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Microsoft MSCS	HA: 4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	
3	Worldmark 47XX, 48XX, 52XX, S50	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	
4	Worldmark 47XX, 48XX, 52XX, S50	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP4, Server SP2[1], Server SP3[1], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

NEC

NEC – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**Express 5800: 120Rd–1, 120Rf–2 140Hd 140Rc–4**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Server: SP2[1] SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9002–E (LP9002L–E), LP9002DC–E, LP9802–E, LP9802DC–E, LP982–E;** **QLogic: QLA2310F–E–SP, QLA2340–E–SP, QLA2342–E–SP**	
2	**Express 5800: 320La[3], 320La–R[3] 320Lb[3] 320Lb–R[3], 330Ma–R[3], 330Mb–R[3], 340Ha–R[3]**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP4**	**NEC Cluster–Pro V6.0**	**HA: 2**	**Emulex LP850–EMC; NEC: N8190–105[2] N8503–200, N8803–031 (QLA2310F)**	
3	**Express 5800: 120Rd–1, 120Rf–2 140Hd 140Rc–4**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]**	**Microsoft MSCS**	**HA: 4**	**Emulex LP8000–EMC[4]**	
4	**Express 5800 180Rc–4**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000–EMC[4], LP9002–E (LP9002L–E), LP9002DC–E, LP9802–E, LP9802DC–E, LP982–E;** **QLogic: QLA2310F–E–SP, QLA2340–E–SP, QLA2342–E–SP**	
5	**Express 5800: 120Rd–1, 120Rf–2, 140Hd 140Rc–4**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex LP8000–EMC[4]**	FC–AL, FC–SW
6	**Express 5800 180Rc–4**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000–EMC[4], LP9002–E (LP9002L–E), LP9002DC–E, LP9802–E, LP9802DC–E, LP982–E;** **QLogic: QLA2340–E–SP, QLA2342–E–SP**	FC–AL, FC–SW
7	Express 5800: **120Md, 120Ra–2, 120Rc–2, 120Rd–1**, 120Rd–2, **120Rf–2, 140Ha**, 140Hb, **140Hd, 140Ma**, 140Ra–4, 140Ra–7, 140Rb–4, **140Rc–4**, 180Ha, 180Rb–7, 180Rc–4	Microsoft Windows 2000 Advanced Server, SP2[1], SP4	NEC Cluster–Pro V6.0	HA: 2	Emulex LP850–EMC; NEC: N8190–105[2], N8503–200	FC–AL, FC–SW
8	**Express 5800 180Rc–4**	**Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F–E–SP**	FC–AL, FC–SW
9	**Express 5800 180Rc–4**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F–E–SP**	FC–AL[5], FC–SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.
   Bus Enumeration Issue Causes Problems using SYMCLI SCSI bus enumeration of disks will change depending on cold boot or warm boot. This causes symcli commands to fail because the path is changed and SYMCLI can no longer communicate with the Symmetrix.

   By "shutdown" and booting system, internal disks are assigned first, followed by Symmetrix disks.
   By "restart" the system, Symmetrix disks are assigned first, followed by internal disks. Drive letter are not changed in both cases.
   The workaround is to perform "symcfg discover" after rebooting.
4. **The LP8000–EMC HBA has a permanent GBIC, and does not have copper cable support.**
5. Supported by direct attach only

Unisys

Unisys – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	ES7000/100 ES7000/200	Microsoft Windows 2000 Advanced Server SP3[4]	Microsoft MSCS[2, 3]	HA: 4	Emulex: LP9002–E (LP9002L–E), LP9002DC–E	
2	**ES7000/100 ES7000/200**	**Microsoft Windows 2000 Advanced Server: SP2[4] SP3[4] SP4,** **Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4,** **Microsoft Windows 2000 Server SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex. LP9802–E, LP9802DC–E, LP982–E;** **QLogic: QLA2310F–E–SP QLA2340–E–SP, QLA2342–E–SP**	
3	**ES7000/230 ES7000/500**	**Microsoft Windows 2000 Advanced Server: SP2[4] SP3[4] SP4,** **Microsoft Windows 2000 Datacenter SP2[4] SP3[4] SP4,** **Microsoft Windows 2000 Server SP2[4] SP3[4] SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F–E–SP, QLA2340–E–SP, QLA2342–E–SP**	
4	**ES7000/100 ES7000/200**	**Microsoft Windows 2000 Advanced Server SP2[4] SP3[4], SP4** **Microsoft Windows 2000 Server SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex LP8000–EMC[1]**	
5	**ES7000/230 ES7000/500**	**Microsoft Windows 2000 Advanced Server, SP2[4], SP3[4], SP4,** **Microsoft Windows 2000 Server: SP2[4] SP3[4] SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex LP8000–EMC[1], LP9002–E (LP9002L–E) LP9002DC–E**	

Unisys – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
6	**ES7000/100; ES7000/200**	**Microsoft Windows 2000 Advanced Server: SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E**	
7	**ES7000/230; ES7000/500**	**Microsoft Windows 2000 Datacenter: SP2[4], SP3[4]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E, LP982-E**	
8	ES2025[5]	Microsoft Windows 2000 Server SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[4], FCH20113-P64 (LP8000-EMC, LP8000-F1)[4]	
9	ES7000/100; ES7000/200	Microsoft Windows 2000: Advanced Server SP3[4], Server SP4	Microsoft MSCS[2, 3]	HA: 4	Emulex LP8000-EMC[1]	
10	ES7000/230; ES7000/500	Microsoft Windows 2000: Advanced Server SP3[4] Server SP4	Microsoft MSCS[2, 3]	HA: 4	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E	
11	ES2024[5]; ES2043[5]; ES2045[5]; ES2085[5]; ES5024[5]; ES5043[5]; ES5044[5]; ES5045[5]; ES5085[5]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[4], FCH20113-P64 (LP8000-EMC, LP8000-F1)[4]	FC-AL
12	ES2025[5]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[4], FCH20113-P64 (LP8000-EMC, LP8000-F1)[4]	FC-AL, FC-SW
13	ES7000/500; ES7000/520; ES7000/530; ES7000/540	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	Microsoft MSCS	HA: 2	Unisys FCH732213-P64 (LP9002L-F2)	FC-AL, FC-SW
14	**ES7000/230; ES7000/500**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E, LP982-E**	FC-AL, FC-SW
	ES7000/100[5]; ES7000/200[5]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW
16	ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[4], FCH20113-P64 (LP8000-EMC, LP8000-F1)[4]	FC-AL, FC-SW
17	ES7000/230[5]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[4], FCH20113-P64 (LP8000-EMC, LP8000-F1)[4], FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW
18	ES7000/100; ES7000/200	Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4	Microsoft MSCS[2, 3]	HA: 4	Emulex LP8000-EMC[1]	FC-AL, FC-SW
19	ES7000/230; ES7000/500	Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4	Microsoft MSCS[2, 3]	HA: 4	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW
20	ES7000/100; ES7000/200	Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Server SP4	Microsoft MSCS[2, 3]	HA: 4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW
21	**ES7000/100; ES7000/200**	**Microsoft Windows 2000: Advanced Server SP2[4], Datacenter SP2[4], Datacenter SP3[4], Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E**	FC-AL, FC-SW
22	ES7000/100; ES7000/200; ES7000/230; ES7000/500	Microsoft Windows 2000: Advanced Server SP3[4], Datacenter SP2[4], Datacenter SP3[4], Datacenter SP4, Server SP4	Microsoft MSCS[2, 3]	HA: 4	Unisys FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW
23	ES7000/100[5]; ES7000/200[5]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[4], FCH20113-P64 (LP8000-EMC, LP8000-F1)[4]	FC-AL[6], FC-SW

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
3. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server
   Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
   Supported by direct attach only

Microsoft Windows 2003

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Dell

Dell – Microsoft Windows 2003						
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650, 8450	Microsoft Windows 2003 DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E LP9802DC-E, LP982-E QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL FC-SW

1 Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only
2 EMC strongly recommends that HBAs of different vendors not be used in the same host server
3 PowerPath is not supported.
4 The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Primergy: B210, C200, E200, F200, F250[5], H200, H250[5], H400, H450, K400, L200, N200, N400, N800, P200, P250, R450, T850	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. Must use standard PCI 32bit/33MHz slot for SCSI

HPQ

HPQ – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Proliant: **8500**, BL40p, DL320[5], DL360[5], DL360(G2)[5], DL360(G3), **DL380[5]**, **DL380(G2)[5]**, **DL380(G3)**, DL560, DL580[5], DL580(G2)[5], **DL580(G3)**, DL740, DL760[5], DL760 (G2), ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML570(G2), ML750[5]	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
2	Proliant BL20p (G2)[8, 9]	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	HPQ Dual-port mezzanine controller card[6, 7]	FC-AL, FC-SW
3	Proliant: **8500**, BL40p, DL320[5], DL360[5], DL360(G2)[5], DL360(G3), **DL380[5]**, **DL380(G2)[5]**, **DL380(G3)**, DL560, DL580[5], DL580(G2)[5], **DL580(G3)**, DL740, DL760[5], DL760 (G2), ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML570(G2), ML750[5]	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)	FC-SW

1. PowerPath is not supported.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
6. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
8. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
9. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.

IBM

IBM – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	xSeries: X330, X335, X340 (4500R), X342, x230, x232, x235, x240, x250, **x255**, **x345**, x350 (6000R), **x360**, x370, x440, **x445**	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
2	**eServer BladeCenter HS20 (Model 8678)[11]**	**Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]**	**Microsoft MSCS[7, 8, 9]**	HA: 4	**IBM HS20 FC Expansion card 48P7061[10]**	**FC-SW**

1. PowerPath is not supported.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. This HBA is equivalent to the qLogic QLA2340
6. This HBA is equivalent to the qLogic QLA2310.
7. **Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.**
8. **MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.**
9. **Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.**
10. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"**

    This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.
11. **EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.**

NCR

NCR – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Worldmark 4500 45xx 4700 47XX 4850 48XX, 4900, 4950 5100 Series 5150, 5250, 52XX, 5300, 5350, 8550 S50	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server

3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

NEC

NEC – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Express 5800: 120Rd-1, 120Rf-2, 140Hd, 140Rc-4, 180Rc-4	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Unisys

Unisys – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	ES7000/100; ES7000/200; ES7000/230; ES7000/500	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Microsoft Windows NT

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.NOTE: Windows NT installation will fail immediately after installing Network Services for hosts that use an Intel Network Interface Card (NIC).

DG

DG – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	AViiON: AV8900, AV8950R	Microsoft Windows NT 4.0 SP6A[3, 4]	Microsoft MSCS[6, 7]	HA: 2	Emulex LP9002-E (LP9002L-E); QLogic QLA2310F-E-SP	FC-AL, FC-SW	
2	AViiON: AV1400, AV2800, AV3704, AV8600	Microsoft Windows NT 4.0 SP6A[3, 4]	Microsoft MSCS[6, 7]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
3	AViiON: AV1400, AV2800, AV3704R, AV8600, AV8900, AV8950R	Microsoft Windows NT 4.0 SP6A[3, 4]	Microsoft MSCS[6, 7]; NCR LifeKeeper Windows NT 1.0[5], 2.0	HA: 2	Emulex: LP8000-EMC[2], LP850-EMC	FC-AL, FC-SW	See[1]

1. HP LXR-PRO8 support has been discontinued.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
   Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
   EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. V1.0 is only qualified on Windows NT 4.0 SP3.
6. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
7. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.

Dell

Dell – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	PowerEdge: 1550, 2300, 2400, 2500, 2550[9], 2600, 2650, 6100, 6300, 6350, 6400, 6450, 6600, 6650, 8450	Microsoft Windows NT 4.0 SP6A[3, 6]	Microsoft MSCS[4, 7]; NCR LifeKeeper Windows NT 1.0[8], 2.0	HA: 2	QLogic QLA2100F-EMC	FC-AL	See[5]
2	PowerEdge: 1550, 1650, 1750, 2400, 2450, 2500, 2550[9], 2600, 2650, 4600, 6300, 6350, 6400, 6450, 6600, 6650, 8450	Microsoft Windows NT 4.0 SP6A[3, 6]	Microsoft MSCS[4, 7]	HA: 2	Emulex LP9002-E (LP9002L-E); QLogic QLA2310F-E-SP	FC-AL, FC-SW	
3	PowerEdge: 2300, 6100	Microsoft Windows NT 4.0 SP6A[3, 6]	Microsoft MSCS[4, 7]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
4	PowerEdge: 1550, 1650, 1750, 2300, 2400, 2500, 2550[9], 2600, 6100, 6300, 6350, 6400, 6450, 6600, 6650, 8450	Microsoft Windows NT 4.0 SP6A[3, 6]	Microsoft MSCS[4, 7]; NCR LifeKeeper Windows NT 1.0[8], 2.0	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[12], LP850-EMC, HPQ: A5246A (Agilent HHBA-5000A)[3], D8602A (Agilent HHBA-5101B)[3, 11], D8602B (Agilent HHBA-5101C)[3, 10], QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[5]

Dell – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
5	PowerEdge 2650	Microsoft Windows NT 4.0 SP6A[3, 6]	Microsoft MSCS[4, 7]; NCR LifeKeeper Windows NT: 1.0[8], 2.0	HA: 2	HPQ: A5246A (Agilent HHBA-5000A)[3], D8602A (Agilent HHBA-5101B)[3, 11], D8602B (Agilent HHBA-5101C)[3, 10]; QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[5]
6	PowerEdge: 2300, 2400, 6100, 6300, 6350, 6400, 8450	Microsoft Windows NT 4.0 SP6A[3]	Microsoft MSCS[4]	HA: 2	Adaptec AHA-2944UW[2]	UWD	See[1]

1. Multi-port SCSI (preferred) or Common SCSI Bus.
2. Requires Legacy PCI slot (not available on new servers.)
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
5. HP LXR-PRO8 support has been discontinued.
6. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
7. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
8. V1.0 is only qualified on Windows NT 4.0 SP3.
9. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
10. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
11. (HHBA-5101BK-01)
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Primergy: H400, H450, K400, N400, N800, R450	Microsoft Windows NT 4.0 SP6A[3, 8]	Microsoft MSCS[4, 7]	HA: 2	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	
2	Primergy: B210, C200, E200, F200, F250[5], H400, H450, K400, L200, N200, N400, N800, P200, P250, RX100	Microsoft Windows NT 4.0 SP6A[3, 8]	Microsoft MSCS[4, 7]; NCR LifeKeeper Windows NT: 1.0[10], 2.0	HA: 2	Emulex LP8000-EMC[9]	FC-AL, FC-SW	See[6]
3	Primergy: RX200, RX300, TX200, TX300	Microsoft Windows NT 4.0 SP6A[3, 8]	Microsoft MSCS[4, 7]; NCR LifeKeeper Windows NT: 1.0[10], 2.0	HA: 2	Emulex: LP850-EMC, LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW	See[6]
4	Primergy: H250[5], H400, K400, N400	Microsoft Windows NT 4.0 SP6A[3]	Microsoft MSCS[4]	HA: 2	Adaptec AHA-2944UW[2]	UWD	See[1]

1. Multi-port SCSI (preferred) or Common SCSI Bus.
2. Requires Legacy PCI slot (not available on new servers.)
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
5. Must use standard PCI 32bit/33MHz slot for SCSI
6. HP LXR-PRO8 support has been discontinued.
7. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
8. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
10. V1.0 is only qualified on Windows NT 4.0 SP3.

HPQ

HPQ – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	**Proliant DL380(G3)**	**Microsoft Windows NT 4.0 SP6A[3]**	**Microsoft MSCS[4]**	**HA: 2**	**Adaptec AHA-2944UW[2]**		**See[1]**
2	**Proliant DL380(G3)**	**Microsoft Windows NT 4.0 SP6A[3, 10]**	**Microsoft MSCS[4, 9]; NCR LifeKeeper Windows NT: 1.0[11], 2.0**	**HA: 2**	**HPQ: A5246A (Agilent HHBA-5000A)[3], D8602A (Agilent HHBA-5101B)[3, 14], D8602B (Agilent HHBA-5101C)[3, 13]**		**See[8]**
3	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[5, 7], 1850[5], 2500[5], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6400R[5], 6500[5, 6], 7000[5, 6], 8000[5, 6], 850[5], 8500[5], DL320[5], DL360[5], DL360(G2)[5], DL360(G3), **DL380[5], DL380(G2)[5], DL380(G3)**, DL580[5], DL580(G2)[5], **DL580(G3)**, DL760[5], DL760 (G2), ML350[5], ML370[5], ML370(G2)[5], **ML370(G3)** ML530[5], ML530(G2)[5], ML570[5], ML570(G2)[16], ML750[12]	Microsoft Windows NT 4.0 SP6A[3, 10]	Microsoft MSCS[4, 9]; NCR LifeKeeper Windows NT: 1.0[11], 2.0	HA: 2	QLogic QLA2100F-EMC	FC-AL	See[8]
4	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 2500[5], 6400R[5], 8500[5], DL320[5], DL360[5], DL360(G2)[5], DL360(G3), **DL380[5], DL380(G2)[5], DL380(G3)**, DL560, DL580[5], DL580(G2)[5], **DL580(G3)** DL740, DL760[5], DL760 (G2), ML350[5], ML370[5], ML370(G2)[5], **ML370(G3)**, ML530[5], ML530(G2)[5], ML570[5], ML570(G2)[16]	Microsoft Windows NT 4.0 SP6A[3, 10]	Microsoft MSCS[4, 9]	HA: 2	Emulex LP9002-E (LP9002L-E), QLogic QLA2310F-E-SP	FC-AL, FC-SW	
5	Netserver LH: (LH Pro), 3, 4, II; Netserver: LX PRO, LXR PRO, LXR PRO8; Proliant: 1600[5, 7], 1850[5], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6500[5, 6], 7000[5, 6], 8000[5, 6], 850[5]	Microsoft Windows NT 4.0 SP6A[3, 10]	Microsoft MSCS[4, 9]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
6	**Proliant DL380(G3)**	**Microsoft Windows NT 4.0 SP6A[3, 10]**	**Microsoft MSCS[4, 9]; NCR LifeKeeper Windows NT: 1.0[11], 2.0**	HA: 2	**Emulex LP7000E-EMC, LP8000-EMC[15], LP850-EMC**; **HPQ 176479-B21, QLogic QLA2200F-EMC, QLA2202F-EMC**	FC-AL, FC-SW	**See[8]**

HPQ – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
7	Proliant: 1850[5], 2500[5], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6400R[5], 6500[5, 6], 7000[5, 6], 8000[5, 6], 850[5], 8500[5], DL320[5], DL360[5], DL360(G2)[5], DL360(G3), **DL380[5]**, **DL380(G2)[5]**, DL580[5], DL580(G2)[5], **DL580(G3)**, DL760[5], DL760 (G2), ML350[5], ML370[5], ML370(G2)[5], **ML370(G3)**, ML530[5], ML530(G2)[5], ML570[5], ML570(G2)[16], ML750[12]	Microsoft Windows NT 4.0 SP6A[3, 10]	Microsoft MSCS[4, 9], NCR LifeKeeper Windows NT: 1.0[11], 2.0	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[15], LP850-EMC; HPQ: 176479-B21, A5246A (Agilent HHBA-5000A)[3], D8602A (Agilent HHBA-5101B)[3, 14], D8602B (Agilent HHBA-5101C)[3, 13]; QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[8]
8	Proliant 1600[5, 7]	Microsoft Windows NT 4.0 SP6A[3, 10]	Microsoft MSCS[4, 9], NCR LifeKeeper Windows NT: 1.0[11], 2.0	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[15], LP850-EMC; HPQ: 176479-B21, A5246A (Agilent HHBA-5000A)[3]; QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[8]
9	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	Microsoft Windows NT 4.0 SP6A[3, 10]	Microsoft MSCS[4, 9], NCR LifeKeeper Windows NT: 1.0[11], 2.0	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[15], LP850-EMC; HPQ: A5246A (Agilent HHBA-5000A)[3], D8602A (Agilent HHBA-5101B)[3, 14], D8602B (Agilent HHBA-5101C)[3, 13]; QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[8]
10	Proliant DL560	Microsoft Windows NT 4.0 SP6A[3, 10]	Microsoft MSCS[4, 9], NCR LifeKeeper Windows NT: 1.0[11], 2.0	HA: 2	Emulex: LP8000-EMC[15], LP850-EMC; QLogic QLA2200F-EMC	FC-AL, FC-SW	See[8]
11	Proliant DL740	Microsoft Windows NT 4.0 SP6A[3, 10]	Microsoft MSCS[4, 9], NCR LifeKeeper Windows NT: 1.0[11], 2.0	HA: 2	Emulex: LP8000-EMC[15], LP850-EMC; QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[8]
12	Netserver LH: (LH Pro), 3000, 4, 6000, II, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8: Proliant: 1600[5, 7], 1850[5], 2500[5], 3000[5], 5000[5], 5500[5, 6], 6000[5, 6], 6400R[5], 6500[5, 6], 7000[5, 6], 8000[5, 6], 850[5], 8500[5], DL320[5], DL360[5], **DL380[5]**, **DL380(G2)[5]**, DL580[5], DL580(G2)[5], **DL580(G3)**, DL760[5], DL760 (G2), ML350[5], ML370[5], ML370(G2)[5], **ML370(G3)**, ML530[5], ML570[5]	Microsoft Windows NT 4.0 SP6A[3]	Microsoft MSCS[4]	HA: 2	Adaptec AHA-2944UW[2]	UWD	See[1]

1. Multi-port SCSI (preferred) or Common SCSI Bus.
2. Requires Legacy PCI slot (not available on new servers.)
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
5. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
6. Includes both Pentium PRO and XEON models
7. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
8. HP LXR-PRO8 support has been discontinued.
9. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control
10. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
11. V1.0 is only qualified on Windows NT 4.0 SP3.
12. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
13. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP. (HHBA-5101BK-01)
14. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
15. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).

IBM

IBM – Microsoft Windows NT							
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Netfinity 6000R, 8500 xSeries: x440, **x445**	Microsoft Windows NT 4.0 SP6A[3, 8]	Microsoft MSCS[4, 12]	HA: 2	Emulex LP9002-E (LP9002L-E); IBM: 00N6881 (QLA2200)[11], 19K1246(QLA2310)[13], 24P0960(QLA2340)[14]; QLogic QLA2310F-E-SP	FC-AL FC-SW	
2	Netfinity 5600, 7600, 8500R; xSeries: X330, X335, X340 (4500R), X342 x230, x240, x250, x350 (6000R), **x360**, x370	Microsoft Windows NT 4.0 SP6A[3, 8]	Microsoft MSCS[4, 12]	HA: 2	Emulex LP9002-E (LP9002L-E); QLogic QLA2310F-E-SP	FC-AL FC-SW	
3	Netfinity 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[5], 7100, 7600, 8500R, xSeries: X335, X340 (4500R), x250, x350 (6000R), x370	Microsoft Windows NT 4.0 SP6A[3, 8]	Microsoft MSCS[4, 12]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC; IBM: 00N6881 (QLA2200)[10, 11]; QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[6]
4	xSeries: X330, X342, x230, x240, **x360**	Microsoft Windows NT 4.0 SP6A[3, 8]	Microsoft MSCS[4, 12]	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9] LP850-EMC; IBM: 00N6881 (QLA2200)[10, 11], 19K1246(QLA2310)[13], 24P0960(QLA2340)[14]; QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[6]
5	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[5], 7100, 7600, 8500R xSeries: X335, X340 (4500R), x250, x350 (6000R), x370	Microsoft Windows NT 4.0 SP6A[3, 8]	Microsoft MSCS[4, 12]	HA: 2	IBM: 19K1246(QLA2310)[13], 24P0960(QLA2340)[14]	FC-AL, FC-SW	

IBM – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
6	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[5], 7100	Microsoft Windows NT 4.0 SP6A[3, 8]	Microsoft MSCS[4, 12]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
7	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[5], 7100, 7600, 8500R xSeries: X330, X335, X340 (450CR) X342, x230, x240, x250, x350 (6000R) **x360** x370	Microsoft Windows NT 4.0 SP6A[3, 8]	NCR LifeKeeper Windows NT: 1.0[7], 2.0	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[9], LP850-EMC; IBM: 00N6881 (QLA2200)[10, 11], 19K1246(QLA2310)[13], 24P0960(QLA2340)[14]; QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[6]
8	Netfinity 8500R	Microsoft Windows NT 4.0 SP6A[3]	Microsoft MSCS[4]	HA: 2	Adaptec AHA-2944UW[2]	FWD, UWD	See[1]
9	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[5], 7100, 7600, xSeries: X330, X335, X340 (450CR) X342, x230, x240, x250, x350 (6000R), x370	Microsoft Windows NT 4.0 SP6A[3]	Microsoft MSCS[4]	HA: 2	Adaptec AHA-2944UW[2]	UWD	See[1]

1. Multi-port SCSI (preferred) or Common SCSI Bus
2. Requires Legacy PCI slot (not available on new servers.)
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
5. This server only supports 5 Volt HBAs. qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
6. HP LXR-PRO8 support has been discontinued
7. V1.0 is only qualified on Windows NT 4.0 SP3
8. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
10. For IBM Netfinity and xSeries Intel servers only
11. (QLA2200) For IBM xSeries and Netfinity servers only
12. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
13. This HBA is equivalent to the qLogic QLA2310
    This HBA is equivalent to the qLogic QLA2340

NCR

NCR – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Worldmark: 4300, 4380, 4400	Microsoft Windows NT 4.0 SP6A[3, 9]	Microsoft MSCS[4, 8]; NCR LifeKeeper Windows NT: 1.0[6], 2.0	HA: 2	QLogic QLA2100F-EMC	FC-AL	See[7]
2	Worldmark: 4300, 4380, 4400	Microsoft Windows NT 4.0 SP6A[3, 9]	Microsoft MSCS[4, 8]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
3	Worldmark: 4300, 4380, 4400	Microsoft Windows NT 4.0 SP6A[3, 9]	Microsoft MSCS[4, 8]; NCR LifeKeeper Windows NT: 1.0[6], 2.0	HA: 2	Emulex: LP7000E-EMC, LP8000-EMC[12], LP850-EMC; HPQ: A5246A (Agilent HHBA-5000A)[3], D8602A (Agilent HHBA-5101B)[3, 11], D8602B (Agilent HHBA-5101C)[3, 10]; QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[7]
4	Worldmark: 4300, 4380, 4400	Microsoft Windows NT 4.0 SP6A[3]	NCR LifeKeeper Windows NT: 1.0[6], 2.0	HA: 16	NCR 53C720-Q720	FWD	See[5]
5	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX	Microsoft Windows NT 4.0 SP6A[3]	Microsoft MSCS[4]	HA: 2	Adaptec AHA-2944UW[2]	UWD	See[1]
6	Worldmark: 4300, 4380 4400	Microsoft Windows NT 4.0 SP6A[3]	NCR LifeKeeper Windows NT: 1.0[6], 2.0	HA: 16	NCR PQS2.1	UWD	See[5]

1. Multi-port SCSI (preferred) or Common SCSI Bus
2. Requires Legacy PCI slot (not available on new servers.)
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
5. Multi-port SCSI.
6. V1.0 is only qualified on Windows NT 4.0 SP3.
   HP LXR-PRO8 support has been discontinued.
7. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
8. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
9. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
10. (HHBA-5101BK-01)
11. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

NEC

NEC – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	**Express 5800: 320La[7], 320La-R[7], 320Lb[7], 320Lb-R[7], 330Ma-R[7], 330Mb-R[7], 340Ha-R[7]**	**Microsoft Windows NT 4.0 SP6A[2, 3]**	**NEC Cluster-Pro V6.0**	**HA: 2**	**Emulex LP850-EMC: NEC: N8190-105[6], N8503-200 N8803-031 (QLA2310F)**		**See[1]**
2	Express 5800: 140Hb, 140Ra-4	Microsoft Windows NT 4.0 SP6A[2, 3]	Microsoft MSCS[4, 5]	HA: 2	Emulex LP9002-E (LP9002L-E) NEC N8190-105[6]; QLogic QLA2310F-E-SP	FC-AL, FC-SW	
3	Express 5800: **120Md, 120Ra-2 120Rc-2 120Rd-1, 120Rf-2 140Ha**, 140Hb **140Hd 140Ma** 140Ra-4 **140Rc-4**	Microsoft Windows NT 4.0 SP6A[2, 3]	NEC Cluster-Pro V6.0	HA: 2	Emulex LP850-EMC, NEC: N8190-105[6], N8503-200	**FC-AL FC-SW**	See[1]

1. HP LXR-PRO8 support has been discontinued
2. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server
4. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
5. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control
6. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.
7. **Bus Enumeration Issue Causes Problems using SYMCLI SCSI bus enumeration of disks will change depending on cold boot or warm boot. This causes symcli commands to fail because the path is changed and SYMCLI can no longer communicate with the Symmetrix.**

By "shutdown" and booting system, internal disks are assigned first, followed by Symmetrix disks.
By "restart" the system, Symmetrix disks are assigned first, followed by internal disks. Drive letter are not changed in both cases.
The workaround is to perform "symcfg discover" after rebooting.

Unisys

Unisys – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	ES2023; ES2024; ES2025; ES2043; ES2044; ES2045; ES2085; ES5024; ES5043; ES5044; ES5045; ES5085	Microsoft Windows NT 4.0 SP6A[2]	Microsoft MSCS[3]	HA: 2	Unisys PCI 400-1UD (AHA2944UW)		See[1]
2	ES2024; ES2025; ES2043; ES2045; ES2085; ES5024; ES5043; ES5044; ES5045; ES5085; ES7000/100; ES7000/200; ES7000/230; ES7000/500	Microsoft Windows NT 4.0 SP6A[2, 7]	Microsoft MSCS[3, 6]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[2], FCH20113-P64 (LP8000-EMC, LP8000-F1)[2]	FC-AL, FC-SW	See[5]
3	DR/2; DS/2; QR/2; QS/2	Microsoft Windows NT 4.0 SP6A[2, 7]	Microsoft MSCS[3, 6]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[2], FCH20113-P64 (LP8000-EMC, LP8000-F1)[2], PCI 1100-FC (QLA2100), PCI 1120-FC (QLA2100-EMC, QLA2100F)	FC-AL, FC-SW	See[5]
4	DR/2; DS/2; HR/6[4]; HS/6; QR/2; QS/2; XR/6[4]; XS/6	Microsoft Windows NT 4.0 SP6A[2]	Microsoft MSCS[3]	HA: 2	Unisys PCI 400-1UD (AHA2944UW)	UWD	See[1]

1. Multi-port SCSI.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
4. These servers are not supported on Symmetrix 5.0.
5. HP LXR-PRO8 support has been discontinued.
6. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
7. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.

NCR UNIX SVR4 MPRAS

NCR

NCR – NCR UNIX SVR4 MPRAS							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Worldmark: 45xx, 4700, 48XX, 5100 Series, 5150, 52XX	NCR UNIX SVR4 MPRAS 3.02	NCR LifeKeeper FRS V1.0.2[3]	OPS: 4	NCR: 53C720-Q720, PQS2.0, PQS2.1		See[1, 2]
2	Worldmark: 48XX, 52XX	NCR UNIX SVR4 MPRAS 3.02	NCR LifeKeeper FRS V2.0[3]	HA: 16	NCR PQS2.1		See[1, 5]
3	Worldmark: 45xx, 4700, 5100 Series, 5150	NCR UNIX SVR4 MPRAS 3.02	NCR LifeKeeper FRS V2.0[3]	OPS: 4	NCR 53C720-Q720		See[1, 4]
4	Worldmark: 48XX, 52XX	NCR UNIX SVR4 MPRAS 3.02	NCR LifeKeeper FRS V2.0[3]	OPS: 4	NCR: 53C720-Q720, PQS2.0		See[1, 4]
5	Worldmark, 45xx, 4700, 5100 Series, 5150	NCR UNIX SVR4 MPRAS 3.02	NCR LifeKeeper FRS V2.0[3]	OPS: 4	NCR: PQS2.0, PQS2.1		See[1]
6	Worldmark: 45xx, 4700, 48XX, 5100 Series, 5150, 52XX	NCR UNIX SVR4 MPRAS 3.02	NCR Teradata DBS V2R2.02[3]	OPS: 8	NCR: 53C720-Q720, PQS2.0, PQS2.1		See[1, 4]
7	Worldmark 52XX	NCR UNIX SVR4 MPRAS 3.02	NCR Teradata DBS V2R3[3]	HA: 128[6]	NCR HP-PQS		See[1, 4]
8	Worldmark 5150	NCR UNIX SVR4 MPRAS 3.02	NCR Teradata DBS V2R3[3]	HA: 128[6]	NCR: HP-PQS, PQS2.1		See[1, 4]
9	Worldmark 5150	NCR UNIX SVR4 MPRAS 3.02	NCR Teradata DBS V2R4.1[3]	HA: 128[6]	NCR HP-PQS		See[1, 4]
10	Worldmark 52XX	NCR UNIX SVR4 MPRAS 3.02	NCR Teradata DBS V2R4.1[3]	HA: 128[6]	NCR: HP-PQS, PQS2.1		See[1, 4]
11	Worldmark: 4900, 5300	NCR UNIX SVR4 MPRAS 3.02	NCR Teradata DBS V2R4.1[3]	HA: 512	QLogic QLA2204F[7]		
12	Worldmark: 45xx 4700, 5100 Series	NCR UNIX SVR4 MPRAS 3.02	NCR Teradata DBS: V2R3[3], V2R4.1[3]	OPS: 8	NCR HP-PQS		See[1, 4]
13	Worldmark 4950, 5350	NCR UNIX SVR4 MPRAS 3.02	NCR TW 7.0 version V2R5.0		LSI ITI7004G2[8] QLogic QLA2204F[7]		
14	Worldmark 48XX	NCR UNIX SVR4 MPRAS 3.02	NCR Teradata DBS: V2R3[3], V2R4.1[3]	OPS: 8	NCR HP-PQS	U2 LVD	See[1, 4]

1. Shared SCSI bus required for SCSI Ping
2. Common SCSI Bus
3. All Symmetrix configurations intended for MPP Teradata attach must be approved by Engineering.
4. Multi-port SCSI
5. Multi-port SCSI or Common SCSI Bus
6. Teradata
7. Requires driver version 1.08 and BIOS version 1.76 available at http://www.qlogic.com. Packages PKERN302 and PS MBAS302 available from NCR
8. Requires package PSCSI302 Ver 02.10.10.09 or higher available from NCR

Novell Netware

Dell

Dell – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	PowerEdge: 1550, 2300, 2450, 2500, 2550[8], 2600, 2650, 4400, 6100, 6300, 6350, 6450, 6600, 6650, 8450	Novell Netware 5.10: SP5[3, 10, 11], SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2200F-EMC	FC-AL	See[1]
2	PowerEdge: 1550, 2300, 2400, 2450, 2500, 2550[8], 2600, 2650, 4300, 4400, 4600, 6100, 6300, 6350, 6450, 6600, 6650, 8450	Novell Netware: 5.00 SP6A[3, 7], 5.10 SP2A[3], 5.10 SP5[3, 10, 11], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2100F-EMC[9]	FC-AL	See[1]
3	PowerEdge: 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[8], 2600, 2650, 4300, 4400, 4600, 6100, 6300, 6350, 6450, 6600, 6650, 8450	Novell Netware 5.10: SP5[3, 10, 11], SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2202F-EMC[13, 14]	FC-AL, FC-SW	See[1]
4	PowerEdge: 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[8], 2600, 2650, 4300, 4400, 4600, 6100, 6300, 6350, 6450, 6600, 6650, 8450	Novell Netware 6.0: SP1[3, 10, 11], SP2[3, 10, 11], SP3	Novell Netware Cluster Services Server (NCS) v1.6		QLogic: QLA2200F-EMC[13] QLA2310F-E-SP[12], QLA2340-E-SP	FC-AL, FC-SW	See[1]
5	PowerEdge: 1650, 1750, 2400, 4300, 4600	Novell Netware: 5.00 SP6A[3, 7], 5.10 SP2A[3]	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2202F-EMC	FC-AL, FC-SW	See[1]
6	PowerEdge: 1550, 2300, 2450, 2500, 2550[8], 2600, 2650, 4400, 6100, 6300, 6350, 6450, 6600, 6650, 8450	Novell Netware: 5.00 SP6A[3, 7], 5.10 SP2A[3]	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[1]
7	PowerEdge: 1650, 1750, 2400, 4300, 4600	Novell Netware: 5.00 SP6A[3, 7], 5.10 SP2A[3], 5.10 SP5[3, 10, 11], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	See[1]
8	PowerEdge: 1550, 2300, 2450, 2500, 2550[8], 2600, 2650, 4400, 6100, 6300, 6350, 6450, 6600, 6650, 8450	Novell Netware: 5.00 SP6A[3, 7], 5.10 SP2A[3], 5.10 SP5[3, 10, 11], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	See[1]
	PowerEdge: 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[8], 2600, 4300, 4400, 4600, 6100, 6300, 6350, 6450, 6600, 6650, 8450	Novell Netware: 5.00 SP6A[3, 7], 5.10 SP2A[3], 5.10 SP5[3, 10, 11], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 4	Adaptec AHA-2944UW[4, 5, 6], QLogic QLA1041D[2]	UWD	See[1]

1. Multi-port SCSI (preferred).
2. Requires driver 1.27, BIOS 6.26 available at http://www.qlogic.com/support/oem_detail_all.asp?oemid=42,20
3. Maximum number of NWFS volumes that can be mounted is 64.
4. Requires Legacy PCI slot (not available on new servers.)
5. Requires driver 7.30s1, BIOS 2.20. The driver is available from Adaptec.
6. Netware 5.1 SP4 and 6.0 SP1 require driver 8.1 and BIOS 2.20. Requires "SCAN ALL LUNS" in AUTOEXEC.NCF just before the Mount All statement.
7. Requires NWPA.NLM V.3.07A update from Novell website.
8. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
9. Requires driver 4.15g, BIOS 1.39.
10. Powerpath & ATF supported.
11. Novell Storage Services supported.
12. Requires driver 6.50v, BIOS 1.34 available from Qlogic.
13. Requires HBA firmware 1.79 and driver 6.50v.
14. EMC strongly recommends that HBAs of different vendors not be used in the same host server

Fujitsu Siemens

Fujitsu Siemens – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Primergy: 700, H250[4], H400, K400, N400, N800	Novell Netware 6.0: SP1[2, 6, 7], SP2[2, 6, 7], SP3	Novell Netware Cluster Services Server (NCS) v1.6		QLogic: QLA2200F-EMC[5], QLA2310F-E-SP[8], QLA2340-E-SP	FC-AL, FC-SW	See[1]
2	Primergy: 700, H250[4], H400, K400, N400, N800	Novell Netware: 5.00 SP6A[2, 3], 5.10 SP2A[2], 5.10 SP5[2, 6, 7], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2200F-EMC	FC-AL, FC-SW	See[1]

1. Multi-port SCSI (preferred).
2. Maximum number of NWFS volumes that can be mounted is 64.
3. Requires NWPA.NLM V.3.07A update from Novell website.
4. Must use standard PCI 32bit/33MHz slot for SCSI
5. Requires HBA firmware 1.79 and driver 6.50v.
6. Powerpath & ATF supported.
7. Novell Storage Services supported.
8. Requires driver 6.50v, BIOS 1.34 available from Qlogic.

HPQ

HPQ – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	**Proliant DL380(G3)**	**Novell Netware: 5.00 SP6A[5, 6] 5.10 SP2A[5] 5.10 SP5[5, 17, 18] 5.10 SP6**	**Novell Netware Cluster Services Server (NCS) v1.01 SP4**	**HA: 4**	**Adaptec AHA-2944UW[2, 3, 4]**		**See[1]**
2	Netserver LC: 2000 U3[21], 2000r[21] Netserver LH: (LH Pro), 3, 3000, 4, 6000, II Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8, Proliant 1600[9, 11], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 10], 6000[9, 10], 6400R[9], 6500[9, 10], 7000[9, 10], 8000[9, 10], 850[9], 8500, DL360[9], DL360(G2)[9], DL360(G3), **DL380[9], DL380(G2)[9] DL380(G3)** DL560, DL580[9], DL580(G2)[9], **DL580(G3)** ML350[9], ML370[9] ML530[9], ML530(G2)[9], ML570[9], ML570(G2)[22]	Novell Netware 5.10 SP5[5, 17, 18] SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2200F-EMC	FC-AL	See[1]
3	Netserver LH (LH Pro)	Novell Netware 5.00 SP6A[5, 6], 5.10 SP2A[5]	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	HPQ D8602A (Agilent HHBA-5101B)[13, 14, 15]	FC-AL	See[1]

HPQ – Novell Netware

No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
4	Netserver LH: 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	Novell Netware: 5.00 SP6A[5, 6], 5.10 SP2A[5], 5.10 SP5[5, 17, 18]	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	HPQ D8602A (Agilent HHBA-5101B)[13, 14, 15]	FC-AL	See[1]
5	Netserver LC: 2000 U3[21], 2000r[21]; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[9, 11], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 10], 6000[9, 10], 6400R[9], 6500[9, 10], 7000[9, 10], 8000[9, 10], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL360(G3), **DL380[9], DL380(G2)[9], DL380(G3)**, DL560, DL580[9], DL580(G2)[9], **DL580(G3)**, DL760[9], DL760 (G2), ML350[9], ML350(G2)[9], ML370[9], ML370(G2), **ML370(G3)**, ML530[9], ML530(G2)[9], ML570[9], ML570(G2)[22], ML750[7]	Novell Netware: 5.00 SP6A[5, 6], 5.10 SP2A[5], 5.10 SP5[5, 17, 18], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2100F-EMC[12]	FC-AL	See[1]
6	Proliant DL740	Novell Netware 5.10 SP2A[5]	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2202F-EMC	FC-AL, FC-SW	See[1]
7	Netserver LH (LH Pro)	Novell Netware 5.10 SP5[5, 17, 18]	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	HPQ D8602A (Agilent HHBA-5101B)[13, 14, 15]	FC-AL, FC-SW	See[1]
8	Proliant DL740	Novell Netware 5.10: SP2A[5], SP5[5, 17, 18], SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	See[1]
9	Netserver LC: 2000 U3[21], 2000r[21]; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[9, 11], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 10], 6000[9, 10], 6400R[9], 6500[9, 10], 7000[9, 10], 8000[9, 10], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL360(G3), **DL380[9], DL380(G2)[9], DL380(G3)**, DL560, DL580[9], DL580(G2)[9], **DL580(G3)**, DL740, DL760[9], DL760 (G2), ML350[9], ML350(G2)[9], ML370[9], ML370(G2), **ML370(G3)**, ML530[9], ML530(G2)[9], ML570[9], ML570(G2)[22], ML750[7]	Novell Netware 5.10: SP5[5, 17, 18], SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2202F-EMC[14, 20]	FC-AL, FC-SW	See[1]
10	Netserver: LC 2000 U3, LH (LH Pro), LH 3, LH 3000, LH 4, LH 6000, LH II, LH III, LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[9, 11], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 10], 6000[9, 10], 6400R[9], 6500[9, 10], 7000[9, 10], 8000[9, 10], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL360(G3), **DL380[9], DL380(G2)[9], DL380(G3)**, DL560, DL580[9], DL580(G2)[9], **DL580(G3)**, DL740, DL760[9], DL760 (G2), ML350[9], ML350(G2)[9], ML370[9], ML370(G2), **ML370(G3)**, ML530[9], ML530(G2)[9], ML570[9], ML570(G2)[22]	Novell Netware 6.0: SP1[5, 17, 18], SP2[5, 17, 18], SP3	Novell Netware Cluster Services Server (NCS) v1.6		QLogic: QLA2200F-EMC[20] QLA2310F-E-SP[19] QLA2340-E-SP	FC-AL, FC-SW	See[1]
11	**Proliant DL380(G3)**	**Novell Netware 6.0: SP1[5, 17, 18], SP2[5, 17, 18], SP3**	**Novell Netware Cluster Services Server (NCS) v1.6**	HA: 16	**QLogic: QLA2200F-EMC[20] QLA2310F-E-SP[19] QLA2340-E-SP**	FC-AL, FC-SW	**See[1]**
12	Netserver: LH III, LP 2000r; Proliant: DL320[9], DL760[9], DL760 (G2), ML350(G2)[9], ML370(G2), **ML370(G3)**, ML750[7]	Novell Netware: 5.00 SP6A[5, 6], 5.10 SP2A[5]	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2202F-EMC	FC-AL, FC-SW	See[1]
13	Netserver LC: 2000 U3[21], 2000r[21]; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[9, 11], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 10], 6000[9, 10], 6400R[9], 6500[9, 10], 7000[9, 10], 8000[9, 10], 850[9], 8500, DL360[9], DL360(G2)[9], DL360(G3), **DL380[9], DL380(G2)[9], DL380(G3)**, DL560, DL580[9], DL580(G2)[9], **DL580(G3)**, ML350[9], ML370[9], ML530[9], ML530(G2)[9], ML570[9], ML570(G2)[22]	Novell Netware: 5.00 SP6A[5, 6], 5.10 SP2A[5]	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[1]
14	Netserver: LH III, LP 2000r; Proliant: DL320[9], DL760[9], DL760 (G2), ML350(G2)[9], ML370(G2), **ML370(G3)**, ML750[7]	Novell Netware: 5.00 SP6A[5, 6], 5.10 SP2A[5], 5.10 SP5[5, 17, 18], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	See[1]
15	Netserver LC: 2000 U3[21], 2000r[21] Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[9, 11], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 10], 6000[9, 10], 6400R[9], 6500[9, 10], 7000[9, 10], 8000[9, 10], 850[9], 8500, DL360[9], DL360(G2)[9], DL360(G3), **DL380[9], DL380(G2)[9], DL380(G3)**, DL560, DL580[9], DL580(G2)[9], **DL580(G3)**, ML350[9], ML370[9], ML530[9], ML530(G2)[9], ML570[9], ML570(G2)[22]	Novell Netware: 5.00 SP6A[5, 6], 5.10 SP2A[5], 5.10 SP5[5, 17, 18], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	See[1]
16	Netserver LH: (LH Pro), 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	Novell Netware: 5.00 SP6A[5, 6], 5.10 SP2A[5], 5.10 SP5[5, 17, 18], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 4	HPQ A5252A[16]	FWD	See[1]
17	Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 6000; Netserver: LP 2000r, LT 6000R; Proliant: 1600[9, 11], 1850[9], 2500[9], 3000[9], 5000[9], 5500[9, 10], 6000[9, 10], 6400R[9], 6500[9, 10], 7000[9, 10], 8000[9, 10], 850[9], 8500, DL320[9], DL360[9], DL360(G2)[9], DL360(G3), **DL380[9], DL380(G2)[9]**, DL580[9], DL580(G2)[9], **DL580(G3)**, DL760[9], DL760 (G2), ML350[9], ML350(G2)[9], ML370[9], ML370(G2), **ML370(G3)**, ML530[9], ML530(G2)[9], ML570[9], ML570(G2)[22], ML750[7]	Novell Netware: 5.00 SP6A[5, 6], 5.10 SP2A[5], 5.10 SP5[5, 17, 18], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 4	Adaptec AHA-2944UW[2, 3, 4] QLogic QLA1041D[8]	UWD	See[1]
18	Netserver LH: (LH Pro), 4, II, III Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	Novell Netware 5.00 SP6A[5, 6], 5.10 SP2A[5], 5.10 SP5[5, 17, 18], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 4	Adaptec AHA-2944UW[3] QLogic QLA1041D[8]	UWD	See[1]

HPQ – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
19	**Proliant DL380(G3)**	**Novell Netware: 5.00 SP6A[5, 6], 5.10 SP2A[5], 5.10 SP5[5, 17, 18], 5.10 SP6**	**Novell Netware Cluster Services Server (NCS) v1.01 SP4**	HA: 4	**QLogic QLA1041D[8]**	UWD	**See[1]**

1. Multi-port SCSI (preferred).
2. Requires driver 7.30s1. BIOS 2.20. The driver is available from Adaptec.
3. Requires Legacy PCI slot (not available on new servers.)
4. Netware 5.1 SP4 and 6.0 SP1 require driver 8.1 and BIOS 2.20. Requires "SCAN ALL LUNS" in AUTOEXEC.NCF just before the Mount All statement.
5. Maximum number of NWFS volumes that can be mounted is 64
6. Requires NWPA.NLM V.3.07A update from Novell website.
7. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
8. Requires driver 1.27. BIOS 6.26 available at http://www.qlogic.com/support/oem_detail_all.asp?oemid=42,20
9. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
10. Includes both Pentium PRO and XEON models
11. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
12. Requires driver 4.15g. BIOS 1.39.
13. (HHBA-5101BK-01)
14. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
15. Requires driver 2.00E or higher available at http://h20004.www2.hp.com/keeper rnotes/bsdmatrix/matrix51745.html.
16. (Adaptec AHA-2944UW)
17. Powerpath & ATF supported.
18. Novell Storage Services supported.
19. Requires driver 6.50v, BIOS 1.34 available from Qlogic.
20. Requires HBA firmware 1.79 and driver 6.50v.
21. HP NetServer LC2000 is only supported with two processors Uni-Processor configurations are not supported
22. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).

IBM

IBM – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	xSeries: x440, **x445**	Novell Netware 5.10: SP5[5, 10, 11], SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2200F-EMC	FC-AL	See[1]
2	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x240, x250, **x255**, x350 (6000R), **x360**, x370, x440, **x445**	Novell Netware: 5.00 SP6A[5, 7], 5.10 SP2A[5], 5.10 SP5[5, 10, 11], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2100F-EMC[9]	FC-AL	See[1]
3	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x240, x250, **x255**, x350 (6000R), **x360**, x370, x440, **x445**	Novell Netware 5.10: SP5[5, 10, 11], SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2202F-EMC[13, 14]	FC-AL, FC-SW	See[1]
4	xSeries X335	Novell Netware 5.10: SP5[5, 10, 11], SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	See[1]
5	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x240, x250, x350 (6000R), **x360**, x370, x440, **x445**	Novell Netware 6.0: SP1[5, 10, 11], SP2[5, 10, 11], SP3	Novell Netware Cluster Services Server (NCS) v1.6		QLogic: QLA2200F-EMC[13], QLA2310F-E-SP[12], QLA2340-E-SP	FC-AL, FC-SW	See[1]
6	xSeries X335	Novell Netware 6.0: SP1[5, 10, 11], SP2[5, 10, 11], SP3	Novell Netware Cluster Services Server (NCS) v1.6		QLogic: QLA2310F-E-SP[12], QLA2340-E-SP	FC-AL, FC-SW	See[1]
7	Netfinity 8500R; xSeries: X342, **x255**, **x360**	Novell Netware: 5.00 SP6A[5, 7], 5.10 SP2A[5]	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2202F-EMC	FC-AL, FC-SW	See[1]
8	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600; xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R), x370, x440, **x445**	Novell Netware: 5.00 SP6A[5, 7], 5.10 SP2A[5]	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2200F-EMC, QLA2202F-EMC	FC-AL, FC-SW	See[1]
9	Netfinity 8500R; xSeries: X342, **x255**, **x360**	Novell Netware: 5.00 SP6A[5, 7], 5.10 SP2A[5], 5.10 SP5[5, 10, 11], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	See[1]
10	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600; xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R), x370, x440, **x445**	Novell Netware: 5.00 SP6A[5, 7], 5.10 SP2A[5], 5.10 SP5[5, 10, 11], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	See[1]
11	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600, xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R), x370	Novell Netware 5.10: SP5[5, 10, 11], SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2200F-EMC	FC-SW	See[1]
12	Netfinity 8500R	Novell Netware 5.10: SP2A[5], SP5[5, 10, 11], SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 4	Adaptec AHA-2944UW[2, 3, 4]	UWD	See[1]
13	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600, xSeries: X330, X340 (4500R), X342, x230, x240, x250, x350 (6000R), **x360**, x370, x440, **x445**	Novell Netware: 5.00 SP6A[5, 7], 5.10 SP2A[5], 5.10 SP5[5, 10, 11], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 4	Adaptec AHA-2944UW[2, 3, 4], QLogic QLA1041D[6]	UWD	See[1]
14	**xSeries x255**	**Novell Netware: 5.00 SP6A[5, 7], 5.10 SP2A[5], 5.10 SP5[5, 10, 11], 5.10 SP6**	**Novell Netware Cluster Services Server (NCS) v1.01 SP4**	HA: 4	**QLogic QLA1041D[6]**	UWD	See[1]
15	Netfinity 8500R	Novell Netware: 5.00 SP6A[5, 7], 5.10 SP5[5, 10, 11], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 4	QLogic QLA1041D[6]	UWD	See[1]

1. Multi-port SCSI (preferred).
2. Requires driver 7.30s1, BIOS 2.20. The driver is available from Adaptec
3. Requires Legacy PCI slot (not available on new servers.)
4. Netware 5.1 SP4 and 6.0 SP1 require driver 8.1 and BIOS 2.20. Requires "SCAN ALL LUNS" in AUTOEXEC.NCF just before the Mount All statement
5. Maximum number of NWFS volumes that can be mounted is 64
6. Requires driver 1.27. BIOS 6.26 available at http://www.qlogic.com/support/oem_detail_all.asp?oemid=42,20

7. Requires NWPA.NLM V.3.07A update from Novell website.
8. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
9. Requires driver 4.15g, BIOS 1.39.
10. Powerpath & ATF supported.
11. Novell Storage Services supported.
12. Requires driver 6.50v, BIOS 1.34 available from Qlogic.
13. Requires HBA firmware 1.79 and driver 6.50v.
14. EMC strongly recommends that HBAs of different vendors not be used in the same host server.

Red Hat Linux

Dell

Dell – Red Hat Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	PowerEdge: 1650[7, 8], 1750, 2600[7, 8], 2650[7, 8], 4600[7, 8], 6450[7, 8], 6600[7, 8], 6650[7, 8]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[5, 9]	Oracle 9i RAC 9.2.0.1.0[11]	RAC: 8	QLogic QLA2342-E-SP[1, 2, 12]	FC-AL, FC-SW
2	PowerEdge: 1650[7, 8], 1750, 2600[7, 8], 2650[7, 8], 4600[7, 8], 6450[7, 8], 6600[7, 8], 6650[7, 8]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[5, 9]	Veritas Cluster Server (VCS) 2.0[13, 14, 15]	HA: 8	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2], QLA2342-E-SP[1, 2, 12]	FC-AL, FC-SW
3	**PowerEdge: 1650[7, 8], 1750, 2600[7, 8], 2650[7, 8], 4600[7, 8], 6450[7, 8], 6600[7, 8], 6650[7, 8]**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 4, 5, 6]**	**Oracle 9i RAC 9.2.0.1.0**	RAC: 8	**QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2]**	FC-AL, FC-SW
4	PowerEdge: 1650[7, 8], 1750, 2600[7, 8], 2650[7, 8], 4600[7, 8], 6450[7, 8], 6600[7, 8], 6650[7, 8]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[5, 9, 10], v2.4.9-E.12[5, 9]	Oracle 9i RAC 9.2.0.1.0[11]	RAC: 8	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2]	FC-AL, FC-SW
5	**PowerEdge: 1750, 2600, 4600, 6450, 8450**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[5, 18], ES v2.4.9-e.24[5, 18]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2342-E-SP**	**FC-AL, FC-SW**
6	**PowerEdge: 2650, 6600, 6650**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[5, 18], ES v2.4.9-e.24[5, 18]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	**FC-AL, FC-SW**
7	**PowerEdge: 1750, 2600, 4600, 6450, 8450**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[5, 18], ES v2.4.9-e.24[5, 18]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2340-E-SP**	**FC-AL, FC-SW[16, 17]**

1. Host must be offline for interfamily Symmetrix microcode upgrade.
2. Requires QLogic driver v6.04.02 and BIOS v1.34
3. **Supported with QLogic driver v6.04.02 or v6.05.00.**
4. **Watchdog Timer should be disabled in ocmargs.ora**
5. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
6. **Supported with QLogic driver v6.04.02.**
7. An RPM from Dell may be used to install the QLogic v6.X driver. RPM may be obtained from the QLogic website.
8. QLogic driver is available with Dell/Oracle CC kit.
9. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
10. OCFS (Oracle Cluster File System) is supported. Requires patch mount-2.11g-6i386.rpm (ocfs mount support).
11. Oracle Cluster File System v1.0 supported with Linux v2.4.9-E9 through E12.
12. Driver v6.04.00 or above must be used with Qlogic HBAs for direct attach configurations.
13. GAB disks (membership and service group heartbeat disks) are not supported.
14. Review single attach VxVM notes for PowerPath and DMP restrictions.
15. When VxVM is used, EMC recommends VxVM 3.2 update 2, VxFS 3.4 update 1 and above.
16. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
17. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
18. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**

Fujitsu Siemens

Fujitsu Siemens – Red Hat Linux					
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter
1	**Primergy: 460, 470, 670, 700, 870, B210, C200, E200, F200, F250[7], H200, H250[7], H400, H450, K400, L200, N200, N400, N800, P200, P250, R450, RX100, RX200, RX300, T850, TX200, TX300**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[5]**	**Fujitsu Siemens PRIMECLUSTER 4.0a2**	HA: 4	**Emulex: LP9002-E (LP9002L-E)[1, 2, 3, 4], LP9802-E[1, 2, 3, 6]**

1. **Single HBA zoning is required regardless of the switch being utilized.**
2. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
3. **Host must be offline for interfamily Symmetrix microcode upgrade.**
4. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
5. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
6. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
7. **Must use standard PCI 32bit/33MHz slot for SCSI**

HPQ

HPQ – Red Hat Linux						
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[5, 9]	Oracle 9i RAC 9.2.0.1.0[7]	RAC: 8	QLogic QLA2342-E-SP[1, 2, 10]	FC-AL, FC-SW
2	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[5, 9]	Veritas Cluster Server (VCS) 2.0[11, 12, 13]	HA: 8	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2], QLA2342-E-SP[1, 2, 10]	FC-AL, FC-SW
3	**Proliant 8500**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[3, 4, 5, 6]**	**Oracle 9i RAC 9.2.0.1.0**	RAC: 8	**QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2]**	FC-AL FC-SW
4	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[5, 8, 9], v2.4.9-E.12[5, 9]	Oracle 9i RAC 9.2.0.1.0[7]	RAC: 8	QLogic: QLA2310F-E-SP[1, 2], QLA2340-E-SP[1, 2]	FC-AL, FC-SW
5	**Proliant: DL360(G3), DL380(G3), DL580(G3) ML370(G3)**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[5, 14] ES v2.4.9-e.24[5, 14]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2342-E-SP**	**FC-AL, FC-SW**
6	**Proliant DL760 (G2)**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[5, 14] ES v2.4.9-e.24[5, 14]**	Red Hat Enterprise Linux 2.1 Cluster	**HA: 2**	QLogic QLA2340-E-SP, QLA2342-E-SP	FC-AL FC-SW
7	**Proliant DL360(G3), DL380(G3), DL580(G3) ML370(G3)**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[5, 14] ES v2.4.9-e.24[5, 14]**	Red Hat Enterprise Linux 2.1 Cluster	HA: 2	QLogic QLA2340-E-SP	FC-AL, FC-SW[15, 16]

1. Host must be offline for interfamily Symmetrix microcode upgrade
2. Requires QLogic driver v6.04.02 and BIOS v1.34
3. **Supported with QLogic driver v6.04.02 or v6.05.00.**
4. **Watchdog Timer should be disabled in ocmargs.ora**
5. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
6. **Supported with QLogic driver v6.04.02.**

7. Oracle Cluster File System v1.0 supported with Linux v2.4.9-E9 through E12.
8. OCFS (Oracle Cluster File System) is supported. Requires patch mount-2.11g-6i386.rpm (ocfs mount support).
9. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
10. Driver v6.04.00 or above must be used with Qlogic HBAs for direct attach configurations.
11. GAB disks (membership and service group heartbeat disks) are not supported.
12. Review single attach VxVM notes for PowerPath and DMP restrictions.
13. When VxVM is used, EMC recommends VxVM 3.2 update 2, VxFS 3.4 update 1 and above.
14. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
15. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
16. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**

IBM

IBM – Red Hat Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	xSeries: X335, X342, x345, x360, x370, x440, x445	Red Hat Linux 2.1 Advanced Server v2.4.9-e.24[1, 2], ES v2.4.9-e.24[1, 2]	Red Hat Enterprise Linux 2.1 Cluster	HA: 2	QLogic QLA2342-E-SP	FC-AL, FC-SW
2	xSeries: X335, X342, x345, x360 x370, x440, x445	Red Hat Linux 2.1 Advanced Server v2.4.9-e.24[1, 2], ES v2.4.9-e.24[1, 2]	Red Hat Enterprise Linux 2.1 Cluster	HA: 2	QLogic QLA2340-E-SP	FC-AL, FC-SW[3, 4]

1. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
2. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
3. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
4. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**

SGI IRIX

SGI

SGI – SGI IRIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Origin 2000	SGI IRIX 6.5.13	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI XT-FC-2P	FC-AL	See[1]
2	Onyx2	SGI IRIX: 6.4.1, 6.5.10, 6.5.11, 6.5.12, 6.5.13	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI XT-FC-2P	FC-AL	See[1]
3	Origin 200	SGI IRIX: 6.5.10, 6.5.11, 6.5.12, 6.5.13	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI PCI-FC-1P	FC-AL	See[1]
4	Onyx2; Origin 2000	SGI IRIX: 6.5.13, 6.5.14	SGI Failsafe 2.1.1	HA: 2	SGI PCI-FC-1P	FC-AL	See[1]
5	Origin 200	SGI IRIX: 6.5.13, 6.5.14	SGI Failsafe 2.1.1	HA: 2	SGI XT-FC-2P	FC-AL	See[1]
6	Origin 200	SGI IRIX: 6.5.16, 6.5.17	SGI Failsafe 2.1.2	HA: 2	SGI PCI-FC-1P	FC-AL	See[1]
7	Onyx2; Origin 2000	SGI IRIX: 6.5.16, 6.5.17	SGI Failsafe 2.1.2	HA: 2	SGI XT-FC-2P	FC-AL	See[1]
8	Origin: 200, 2000	SGI IRIX: 6.5.10, 6.5.11, 6.5.12, 6.5.13, 6.5.9	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI PCI-FC-1P-OPT-A	FC-AL, FC-SW	See[1]
9	Onyx2	SGI IRIX: 6.5.10, 6.5.11, 6.5.12, 6.5.13, 6.5.9	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI: PCI-FC-1P-OPT-A, XT-FC-1P-OPT-A	FC-AL, FC-SW	See[1]
10	Origin: 200, 2000	SGI IRIX: 6.5.10, 6.5.11, 6.5.12, 6.5.9	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI XT-FC-1P-OPT-A	FC-AL, FC-SW	See[1]
11	Origin 3000	SGI IRIX: 6.5.11, 6.5.12, 6.5.13	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI PCI-FC-1P-OPT-A	FC-AL, FC-SW	See[1]
12	Origin: 300, 3000	SGI IRIX: 6.5.16, 6.5.17	SGI Failsafe 2.1.2	HA: 2	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B	FC-AL, FC-SW	See[1]
13	Onyx2: Origin: 200, 2000	SGI IRIX: 6.5.16, 6.5.17	SGI Failsafe 2.1.2	HA: 2	SGI: PCI-FC-1P-OPT-A, XT-FC-1P-OPT-A	FC-AL, FC-SW	See[1]
14	Onyx2	SGI IRIX 6.5.14	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI XT-FC-2P	FC-AL[3]	See[1]
15	Origin 2000	SGI IRIX: 6.4.1, 6.5.10, 6.5.11, 6.5.12, 6.5.14	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI XT-FC-2P	FC-AL[3]	See[1]
[illegible]	Origin 200	SGI IRIX: 6.4.1, 6.5.14	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI PCI-FC-1P	FC-AL[3]	See[1]
17	Origin 200	SGI IRIX: 6.5.14, 6.5.15	SGI Failsafe 2.1.2	HA: 2	SGI PCI-FC-1P	FC-AL[3]	See[1]
18	Onyx2; Origin 2000	SGI IRIX: 6.5.14, 6.5.15	SGI Failsafe 2.1.2	HA: 2	SGI XT-FC-2P	FC-AL[3]	See[1]
19	Origin: 200, 2000	SGI IRIX 6.5.14	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI PCI-FC-1P-OPT-A	FC-AL[3], FC-SW	See[1]
20	Origin 300	SGI IRIX 6.5.14	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI PCI-FC-1P-OPT-B	FC-AL[3], FC-SW	See[1]
21	Origin 3000	SGI IRIX 6.5.14	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B	FC-AL[3], FC-SW	See[1]
22	Onyx2	SGI IRIX 6.5.14	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI: PCI-FC-1P-OPT-A, XT-FC-1P-OPT-A	FC-AL[3], FC-SW	See[1]
23	Origin 300	SGI IRIX: 6.5.11, 6.5.12, 6.5.13, 6.5.14	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI PCI-FC-1P-OPT-A	FC-AL[3], FC-SW	See[1]
24	Origin: 200, 2000	SGI IRIX: 6.5.13, 6.5.14	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI XT-FC-1P-OPT-A	FC-AL[3], FC-SW	See[1]
25	Origin: 300 3000	SGI IRIX: 6.5.14, 6.5.15	SGI Failsafe 2.1.2	HA: 2	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B	FC-AL[3], FC-SW	See[1]
26	Onyx2 Origin: 200, 2000	SGI IRIX: 6.5.14, 6.5.15	SGI Failsafe 2.1.2	HA: 2	SGI: PCI-FC-1P-OPT-A XT-FC-1P-OPT-A	FC-AL[3], FC-SW	See[1]
27	Origin: 200	SGI IRIX: 6.5.13	SGI Failsafe 2.1.1	HA: 2	SGI XT-SCSIB-4P	FWD	See[1]
28	Onyx2 Origin: 200 2000	SGI IRIX 6.5.16	SGI Failsafe 2.1.2	HA: 2	SGI: PCI-SCSI-1P, XT-SCSIB-4P	FWD	See[1]
29	Origin 200	SGI IRIX: 6.5.14	SGI Failsafe 2.1.1	HA: 2	SGI XT-SCSIB-4P	FWD[2]	See[1]

SGI – SGI IRIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
30	Onyx2; Origin 2000	SGI IRIX: 6.5.13, 6.5.14	SGI Failsafe 2.1.1	HA: 2	SGI XT-SCSIB-4P	FWD[2]	See[1]
31	Onyx2; Origin: 200, 2000	SGI IRIX: 6.5.14, 6.5.15	SGI Failsafe 2.1.2	HA: 2	SGI XT-SCSIB-4P	FWD[2]	See[1]
32	Origin 3000	SGI IRIX 6.5.16	SGI Failsafe 2.1.2	HA: 2	SGI PCI-SCSI-U3-2P	U2 LVD	See[1]
33	Origin 300	SGI IRIX: 6.5.12, 6.5.13, 6.5.14	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI PCI-SCSI-U3-2P	U2 LVD	See[1]
34	Origin 300	SGI IRIX: 6.5.14, 6.5.15, 6.5.16	SGI Failsafe 2.1.2	HA: 2	SGI PCI-SCSI-U3-2P	U2 LVD	See[1]
35	Origin 3000	SGI IRIX: 6.5.12, 6.5.13, 6.5.14	SGI Failsafe: 2.0, 2.1.1	HA: 2	SGI PCI-SCSI-U3-2P	U2 LVD[2]	See[1]
36	Origin 3000	SGI IRIX: 6.5.14, 6.5.15	SGI Failsafe 2.1.2	HA: 2	SGI PCI-SCSI-U3-2P	U2 LVD[2]	See[1]

1. Multi-port SCSI.
2. SCSI supports targets 1-15, LUNs 0-7. LUN skipping is permitted. however, LUN 0 must exist for each target.
3. FC-AL supports 128 LUNs per adapter. LUN skipping is permitted however, LUN 0 must exist for each adapter.

SuSE Linux
Fujitsu Siemens

Fujitsu Siemens – SuSE Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**Primergy R450**	**SuSE Linux SLES 7 (v2.4.7)[5]**	**Fujitsu Siemens PRIMECLUSTER 4.0a2**	HA: 4	**Emulex LP9002-E (LP9002L-E)[1, 2, 3, 4]**	
2	**Primergy: B210, C200, E200, F200, H200, H400, K400, L200, N200, N400, N800, P200, P250, R450, RX100, RX200, RX300, T850, TX200, TX300**	**SuSE Linux SLES 7: (v2.4.7)[5], updated with SuSE v2.4.18 rpm[7, 8]**	**Fujitsu Siemens PRIMECLUSTER 4.0a2**	HA: 4	**Emulex LP9802-E[1, 2, 4, 6]**	
3	**Primergy: 460, 470, 670, 700, 870, F250[9], H250[9], H450**	**SuSE Linux SLES 7: (v2.4.7)[5], updated with SuSE v2.4.18 rpm[7, 8]**	**Fujitsu Siemens PRIMECLUSTER 4.0a2**	HA: 4	**Emulex: LP9002-E (LP9002L-E)[1, 2, 3, 4], LP9802-E[1, 2, 4, 6]**	
4	**Primergy R450**	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[7, 8]**	**Fujitsu Siemens PRIMECLUSTER 4.0a2**	HA: 4	**Emulex LP9002-E (LP9002L-E)[1, 2, 3, 4]**	FC-AL, FC-SW[1]
5	**Primergy: B210, C200, E200, F200, H200, H400, K400, L200, N200, N400, N800, P200, P250, RX100, RX200, RX300, T850, TX200, TX300**	**SuSE Linux SLES 7: (v2.4.7)[5], updated with SuSE v2.4.18 rpm[7, 8]**	**Fujitsu Siemens PRIMECLUSTER 4.0a2**	HA: 4	**Emulex LP9002-E (LP9002L-E)[1, 2, 3, 4]**	FC-AL, FC-SW[1]

1. Single HBA zoning is required regardless of the switch being utilized.
2. **Host must be offline for interfamily Symmetrix microcode upgrade.**
3. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
4. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
5. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
6. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
7. **Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux**
8. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ**
9. **Must use standard PCI 32bit/33MHz slot for SCSI**

Sun Solaris
Sun

Sun – Sun Solaris							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[6, 39]	HA: 8	QLogic QLA2200F-EMC	FC-AL	
2	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 7[2]	Sun Sun Cluster 2.2[10]	HA: 4	QLogic QLA2200F-EMC	FC-AL	
3	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 8	Integratus UHA V1.3.3[11, 12]; Veritas Cluster Server (VCS) 2.0[6]	HA: 8	QLogic QLA2200F-EMC	FC-AL	
4	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000 5500, 6000, 6500	Sun Solaris 2.6, 7[2]	Veritas Cluster Server (VCS): 1.1.1 pstamp 1999101416[5, 6]; 1.1.2[6]	HA: 8	QLogic QLA2200F-EMC	FC-AL	
5	Ultra Enterprise: 3000, 3500 4000 4500 5000, 5500, 6000, 6500	Sun Solaris 2.6 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	QLogic QLA2200F-EMC	FC-AL	
6	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris, 2.6, 8	Sun Sun Cluster 2.2[10]	HA, 4, OPS, 4	QLogic QLA2200F-EMC	FC-AL	
7	Ultra Enterprise: 3000, 3500, 4000 4500 5000, 5500, 6000, 6500	Sun Solaris 7[2], 8	Legato LAAM (Legato Cluster) 4.7	HA: 8	QLogic QLA2200F-EMC	FC-AL	
8	Ultra Enterprise: 10000, 3000, 3500 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 2.6	Sun Sun Cluster 2.1	HA, 4, OPS: 2	JNI FC-1063-EMC, FC64-1063-EMC, FCE-1063-E, FCE2-1063-E	FC-AL, FC-SW	
9	Ultra. 10[3], 5[3]	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[6, 39]	HA, 8	Emulex LP8000-EMC[8]	FC-AL, FC-SW	
10	Netra 1120, 1125, 1400, 1405 T1; Ultra 220R[4] 250 30, 420R[4], 450, 60, 80	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[6, 39]	HA, 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E)	FC-AL, FC-SW	
11	Ultra Enterprise 3000 3500 4000, 4500, 5000 5500 6000, 6500	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[6, 39]	HA 8	Emulex LP8000-EMC[8] LP9002-E (LP9002L-E); JNI FCE-1063-E FCE2-1063-E	FC-AL, FC-SW	
12	Ultra Enterprise 10000	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[6, 39]	HA 8	JNI FCE-1063-E FCE2-1063-E	FC-AL, FC-SW	

Sun – Sun Solaris							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
13	Ultra: 2, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris 2.6	Veritas Cluster Server (VCS): 1.1.1 pstamp 1999101416[5, 6], 2.0[6, 39]	HA: 8	JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	See[9]
14	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80	Sun Solaris 7[2]	Sun Sun Cluster 2.2[10]	HA: 4	Emulex LP8000-EMC[8]	FC-AL, FC-SW	
15	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 7[2]	Sun Sun Cluster 2.2[10]	HA: 4	Emulex LP8000-EMC[8]; JNI: FC-1063-EMC, FC64-1063-EMC, FCE2-1063-E	FC-AL, FC-SW	
16	Ultra Enterprise 10000	Sun Solaris 7[2]	Sun Sun Cluster 2.2[10]	HA: 4	JNI: FC-1063-EMC, FC64-1063-EMC, FCE2-1063-E	FC-AL, FC-SW	
17	Ultra: 10[3], 5[3]	Sun Solaris 7[2]	Toshiba ClusterPerfect DNCWare V3.1R01[13, 14, 15]	HA: 2	Emulex LP8000-EMC[8]; JNI FCE2-6412-E	FC-AL, FC-SW	
18	Ultra: 60, 80	Sun Solaris 7[2]	Toshiba ClusterPerfect DNCWare V3.1R01[13, 14, 15]	HA: 2	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E); JNI FCE2-6412-E	FC-AL, FC-SW	
19	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[4], 250, 30, 420R[4], 450	Sun Solaris 7[2]	Toshiba ClusterPerfect DNCWare V3.1R01[13, 14, 15]	HA: 2	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E; JNI FCE2-6412-E	FC-AL, FC-SW	
20	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 7[2]	Toshiba ClusterPerfect DNCWare V3.1R01[13, 14, 15]	HA: 2	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-6412-E	FC-AL, FC-SW	
[illegible]	Ultra: 2, Enterprise 10000, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris 7[2]	Toshiba ClusterPerfect DNCWare V3.1R01[13, 14, 15]	HA: 2	JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	See[16]
22	Ultra Enterprise 10000	Sun Solaris 7[2]	Toshiba ClusterPerfect DNCWare V3.1R01[13, 14, 15]	HA: 2	JNI: FCE-1063-E, FCE2-1063-E	FC-AL, FC-SW	
23	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[4], 250, 30, 420R[4], 450, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 1.1.1 pstamp 1999101416[5, 6]	HA, 8	Emulex LP9002DC-E; JNI FCE2-6412-E	FC-AL, FC-SW	
24	Ultra: 10[3], 5[3]	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 1.1.1 pstamp 1999101416[5, 6]	HA: 8	JNI FCE2-6412-E	FC-AL, FC-SW	
25	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[4], 250, 30, 420R[4], 450, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 1.1.2[6]	HA: 8	Emulex LP9002DC-E	FC-AL, FC-SW	
26	Ultra Enterprise 3500	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Emulex LP9002S-E, JNI FC64-1063-EMC[16]; QLogic QLA2202FS-E	FC-AL, FC-SW	
27	Ultra Enterprise 10000	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Emulex LP9002S-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
28	Ultra Enterprise: 3000, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 3.5[6]	HA, 8	Emulex LP9002S-E, JNI FCE-1063-E, QLogic QLA2202FS-E	FC-AL, FC-SW	See[29]
29	Ultra: 220R[4] 250, 420R[4], 450	Sun Solaris 7[2]	Veritas Cluster Server (VCS) 3.5[6, 28]	HA: 8	Emulex: LP9002DC-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6, 27]
30	Ultra Enterprise: 10000, 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 8	Integratus UHA V1.3.3[11, 12]	HA, 4, OPS: 4	JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	
[illegible]	Ultra: 10[3] 5[3]	Sun Solaris 8	Integratus UHA V1.3.3[11, 12]	HA: 8	Emulex LP8000-EMC[8]; JNI FCE2-6412-E	FC-AL, FC-SW	
32	Ultra Enterprise 10000	Sun Solaris 8	Integratus UHA V1.3.3[11, 12]	HA: 8	Emulex LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
33	Ultra 60, 80	Sun Solaris 8	Integratus UHA V1.3.3[11, 12]	HA, 8	Emulex: LP8000-EMC[8] LP9002-E (LP9002L-E); JNI FCE2-6412-E	FC-AL, FC-SW	
34	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[4], 250, 30, 420R[4] 450	Sun Solaris 8	Integratus UHA V1.3.3[11, 12]	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E, JNI FCE2-6412-E	FC-AL, FC-SW	
35	Ultra Enterprise: 3000, 3500 4000, 4500, 5000 5500, 6000, 6500	Sun Solaris 8	Integratus UHA V1.3.3[11, 12]	HA, 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E, LP9002S-E; JNI: FCE-1063-E FCE2-1063-E, FCE2-1473-E, FCE2-6412-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
36	Ultra 2	Sun Solaris 8	Integratus UHA V1.3.3[11, 12]	HA: 8	JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	
37	Sun Fire 15K	Sun Solaris 8	Sun Sun Cluster 3.0 Update 3[20, 21]	HA, 8, OPS 4[22], RAC 4[22]	QLogic QLA2200F-EMC[19]	FC-AL, FC-SW	
38	Ultra 60, 80	Sun Solaris 8	Toshiba DNCware ClusterPerfect V4.1R01[17, 18]	HA, 2	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	

Sun – Sun Solaris							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
39	Ultra Enterprise 10000	Sun Solaris 8	Toshiba DNCware ClusterPerfect V4.1R01[17, 18]	HA: 2	Emulex LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
40	Netra 1280; Sun Fire: 280R, 4800, 4810, 6800, V120, V1280, V240, V480, V880	Sun Solaris 8	Toshiba DNCware ClusterPerfect V4.1R01[17, 18]	HA: 2	Emulex LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
41	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[4], 250, 30, 420R[4], 450	Sun Solaris 8	Toshiba DNCware ClusterPerfect V4.1R01[17, 18]	HA: 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW	
42	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 8	Toshiba DNCware ClusterPerfect V4.1R01[17, 18]	HA: 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
43	Ultra: 10[3], 220R[4], 5[3]	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Emulex LP8000-EMC[8]	FC-AL, FC-SW	
44	Ultra: 60, 80	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E)	FC-AL, FC-SW	
45	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 250, 30, 420R[4], 450	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW	
46	Ultra Enterprise: 3000, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E; JNI FCE2-1063-E	FC-AL, FC-SW	
47	Ultra Enterprise 3500	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E; JNI: FC-1063-EMC, FCE2-1063-E	FC-AL, FC-SW	
48	Ultra Enterprise 3500	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	JNI FC64-1063-EMC	FC-AL, FC-SW	See[9]
49	Ultra Enterprise 10000	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	JNI FCE2-1063-E	FC-AL, FC-SW	
50	Ultra Enterprise: 10000, 3000, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	See[9]
51	Sun Fire: 12K, 15K	Sun Solaris 8 Update 6	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[31], LAAM (Legato Cluster) 4.7, LAAM (Legato Cluster) 4.8	HA: 8	Emulex LP9002-E (LP9002L-E); QLogic QLA2200F-EMC	FC-AL, FC-SW	
52	Sun Fire: 4800, 6800	Sun Solaris 8 Update 6	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[31], LAAM (Legato Cluster) 4.7, LAAM (Legato Cluster) 4.8	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2300F-E-SP	FC-AL, FC-SW	
53	Sun Fire: 280R, 4810	Sun Solaris 8 Update 6	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[31], LAAM (Legato Cluster) 4.7, LAAM (Legato Cluster) 4.8	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E; QLogic: QLA2200F-EMC, QLA2300F-E-SP	FC-AL, FC-SW	
54	Netra 1280; Sun Fire: V1280, V240, V480, V880	Sun Solaris 8 Update 6	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[31], LAAM (Legato Cluster) 4.7, LAAM (Legato Cluster) 4.8	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E); QLogic: QLA2200F-EMC, QLA2300F-E-SP	FC-AL, FC-SW	
55	Sun Fire 3800	Sun Solaris 8 Update 6	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[31], LAAM (Legato Cluster) 4.7, LAAM (Legato Cluster) 4.8; Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	QLogic QCP2202F-E	FC-AL, FC-SW	
56	**Sun Fire: 12K, 15K**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8, OPS: 4, RAC: 4	**Emulex LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
57	**Netra 1280; Sun Fire: 280R, 4800, 4810, 6800, V1280, V240, V480, V880; Ultra: 220R[4], 250, 420R[4], 450**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8, OPS: 4, RAC: 4	**Emulex: LP9002DC-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
58	**Netra 1280; Sun Fire: 280R, V1280, V240, V480, V880; Ultra: 220R[4], 250, 420R[4], 450**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8, OPS: 4[22], RAC: 4[22]	**Emulex LP9002-E (LP9002L-E)**	FC-AL, FC-SW	
59	**Sun Fire 15K**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8, OPS: 4[22], RAC: 4[22]	**Emulex LP9002-E (LP9002L-E), QLogic QLA2200F-EMC**	FC-AL, FC-SW	
60	**Sun Fire 12K**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8, OPS: 4[22], RAC: 4[22]	**Emulex LP9002-E (LP9002L-E) QLogic QLA2200F-EMC[19]**	FC-AL, FC-SW	
61	**Sun Fire 3800**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8, OPS: 4[22], RAC: 4[22]	**Emulex LP9002C-E QLogic QCP2202F-E[19]**	FC-AL, FC-SW	

Sun – Sun Solaris

No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
62	**Ultra Enterprise: 10000, 3500, 4500, 5500, 6500**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8, OPS: 4 [22], RAC: 4 [22]	**Emulex LP9002S-E; JNI: FC-1063-EMC, FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E**	FC-AL, FC-SW	
63	**Sun Fire 4810**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8, OPS: 4 [22], RAC: 4 [22]	**Emulex: LP9002-E (LP9002L-E), LP9002C-E; QLogic QLA2200F-EMC**	FC-AL, FC-SW	
64	**Sun Fire: 4800, 6800**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8, OPS: 4 [22], RAC: 4 [22]	**Emulex: LP9002-E (LP9002L-E), LP9002C-E; QLogic: QCP2202F-E, QLA2200F-EMC**	FC-AL, FC-SW	
65	**Netra 1280; Sun Fire: V1280, V240, V480, V880**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8 [23] OPS: 4 [22] RAC: 4 [22]	**QLogic QLA2200F-EMC**	FC-AL, FC-SW	
66	Netra 1280; Sun Fire: V1280, V240, V480	Sun Solaris 8 Update 6	Veritas Cluster Server (VCS) 1.3	HA: 8	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	
67	Netra 1280; Sun Fire: V1280, V240, V480	Sun Solaris 8 Update 6	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	Emulex LP8000-EMC[8], QLogic: QLA2200F-EMC, QLA2300F-E-SP	FC-AL, FC-SW	
68	Sun Fire V880	Sun Solaris 8 Update 6	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E); QLogic: QLA2200F-EMC, QLA2300F-E-SP	FC-AL, FC-SW	
	Sun Fire: 280R, 4810	Sun Solaris 8 Update 6	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E; QLogic QLA2200F-EMC	FC-AL, FC-SW	
70	Sun Fire: 4800, 6800	Sun Solaris 8 Update 6	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E; QLogic: QCP2202F-E, QLA2200F-EMC	FC-AL, FC-SW	
71	Sun Fire: 12K, 15K	Sun Solaris 8 Update 6	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Emulex LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]
72	Netra 1280; Sun Fire: 280R, 4800, 4810, 6800, V1280, V240, V480, V880	Sun Solaris 8 Update 6	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E); QLogic: QLA2200F-EMC, QLA2300F-E-SP	FC-AL, FC-SW	
73	Netra 1280; Sun Fire: 280R, 4800, 4810, 6800, V1280, V240, V480, V880; Ultra: 220R[4], 250, 420R[4], 450	Sun Solaris 8 Update 6	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Emulex: LP9002DC-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[6]
74	Sun Fire 15K	Sun Solaris 8 Update 6	Veritas Cluster Server (VCS): 1.3[6, 7], 2.0[6]	HA: 8	Emulex LP9002-E (LP9002L-E); QLogic QLA2200F-EMC	FC-AL, FC-SW	
75	Sun Fire 12K	Sun Solaris 8 Update 6	Veritas Cluster Server (VCS): 1.3[6, 7], 2.0[6]	HA: 8	Emulex LP9002-E (LP9002L-E); QLogic QLA2200F-EMC[19]	FC-AL FC-SW	
76	Ultra, 220R[4], 250, 420R[4], 450	Sun Solaris 8 Update 6	Veritas VERITAS Database Edition/Advanced Cluster (DBED/AC) 1.0 with OPS 8[24]	OPS: 4 [25]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	
77	Sun Fire: 12K, 15K	Sun Solaris 8 Update 6	Veritas VERITAS Database Edition/Advanced Cluster (DBED/AC) 1.0 with OPS 8[24]	OPS: 4 [25]	Emulex LP9002-E (LP9002L-E); QLogic QLA2200F-EMC	FC-AL, FC-SW	
	Sun Fire 3800	Sun Solaris 8 Update 6	Veritas VERITAS Database Edition/Advanced Cluster (DBED/AC) 1.0 with OPS 8[24]	OPS: 4 [25]	Emulex LP9002C-E; QLogic QCP2202F-E	FC-AL, FC-SW	
79	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris 8 Update 6	Veritas VERITAS Database Edition/Advanced Cluster (DBED/AC) 1.0 with OPS 8[24]	OPS: 4 [25]	Emulex LP9002S-E; JNI: FC-1063-EMC, FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, QLogic QLA2202FS-E	FC-AL, FC-SW	
80	Sun Fire: 4800, 6800	Sun Solaris 8 Update 6	Veritas VERITAS Database Edition/Advanced Cluster (DBED/AC) 1.0 with OPS 8[24]	OPS: 4 [25]	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002C-E; QLogic QCP2202F-E, QLA2200F-EMC	FC-AL, FC-SW	
81	Netra 1280, Sun Fire: 280R, 4810, V1280, V240, V480, V880	Sun Solaris 8 Update 6	Veritas VERITAS Database Edition/Advanced Cluster (DBED/AC) 1.0 with OPS 8[24]	OPS: 4 [25]	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), QLogic QLA2200F-EMC	FC-AL, FC-SW	
82	**Sun Fire 3800**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[40]**		**Emulex LP9002C-E, QLogic QCP2202F-E[19]**	FC-AL, FC-SW	
83	**Ultra Enterprise 10000 3500 4500 5500 6500**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[40]**		**Emulex LP9002S-E JNI: FC-1063-EMC FC64-1063-EMC FCE-1063-E FCE2-1063-E FCE2-1473-E QLogic QLA2202FS-E**	FC-AL FC-SW	

Sun – Sun Solaris							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
84	**Sun Fire: 4800, 6800**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[40]**		**Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E;** **QLogic: QCP2202F-E, QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
85	**Sun Fire 4810**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[40]**		**Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E;** **QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
86	**Netra 1280; Sun Fire: V1280, V240, V480, V880**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[40]**		**Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E;** **QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
87	**Sun Fire 280R; Ultra: 220R[4], 250, 420R[4], 450**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[40]**		**Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E;** **QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
88	**Sun Fire: 12K, 15K**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[40]**		**Emulex: LP9002-E (LP9002L-E), LP9802-E;** **QLogic: QLA2200F-EMC[19], QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
89	Ultra Enterprise 10000	Sun Solaris 8[33]	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	Emulex LP9002S-E; JNI: FC-1063-EMC, FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
90	Sun Fire 4810	Sun Solaris 8[33]	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
91	Ultra Enterprise: 3500, 4500, 5500, 6500	Sun Solaris 8[33]	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	
92	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris 8[33]	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4 [34]	JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	
93	Ultra Enterprise 10000	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[6]	HA: 8	Emulex LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
94	Sun Fire 4810	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[6]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
95	Ultra: 220R[4], 250, 420R[4], 450	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	QLogic QLA2200F-EMC	FC-AL, FC-SW	
96	Ultra: 220R[4] 250, 420R[4], 450	Sun Solaris 9	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4 [34]	QLogic QLA2200F-EMC	FC-AL, FC-SW	
97	**Sun Fire: 3800 4800, 6800**	Sun Solaris 9 12/02[30]	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8, OPS: 2, RAC: 2	**Emulex LP9002C-E; QLogic QCP2202F-E**	FC-AL, FC-SW	
98	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris 9 12/02[30]	Sun Sun Cluster 3.0 Update 3[21]	HA: 8, OPS: 2, RAC: 2	Emulex LP9002S-E, JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
99	Netra 1280, Sun Fire, 4800, 4810, 6800, V1280, V240, V480, V880	Sun Solaris 9 12/02[30]	Sun Sun Cluster 3.0 Update 3[21]	HA: 8, OPS: 2, RAC: 2	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
100	Sun Fire: 12K, 15K	Sun Solaris 9 12/02[30]	Sun Sun Cluster 3.0 Update 3[21]	HA: 8, OPS: 2, RAC: 2	Emulex: LP9002-E (LP9002L-E), LP9802-E, QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
101	Sun Fire 3800	Sun Solaris 9 12/02[30]	**Sun Sun Cluster 3.1[40]**	HA: 16, OPS: 2, RAC: 2	**Emulex LP9002C-E, QLogic QCP2202F-E**	FC-AL, FC-SW	
102	**Ultra Enterprise 10000 3500 4500 5500 6500**	Sun Solaris 9 12/02[30]	**Sun Sun Cluster 3.1[40]**	HA: 16, OPS: 2, RAC: 2	**Emulex LP9002S-E, JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E;** **QLogic QLA2202FS-E**	FC-AL, FC-SW	

Sun – Sun Solaris							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
103	**Sun Fire: 4800, 6800**	Sun Solaris 9 12/02[30]	**Sun Sun Cluster 3.1[40]**	HA: 16, OPS: 2, RAC: 2	**Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E;** **QLogic: QCP2202F-E, QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
104	**Netra 1280;** **Sun Fire: 4810, V1280, V240, V480 V880**	Sun Solaris 9 12/02[30]	**Sun Sun Cluster 3.1[40]**	HA: 16, OPS: 2, RAC: 2	**Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E;** **QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
105	**Sun Fire: 12K, 15K**	Sun Solaris 9 12/02[30]	**Sun Sun Cluster 3.1[40]**	HA: 16, OPS: 2, RAC: 2	**Emulex: LP9002-E (LP9002L-E), LP9802-E;** **QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
106	Netra: 1120, 1125, 1400, 1405 T1 Ultra: 220R[4], 250, 30, 420R[4] 450 60 80, Enterprise 3000, Enterprise 3500, Enterprise 4000 Enterprise 4500, Enterprise 5000, Enterprise 5500 Enterprise 6000, Enterprise 6500	Sun Solaris 2.6, 7[2]	Veritas Cluster Server (VCS) 1.1.1 pstamp 1999101416[5, 6]	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E)	FC-AL, FC-SW	
107	Netra: 1120, 1125, 1400, 1405 T1, Ultra: 220R[4], 250, 30, 420R[4], 450 60 80	Sun Solaris 2.6, 7[2]	Veritas Cluster Server (VCS) 1.1.2[6]	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E)	FC-AL, FC-SW	
108	Ultra Enterprise: 3000, 3500, 4000 4500 5000, 5500, 6000, 6500	Sun Solaris: 2 6, 7[2]	Veritas Cluster Server (VCS) 1.1.2[6]	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E); JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	
109	Ultra: 2, Enterprise 10000	Sun Solaris 2.6, 7[2]	Veritas Cluster Server (VCS) 1.1.2[6]	HA: 8	JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	
110	Ultra: 10[3], 5[3]	Sun Solaris: 2 6, 7[2]	Veritas Cluster Server (VCS): 1.1.1 pstamp 1999101416[5, 6], 1.1.2[6]	HA: 8	Emulex LP8000-EMC[8]	FC-AL, FC-SW	
111	Netra: 1120, 1125, 1400, 1405 T1; Ultra: 220R[4], 250, 30, 420R[4] 450, 60, 80	Sun Solaris, 2.6, 7[2], 8	Sun Sun Cluster 2.2[10]	HA: 4, OPS: 4 [2]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	
112	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris: 2.6, 7[2], 8	Sun Sun Cluster 2.2[10]	HA: 4, OPS: 4 [2]	Emulex LP9002-E (LP9002L-E); JNI FCE-1063-E	FC-AL, FC-SW	
113	Ultra Enterprise 10000	Sun Solaris: 2.6, 7[2], 8	Sun Sun Cluster 2.2[10]	HA: 4, OPS: 4 [2]	JNI FCE-1063-E	FC-AL, FC-SW	
114	Ultra Enterprise: 10000, 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris, 2.6, 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 4, OPS: 4	JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	
115	Ultra: 10[3], 5[3]	Sun Solaris: 2 6, 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	Emulex LP8000-EMC[8]	FC-AL, FC-SW	
116	Netra: 1120, 1125, 1400, 1405, T1, Ultra: 220R[4], 250, 30, 420R[4], 450, 60, 80	Sun Solaris, 2.6, 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA, 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E)	FC-AL, FC-SW	
117	Ultra Enterprise. 3000, 3500 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris: 2 6 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E); JNI: FCE-1063-E, FCE2-1063-E	FC-AL, FC-SW	
118	Ultra 2	Sun Solaris. 2.6, 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	
119	Ultra Enterprise 10000	Sun Solaris 2.6, 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	JNI: FCE-1063-E, FCE2-1063-E	FC-AL, FC-SW	
120	Netra 1120 1125, 1400 1405 T1 Ultra. 10[3], 220R[4] 250 30 420R[4], 450 5[3], 60, 80	Sun Solaris 2.6 8	Sun Sun Cluster 2.2[10]	HA: 4, OPS: 4	Emulex LP8000-EMC[8]	FC-AL. FC-SW	
121	Ultra Enterprise: 3000, 3500 4000, 4500, 5000 5500, 6000, 6500	Sun Solaris. 2.6, 8	Sun Sun Cluster 2.2[10]	HA. 4 OPS. 4	Emulex LP8000-EMC[8], JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL. FC-SW	
122	Ultra Enterprise 10000	Sun Solaris: 2 6 8	Sun Sun Cluster 2.2[10]	HA: 4, OPS: 4	JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	
123	Ultra Enterprise: 10000 3000 3500 4000, 4500, 5000, 5500, 6000 6500	Sun Solaris 2.6, 8	Sun Sun Cluster 2 2[10]	HA 4 OPS. 4 [2]	JNI FCE2-1063-E	FC-AL, FC-SW	
124	Ultra Enterprise. 10000, 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris: 7[2], 8	Legato LAAM (Legato Cluster) 4.7	HA: 4, OPS 4	JNI. FC-1063-EMC FC64-1063-EMC	FC-AL. FC-SW	
125	Ultra: 10[3], 5[3]	Sun Solaris 7[2] 8	Legato LAAM (Legato Cluster) 4.7	HA. 8	Emulex LP8000-EMC[8]	FC-AL. FC-SW	
126	Ultra 60 80	Sun Solaris 7[2] 8	Legato LAAM (Legato Cluster) 4 7	HA: 8	Emulex LP8000-EMC[8], LP9002-E (LP9002L-E)	FC-AL. FC-SW	
127	Netra 1120, 1125 1400 1405 T Ultra 220R[4] 250 30 420R[4] 450	Sun Solaris 7[2] 8	Legato LAAM (Legato Cluster) 4 7	HA 8	Emulex LP8000-EMC[8] LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW	

Sun – Sun Solaris

No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
128	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris: 7[2], 8	Legato LAAM (Legato Cluster) 4.7	HA: 8	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E, LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
129	Ultra 2	Sun Solaris: 7[2], 8	Legato LAAM (Legato Cluster) 4.7	HA: 8	JNI: FC-1063-EMC, FC64-1063-EMC	FC-AL, FC-SW	
130	Ultra Enterprise 10000	Sun Solaris: 7[2], 8	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[31], LAAM (Legato Cluster) 4.7, LAAM (Legato Cluster) 4.8	HA: 8	Emulex LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
131	Ultra: 60, 80	Sun Solaris: 7[2], 8	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[31], LAAM (Legato Cluster) 4.8	HA: 8	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	
132	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[4], 250, 30, 420R[4], 450	Sun Solaris: 7[2], 8	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[31], LAAM (Legato Cluster) 4.8	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW	
133	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris: 7[2], 8	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[31], LAAM (Legato Cluster) 4.8	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
134	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[4], 250, 30, 420R[4], 450	Sun Solaris: 7[2], 8	Sun Sun Cluster 2.2[10]	HA: 4, OPS: 4 [2]	Emulex LP9002DC-E	FC-AL, FC-SW	
135	Ultra Enterprise 10000	Sun Solaris: 7[2], 8	Sun Sun Cluster 2.2[10]	HA: 4, OPS: 4 [2]	Emulex LP9002S-E; JNI FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
136	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris: 7[2], 8	Sun Sun Cluster 2.2[10]	HA: 4, OPS: 4 [2]	Emulex: LP9002DC-E, LP9002S-E; JNI FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
137	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[4], 250, 30, 420R[4], 450	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	Emulex LP9002DC-E; JNI FCE2-6412-E	FC-AL, FC-SW	
138	Ultra Enterprise 10000	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	Emulex LP9002S-E; JNI FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
139	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	Emulex: LP9002DC-E, LP9002S-E; JNI: FCE2-1473-E, FCE2-6412-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
140	Ultra: 10[3], 5[3], 60, 80	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	JNI FCE2-6412-E	FC-AL, FC-SW	
141	Ultra Enterprise: 3000, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Emulex LP9002S-E, JNI FCE-1063-E, QLogic QLA2202FS-E	FC-AL, FC-SW	
142	Ultra 220R[4]	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW	
143	Ultra Enterprise: 10000, 3500	Sun Solaris: 7[2], 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	JNI FCE-1063-E	FC-AL, FC-SW	
144	Ultra 420R[4]	Sun Solaris: 8[33], 9	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	
145	Sun Fire 3800	Sun Solaris: 8[33], 9	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	Emulex LP9002C-E, QLogic QCP2202F-E[19]	FC-AL, FC-SW	
146	Ultra Enterprise: 3500, 4500, 5500, 6500	Sun Solaris: 8[33], 9	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	Emulex LP9002S-E, JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
147	Sun Fire: 4800, 6800	Sun Solaris: 8[33], 9	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
148	Netra 1280; Sun Fire: V1280, V240, V480, V880	Sun Solaris: 8[33], 9	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	

Sun – Sun Solaris							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
149	Sun Fire 280R; Ultra: 220R[4], 250, 450	Sun Solaris: 8[33], 9	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
150	Sun Fire 15K	Sun Solaris: 8[33], 9	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
151	Sun Fire 12K	Sun Solaris: 8[33], 9	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2200F-EMC[19], QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
152	Ultra 420R[4]	Sun Solaris: 8[33], 9	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4[34]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	
153	Sun Fire 3800	Sun Solaris: 8[33], 9	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4[34]	Emulex LP9002C-E; QLogic QCP2202F-E[19]	FC-AL, FC-SW	
154	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris: 8[33], 9	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4[34]	Emulex LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW	
155	Sun Fire: 4800, 6800	Sun Solaris: 8[33], 9	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4[34]	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
156	Sun Fire 4810	Sun Solaris: 8[33], 9	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4[34]	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
157	Netra 1280; Sun Fire: V1280, V240, V480, V880	Sun Solaris: 8[33], 9	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4[34]	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
158	Sun Fire 280R; Ultra: 220R[4], 250, 450	Sun Solaris: 8[33], 9	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4[34]	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
159	Sun Fire 15K	Sun Solaris: 8[33], 9	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4[34]	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
160	Sun Fire 12K	Sun Solaris: 8[33], 9	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4[34]	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2200F-EMC[19], QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
161	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[6, 39]	HA: 8	QLogic QLA2200F-EMC	FC-SW	
162	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80	Sun Solaris 7[2]	Sun Sun Cluster 2.2[10]	HA: 4	QLogic QLA2200F-EMC	FC-SW	
163	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80	Sun Solaris 8	Integratus UHA V1.3[11, 12]	HA: 8	QLogic QLA2200F-EMC	FC-SW	
164	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 250, 30, 420R[4], 450, 5[3], 60, 80	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	QLogic QLA2200F-EMC	FC-SW	
165	**Ultra: 220R[4], 250, 420R[4], 450**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8, OPS: 4[22], RAC: 4[22]	**QLogic QLA2200F-EMC**	FC-SW	
166	Ultra: 220R[4], 250, 420R[4], 450	Sun Solaris 8 Update 6	Veritas VERITAS Database Edition/Advanced Cluster (DBED/AC) 1.0 with OPS 8[24]	OPS: 4[25]	QLogic QLA2200F-EMC	FC-SW	
167	**Ultra: 220R[4], 250, 420R[4], 450**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[40]**		**QLogic QLA2200F-EMC**	FC-SW	
168	Ultra: 220R[4], 250, 420R[4], 450	Sun Solaris 8[33]	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	QLogic QLA2200F-EMC	FC-SW	
169	Ultra: 220R[4], 250, 420R[4], 450	Sun Solaris 8[33]	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4[34]	QLogic QLA2200F-EMC	FC-SW	
170	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80	Sun Solaris 2.6, 7[2]	Veritas Cluster Server (VCS) 1.1.1 pstamp 1999101416[5, 6, 1.1.2[6]	HA: 8	QLogic QLA2200F-EMC	FC-SW	
171	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80	Sun Solaris 2.6, 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	QLogic QLA2200F-EMC	FC-SW	

Sun – Sun Solaris

No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
172	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80	Sun Solaris: 2.6, 8	Sun Sun Cluster 2.2[10]	HA: 4, OPS: 4	QLogic QLA2200F-EMC	FC-SW	
173	Netra: 1120, 1125, 1400, 1405, T1, Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80	Sun Solaris, 7[2], 8	Legato LAAM (Legato Cluster) 4.7	HA: 8	QLogic QLA2200F-EMC	FC-SW	
174	Ultra 220R[4]	Sun Solaris 7[2], 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	QLogic QLA2200F-EMC	FC-SW	
175	Ultra Enterprise 10000	Sun Solaris 2.6	Sun Sun Cluster 2.1	HA: 4, OPS: 2	Sun X1065A (DWIS)	UWD	See[1]
176	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris 2.6	Sun Sun Cluster 2.2[10]	HA: 4, OPS: 4	Sun X6541A	UWD	See[1]
177	Ultra Enterprise 10000	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[6, 39]	HA: 8	Sun X1065A (DWIS)	UWD	See[1]
178	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris 2.6	Veritas Cluster Server (VCS) 2.0[6, 39]	HA: 8	Sun X6541A	UWD	See[1]
179	Ultra Enterprise 10000	Sun Solaris 7[2]	Sun Sun Cluster 2.2[10]	HA: 4	Sun X1065A (DWIS)	UWD	See[1]
180	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris 7[2]	Sun Sun Cluster 2.2[10]	HA: 4	Sun X6541A	UWD	See[1]
181	Ultra Enterprise 10000	Sun Solaris 7[2]	Toshiba ClusterPerfect DNCWare V3.1R01[13, 14, 15]	HA: 2	Sun X1065A (DWIS)	UWD	See[1]
182	Netra: 1120, 1125, 1400, 1405, T1, Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris 7[2]	Toshiba ClusterPerfect DNCWare V3.1R01[13, 14, 15]	HA: 2	Sun X6541A	UWD	See[1]
183	Ultra Enterprise 10000	Sun Solaris 8	Integratus UHA V1.3.3[11, 12]	HA: 8	Sun X1065A (DWIS)	UWD	See[1]
184	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris 8	Integratus UHA V1.3.3[11, 12]	HA: 8	Sun X6541A	UWD	See[1]
185	Netra 1120	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Sun X6541A	UWD	
186	Netra: 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris 8	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Sun X6541A	UWD	See[1, 26]
187	**Sun Fire: 4800, 4810, 6800; Ultra: 220R[4], 250, 420R[4], 450**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8, OPS: 4 [22], RAC: 4 [22]	**Sun X6541A**	UWD	**See[1]**
188	**Netra 1280; Sun Fire: V1280, V240, V480, V880**	Sun Solaris 8 Update 6	**Sun Sun Cluster 3.0 Update 3[20, 21]**	HA: 8 [23] OPS: 4 [22] RAC: 4 [22]	**Sun X6541A**	UWD	**See[1]**
189	Netra 1280; Sun Fire: 280R, 4800, 4810, 6800, V1280, V240, V480, V880	Sun Solaris 8 Update 6	Veritas Cluster Server (VCS) 2.0[6]	HA: 8	Sun X6541A	UWD	See[1, 26]
190	**Netra 1280; Sun Fire: 4800, 4810, 6800, V1280, V240, V480, V880; Ultra: 220R[4], 250, 420R[4], 450**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[40]**		**Sun X6541A**	UWD	**See[1]**
191	Netra 1280; Sun Fire: 4800, 4810, 6800, V1280, V240, V480, V880; Ultra: 220R[4], 250, 420R[4], 450, Enterprise 3500, Enterprise 4500, Enterprise 5500, Enterprise 6500	Sun Solaris 8[33]	Veritas Cluster Server (VCS) 3.5[6, 32]	HA: 8	Sun X6541A	UWD	See[1]
192	Netra 1280; Sun Fire: 4800, 4810, 6800, V1280, V240, V480, V880, Ultra: 220R[4], 250, 420R[4], 450, Enterprise 3500, Enterprise 4500, Enterprise 5500, Enterprise 6500	Sun Solaris 8[33]	Veritas DBED/AC for 9iRAC 3.5[6, 32, 35, 36, 37, 38]	RAC: 4 [34]	Sun X6541A	UWD	See[1]
193	Ultra Enterprise 10000	Sun Solaris: 2.6, 7[2]	Veritas Cluster Server (VCS): 1.1.1 pstamp 1999101416[5, 6], 1.1.2[6]	HA: 8	Sun X1065A (DWIS)	UWD	See[1]
194	Netra: 1120, 1125, 1400, 1405, T1, Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris, 2.6, 7[2]	Veritas Cluster Server (VCS): 1.1.1 pstamp 1999101416[5, 6], 1.1.2[6]	HA: 8	Sun X6541A	UWD	See[1]
195	Ultra Enterprise 10000	Sun Solaris: 2.6, 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	Sun X1065A (DWIS)	UWD	See[1]
196	Netra: 1120, 1125, 1400, 1405, T1, Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris 2.6, 7[2], 8	Veritas Cluster Server (VCS) 1.3[6, 7]	HA: 8	Sun X6541A	UWD	See[1]
197	Ultra Enterprise 10000	Sun Solaris 2.6, 8	Sun Sun Cluster 2.2[10]	HA: 4 OPS: 4	Sun X1065A (DWIS)	UWD	See[1]
198	Ultra Enterprise 10000	Sun Solaris 7[2], 8	Legato LAAM (Legato Cluster) 4.7	HA: 8	Sun X1065A (DWIS)	UWD	See[1]

Sun – Sun Solaris							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
199	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris: 7[2], 8	Legato LAAM (Legato Cluster) 4.7	HA: 8	Sun X6541A	UWD	See[1]
200	Ultra Enterprise 10000	Sun Solaris, 7[2], 8	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[31], LAAM (Legato Cluster) 4.8	HA: 8	Sun X1065A (DWIS)	UWD	
201	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 10[3], 220R[4], 250, 30, 420R[4], 450, 5[3], 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	Sun Solaris: 7[2], 8	Legato: Automated Availability Manager (LAAM) 5.0 (Base)[31], LAAM (Legato Cluster) 4.8	HA: 8	Sun X6541A	UWD	

1. Multi-port SCSI.
2. No OPS support for Solaris 7.
3. This host supports only 5 V HBAs.
4. 64-bit HBAs will not fit into the 32-bit slot due to a physical obstruction.
5. In other words, pkginfo -l VRTSvcs should report 1.1.1 1999101416
6. GAB disks (membership and service group heartbeat disks) are not supported.
7. Disk Reservation Agent with PowerPath 2.0.3 only.
8. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
9. PowerPath 2.0 and above with native name only, no hub.
10. Powerpath requires V2.0.2 or later.
11. Automatic remote failover is not supported at this time.
12. Symm Socket/Smart Heartbeat is not supported at this time.
13. VRTS VxVM 3.0.4 or 3.1 required. DMP must be disabled.
14. Requires TSBdctrl V1.2
15. PowerPath not supported.
16. FC64: Hub supports up to 7 connections; PowerPath supported.
17. Veritas VxVM 3.0.4 or higher can be used. DMP must be enabled.
18. Requires Cluster Perfect Patch PB00042-01, PowerPath 3.0.2 or later.
19. Requires driver 4.09. The QLA2200F-EMC/QCP2202F-E/QLA2300-E-SP/QLA2340-E-SP/QLA2342-E-SP requires fcode v2.00.06. The QLA2202FS-E requires fcode 2.00.01. Fcode should be loaded on all HBA's at the time of installation. All drivers and fcode can be downloaded from http://www.qlogic.com. Supports SNIA HBA API.
20. **Requires Symmetrix 8000 Series, PowerPath 3.0.4 or later, VxVM 3.2, and microcode minimum 5567.46.24 – 5567.49.27, or 5568.52.18 or later. Symmetrix "PER" volume flag for Persistent Reservation support for devices accessible through more than two paths.**
21. For all Sun Cluster 3.0 configurations where TimeFinder or SRDF are being used. please refer to the white papers EMC Symmetrix with Sun Cluster 3.0 on Avatar and PowerLink.
22. OPS and RAC configurations running VxVM 3.2 VxVM 3.2 P03.
23. For clustered pairs of more than 2 nodes, see the Sun Cluster 3.0 Configuration Guide.
24. Requires MicroCode 5567.35.20 or higher.Volumes Should be enabled to support SCSI persistence (set PER flag for each volume).
25. OPS and RAC configurations running VxVM 3.2 VxVM 3.2 P03.
26. Channel configurations: multi-port SCSI preferred or common SCSI bus.
27. Supported with PowerPath 3.x configurations only. Native Names only, no Power Devices.Requires Symmetrix 8000 Series. PowerPath 3.0.1 or later, VxVM 3.5.
28. Supported with PowerPath 3.x configurations only. Native Names only, no Power Devices. Requires Symmetrix 8000 Series. PowerPath 3.0.1 or later, VxVM 3.5.
29. Supported with PowerPath 3.x configurations only. Native Names only, no Power Devices. Requires Symmetrix 8000 Series, PowerPath 3.0.1 or later, VxVM 3.5.SCSI-3 Persistent Group Reserve support requires minimum microcode 5567.42.23A or later. Symmetrix "PER" volume flag setting required for devices accessible through more than 2 paths.
30. Requires Sun patch 113277-09.
31. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
32. For configurations with PowerPath 3.0.1 use native names only, and no power devices.
33. Update 6.
34. Veritas MP1 is required for clusters with more than 2 servers
35. Symmetrix SCSI-3 "PER" volume flag setting required for devices accessible through two or more paths.
36. Requires Symmetrix 8000 Series and minimum microcode of (5567.50.28 or later) or (5568.54.20 or later).
37. If all FC connectivity to the array is lost (without a server shutdown), then after connectivity is restored, the user must execute a vxdctl enable command, before the VCS Oracle 9iRAC service group is brought back online.
38. SRDF and/or Timefinder by RPQ only
39. Please review Veritas support pages for latest patch information.
40. **Requires Symmetrix 8000 Series, PowerPath 3.0.4 or later, VxVM 3.5 or later, and microcode minimum 5567.46.24 – 5567.49.27, or 5568.52.18 or later. Symmetrix "PER" volume flag for Persistent Reservation support for devices accessible through more than two paths.**

Fibre Connectivity: Hub

Please refer to the fibre channel cables and connectors reference file: EPIc_FibreCablesConnectors.pdf.Please refer to the Base Connectivity Interoperability Application for details concerning kernel versions, minimum driver and BIOS / firmware revisions.

DG DG/UX

DG DG/UX									
No	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	DG DG/UX, R4.20MU06, R4.20MU07	Emulex LP8000-F1	EMC DP3-FCD8[2]	1	4	128	256	128	See[1]
2	DG DG/UX, R4.20MU06, R4.20MU07	Emulex LP8000-F1	Vixel Rapport, 1000, 2000	4	4	128	256	128	See[1]

1. All adapters must be the same type except with HP-UX.
2. 8-port adapter (Model DP3-FCD8) splits the Symmetrix director into two 4-port hubs. Symmetrix still operates with only 2 ports per director. This 8-port adapter supports both FC-AL and FC-SW connections. Cascading of hubs on the same 8-port adapter to other 8-port adapters or to other EMC-qualified hubs is not supported at this time. To connect a switch to this adapter only the lowest connector of each hub can be used

HPQ HP-UX

HPQ HP-UX								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	HPQ HP-UX: 11.0[1, 2], 11.0 990P[1, 2], 11.0 ACE[1, 2], 11i v1.0 (HP-UX 11.11)[1, 2, 13, 14], 11i v1.5 (HP-UX 11.20)[2, 15]	HPQ: A3404A, A3591A, A3591B, A3636A, A3740A, A5158A, A6684A, A6685A, A6795A	EMC DP3-FCD8[3, 4, 16, 17]	1	4[11]	128, 256[6, 7, 8, 9, 10]	320[12], 512	128
2	HPQ HP-UX: 11.0[1, 2], 11.0 990P[1, 2], 11.0 ACE[1, 2], 11i v1.0 (HP-UX 11.11)[1, 2, 13, 14], 11i v1.5 (HP-UX 11.20)[2, 15]	HPQ: A3404A, A3591A, A3591B, A3636A, A3740A, A5158A, A6684A, A6685A, A6795A	HPQ: A3724A/AZ[3, 4] A4839A/AZ[3, 4]	4	4[11]	128, 256[6, 7, 8, 9, 10]	320[12], 512	1280[5]

1. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
2. In HP and MC/ServiceGuard environments, the maximum number of active devices per server is 1024 for mid-range and high-end servers. This high device count is questionable for low-end servers (D/R-Class), and so remains at 768 for them (not counting alternate path LUNs for PV/Links or EMC PowerPath). Maximum limitations per server (subject to server and resources): HP-UX 10.20 768 devices, 1536 LUNs; HP-UX 11.0 2400 devices, 4800 LUNs; HP-UX 11i 4096 devices, 8096 LUNs; HP-UX 11i Version 1.5 (11.20) 4096 devices, 8096 LUNs.
3. 2 Gb speed and autonegotiation on target ports must be disabled when connected to hubs.
4. All adapters must be the same type except with HP-UX
5. Using ESN Manager.
6. Requires microcode level 5566.29 or higher.
7. 256 LUN support: HP-UX 10.20 requires patch PHKL_23259 or patches superceded by or having co-dependencies as defined by HP. HP-UX 11.0 requires patch PHKL_21607 or patches superceded by or having co-dependencies as defined by HP.
8. For HP-UX 11.0 of June 2000 or higher release is required (patch bundle XSWHWCR1100B.11.00.49.3 or XSWGR1100B.11.00.49.3 or later released patch bundle).
9. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
10. Symmetrix 8000 Series
11. Hub loop supports 4 HBAs and 8 Symmetrix ports.
12. In an HA environment, with HP-UX 11i, 512 LUNs per HBA are allowed.
13. Symmetrix microcode version: 5266.33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher. See Single section for minimum microcode required.
14. Non-HA, single initiator only. PowerPath not supported.
16. No cascading (of an FA port to a hub, or an FA port to another FA port). No conecting a hub to a switch (direct-connect only). Homogeneous hosts/HBAs/OS required. No remote boot from Symmetrix allowed. Minimum Symmetrix micrecode version 5566.23.18 required. Only one single PowerPath or PVLinks path per "side" of FA maximum. For PVLinks,primary and alternate paths must reside on different FA boards. In the HP-UX multi-initator environment ESN Manager may be neccessary to block LUN visibility between initiators connected to the same "side" of the FA (on the same loop), if such a restricted environment is desired by the customer.
17. 8-port adapter (Model DP3-FCD8) splits the Symmetrix director into two 4-port hubs. Symmetrix still operates with only 2 ports per director. This 8-port adapter supports both FC-AL and FC-SW connections. Cascading of hubs on the same 8-port adapter to other 8-port adapters or to other EMC-qualified hubs is not supported at this time. To connect a switch to this adapter only the lowest connector of each hub can be used.

IBM AIX

IBM AIX									
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	IBM AIX 4.3.3	Bull DCCG148-0000[7, 8]. EMC CKIT-E70-AIX[10]; IBM: 6227[1], 6228	EMC DP3-FCD8[2, 3]	1	4	128,Symmetrix 8xxx Series	256	128	
2	IBM AIX 4.3.3	IBM: 6227[1], 6228[1]	Vixel Rapport 1000[2]	4	4	128,Symmetrix 8xxx Series	256	256	
3	IBM AIX 5.1	Bull DCCG148-0000[7, 8]	Bull LNCQ001[9]	4	4	128, 256[4, 6]	256	384	See[2]
4	IBM AIX 5.1	Bull DCCG148-0000[7, 8]	EMC DP3-FCD8[3]	1	4	128, 256[4, 6]	256	128	See[2]
5	IBM AIX 5.1	IBM: 6227, 6228	EMC DP3-FCD8[2, 3]	1	4	128, 256[4]	256	128	
6	IBM AIX 5.1	IBM: 6227, 6228	Vixel Rapport 1000[2, 5]	4	4	128, 256[4]	256	256	
7	IBM AIX 5.2	IBM: 6227, 6228	EMC DP3-FCD8[2, 3], Vixel Rapport 1000[2, 5]	1	4	128	256 LUNs/HBA	EMC DP3-FCD8 (128 luns/loop), Vixel Rapport 1000 (256 luns/loop)	See[4]
8	IBM AIX, 4.3.0, 4.3.1, 4.3.2	Bull DCCG148-0000[7, 8]. EMC CKIT-E70-AIX[10]	EMC DP3-FCD8[2, 3]	1	4	128,Symmetrix 8xxx Series	256	128	
9	IBM AIX: 4.3.0, 4.3.1, 4.3.2, 4.3.3	Bull DCCG148-0000[7, 8]	Bull LNCQ001[2, 9]	4	4	128 Symmetrix 8xxx Series	256	384	
10	IBM AIX, 4.3.0, 4.3.1, 4.3.2, 4.3.3	EMC CKIT-E70-AIX[10]	Vixel Rapport 1000[2]	4	4	128,Symmetrix 8xxx Series	256	384	

1. For all PCI-based hosts only: See http://www-1.ibm.com/servers/eserver/pseries/library/hardware_docs/sa38/380538.pdf for appropriate HBA placement guidelines.
2. All adapters must be the same type except with HP-UX
3. 8-port adapter (Model DP3-FCD8) splits the Symmetrix director into two 4-port hubs. Symmetrix still operates with only 2 ports per director. This 8-port adapter supports both FC-AL and FC-SW connections. Cascading of hubs on the same 8-port adapter to other 8-port adapters or to other EMC-qualified hubs is not supported at this time. To connect a switch to this adapter only the lowest connector of each hub can be used.
4. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
5. IBM Fibre Channel storage hub 2103-H07 with short wave optical GBIC
6. Symmetrix 8000 Series
7. Bull DCCG148-0000 = LP8000E fiber
8. Fibre Channel device driver distributed and supported by Bull
9. Bull LNCQ001-0000 = Gadzoox 9-port copper bitstrip
10. No longer available

IBM OS/400

IBM OS/400								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	IBM OS/400 V5R1[2]	IBM 2766, 2843	IBM 3534[1]	1	1	32	32	32

1. Direct Connect only
2. Subject to IBMs limitations per host model

Microsoft Windows 2000

Microsoft Windows 2000									
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2]; Microsoft Windows 2000 Datacenter: SP2[2], SP3[2]; Microsoft Windows 2000 Server: SP2[2], SP3[2]	Emulex LP7000E-EMC, LP8000-EMC[3], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E QLogic QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP, Unisys FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	EMC DP3-FCD8[4]	1	4	128	128	128	See[1]
2	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2]; Microsoft Windows 2000 Datacenter: SP2[2], SP3[2]; Microsoft Windows 2000 Server: SP2[2], SP3[2]	Emulex, LP7000E-EMC, LP8000-EMC[3], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E QLogic, QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP, Unisys FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	Gadzoox: 1063CM, Gibraltar GL, Gibraltar GS: Unisys OSM1000; Vixel Rapport: 1000, 2000, 2100	6	6	128	128	384	See[1]
3	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2]; Microsoft Windows 2000 Datacenter: SP2[2], SP3[2]; Microsoft Windows 2000 Server: SP2[2], SP3[2]	HPQ D8602A (Agilent HHBA-5101B)[2, 6, 8], D8602B (Agilent HHBA-5101C)[2, 6, 7]; IBM 00N6881 (QLA2200)[5]	Gadzoox: 1063CM, Gibraltar GL, Gibraltar GS: Unisys OSM1000; Vixel Rapport: 1000, 2000	6	6	128	128	384	See[1]
4	Microsoft Windows 2000 Server: SP2[2], SP3[2]	QLogic QLA2204F	Vixel Rapport: 1000, 2000	2	6	128	128	256	See[1]

1. All adapters must be the same type except with HP-UX.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
4. 8-port adapter (Model DP3-FCD8) splits the Symmetrix director into two 4-port hubs. Symmetrix still operates with only 2 ports per director. This 8-port adapter supports both FC-AL and FC-SW connections. Cascading of hubs on the same 8-port adapter to other 8-port adapters or to other EMC-qualified hubs is not supported at this time. To connect a switch to this adapter only the lowest connector of each hub can be used.
5. (QLA2200) For IBM xSeries and Netfinity servers only
6. HP D8602A, D8602B support: FC-AL via direct connect only
7. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
8. (HHBA-5101BK-01)

Microsoft Windows NT

Microsoft Windows NT									
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP8000-EMC[8]	EMC DP3-FCD8[4]; Unisys OSM1000; Vixel Rapport: 1000, 2000	1	4	128	128	128[9]	See[1]
2	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP7000E-EMC, LP850-EMC, LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E. HPQ 176479-B21, A5246A (Agilent HHBA-5000A)[3, 5], D8602A (Agilent HHBA-5101B)[3, 7], D8602B (Agilent HHBA-5101C)[3, 6] KGPSA-CB, KGPSA-CY IBM 00N6881 (QLA2200)[2] QLogic QLA2100F-EMC, QLA2200F-EMC, QLA2202F-EMC QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	EMC DP3-FCD8[4]	1	4	128	128	128	See[1]
3	Microsoft Windows NT 4.0 SP6A[3]	HPQ, A5246A (Agilent HHBA-5000A)[3, 5], D8602A (Agilent HHBA-5101B)[3, 7], D8602B (Agilent HHBA-5101C)[3, 6]	Gadzoox: 1063CM, Gibraltar GL, Gibraltar GS: Vixel Rapport: 1000, 2000	2	6	128	128	256	See[1]
4	Microsoft Windows NT 4.0 SP6A[3]	QLogic QLA2100F-EMC	Gadzoox 1063CM, Gibraltar GL: Unisys OSM1000; Vixel Rapport: 1000 2000	6	6	128	128	384	See[1]
5	Microsoft Windows NT 4.0 SP6A[3]	Unisys FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1), PCI 1100-FC (QLA2100), PCI 1120-FC (QLA2100-EMC, QLA2100F)	EMC DP3-FCD8[4] Unisys OSM1000, Vixel Rapport 1000, 2000	6	6	128	128	384[9]	See[1]

1. All adapters must be the same type except with HP-UX.
2. (QLA2200) For IBM xSeries and Netfinity servers only.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. 8-port adapter (Model DP3-FCD8) splits the Symmetrix director into two 4-port hubs. Symmetrix still operates with only 2 ports per director. This 8-port adapter supports both FC-AL and FC-SW connections. Cascading of hubs on the same 8-port adapter to other 8-port adapters or to other EMC-qualified hubs is not supported at this time. To connect a switch to this adapter only the lowest connector of each hub can be used.
5. No switch support on the HP A5246A.
6. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
7. (HHBA-5101BK-01)
8. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
9. DP3-FCD8 only

Novell Netware

Novell Netware									
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	Novell Netware 5.10 SP6	Emulex LP9002-E (LP9002L-E); QLogic: QLA2100F-EMC, QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP	EMC DP3-FCD8[5]; Gadzoox: 1063CM, Gibraltar GL, Gibraltar GS; Vixel Rapport: 1000, 2000	1[3], 6	4[3], 6	128[4]	128	128[3], 384[4]	See[1]
2	Novell Netware: 5.00 SP6A[2, 8], 5.10 SP2A[2], 5.10 SP5[2], 6.0 SP1[2], 6.0 SP2[2], 6.0 SP3	Emulex LP9002-E (LP9002L-E); HPQ D8602A (Agilent HHBA-5101B)[6, 7]; QLogic: QLA2100F-EMC, QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP	EMC DP3-FCD8[5]; Gadzoox: 1063CM, Gibraltar GL, Gibraltar GS; Vixel Rapport: 1000, 2000	1[3], 6	4[3], 6	128[4]	128	128[3], 384[4]	See[1]

1. Fanout represents the maximum initiators (host adapters) per Symmetrix port. Fanin represents the number of Symmetrix ports visible to a single initiator (host adapter). In arbitrated loop environments, these numbers represent the maximum initiators per loop. In switch environments, these numbers are achieved through Zoning. For further details on Fanin/Fanout, see Connectrix Enterprise Storage Network Planning Guide or EMC Networked Storage Topology Guide.
2. Maximum number of NWFS volumes that can be mounted is 64.
3. DP3-FCD8 only
4. NetWare 5.00 NSS has a 120 LUNs per port limitation. If NSS is used, the maximum LUNs per Symm-Port/HBA is 120/120.
5. 8-port adapter (Model DP3-FCD8) splits the Symmetrix director into two 4-port hubs. Symmetrix still operates with only 2 ports per director. This 8-port adapter supports both FC-AL and FC-SW connections. Cascading of hubs on the same 8-port adapter to other 8-port adapters or to other EMC-qualified hubs is not supported at this time. To connect a switch to this adapter only the lowest connector of each hub can be used.
6. (HHBA-5101BK-01)
7. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
8. Requires NWPA.NLM V.3.07A update from Novell website.

Red Hat Linux

Red Hat Linux									
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[2, 5], v2.4.9-E.12[2, 5], v2.4.9-E.16[2, 5], **v2.4.9-E.3[2, 3]**; Red Hat Linux 2.1 ES: **v2.4.9-e.12[2, 5]**, v2.4.9-e.16[2, 5]; Red Hat Linux 7.3: (v2.4.18-3)[2], updated w/ v2.4.18-27.7.x rpm[2]	Emulex: LP9002-E (LP9002L-E)[4], LP9802-E[4], LP9802DC-E, LP982-E[4]. QLogic: QLA2200F-EMC[4], QLA2310F-E-SP[4], QLA2340-E-SP[4]	Vixel Rapport: 1000, 2000	6	6	128	128	128	See[1]

1. All adapters must be the same type except with HP-UX.
2. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
3. **Supported with QLogic driver v6.04.02 or v6.05.00.**
4. Single HBA zoning is required regardless of the switch being utilized.
5. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.

SuSE Linux

SuSE Linux									
No	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop	Comments
1	SuSE Linux SLES 7 (v2.4.7)[2, 3, 4]	Emulex: LP9002-E (LP9002L-E)[5], LP9802-E[5], LP9802DC-E, LP982-E[5]. QLogic: QLA2200F-EMC[5], QLA2310F-E-SP[5], QLA2340-E-SP[5]	Vixel Rapport: 1000, 2000	6	6	128	128	128	See[1]

1. All adapters must be the same type except with HP-UX
2. Supported with QLogic driver v6.04.02.
3. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
4. EMC supports the following filesystems: ext2, ext3 reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
5. Single HBA zoning is required regardless of the switch being utilized.

Sun Solaris

Sun Solaris								
No.	Operating System	Host Bus Adapter	Hub	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Luns/Loop
1	Sun Solaris 2.6	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002S-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCI-1063-EMC; QLogic: QLA2200F-EMC, QLA2300F-E-SP	EMC DP3-FCD8[1, 3]	4	4	128	128	384
2	Sun Solaris 2.6	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002S-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCI-1063-EMC; QLogic: QLA2200F-EMC, QLA2300F-E-SP	Gadzoox: 1063CM[1], Gibraltar GL[1], Gibraltar GS[1]; Vixel Rapport: 1000[1], 2000[1]	6	6	128	128	384
3	Sun Solaris 2.6	JNI: FC-1063-EMC, FC64-1063-EMC, FCI-1063-EMC	STK StorageNet Access Hub 1.2[1]	6	6	128	128	128
4	Sun Solaris 7	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCI-1063-EMC, FCX2-6562-E; QLogic: QLA2200F-EMC, QLA2202FS-E, QLA2300F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Gadzoox: 1063CM[1], Gibraltar GL[1], Gibraltar GS[1]; Vixel Rapport: 1000[1], 2000[1]	6	6	128	256	384
5	Sun Solaris 8	Emulex: LP9002S-E, LP9802-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCI-1063-EMC, FCX2-6562-E; QLogic: QLA2202FS-E, QLA2300F-E-SP, QLA2340-E-SP	Gadzoox: 1063CM[1], Gibraltar GL[1], Gibraltar GS[1]; Vixel Rapport: 1000[1], 2000[1]	6	6	128	256	384
6	Sun Solaris: 7, 8	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCI-1063-EMC, FCX2-6562-E; QLogic: QLA2200F-EMC, QLA2202FS-E, QLA2300F-E-SP, QLA2340-E-SP, QLA2342-E-SP	EMC DP3-FCD8[1, 3]	4	4	128	256	384
7	Sun Solaris: 8, 9	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2342-E-SP	EMC DP3-FCD8[1, 3]; Gadzoox: 1063CM[1], Gibraltar GL[1], Gibraltar GS[1]; Vixel Rapport: 1000[1], 2000[1]	6	6	128	256	384

1. All adapters must be the same type except with HP-UX.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.

Fibre Connectivity: Switch

DG DG/UX

DG DG/UX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	DG DG/UX R4.20MU06	Emulex LP8000-EMC[1]	Brocade Silkworm: 12000, 2400[2], 2800[2], 3900, 6400; EMC Connectrix: DS-16B[2, 3], DS-8B[2]	6	6	128	256	N
2	DG DG/UX R4.20MU06	Emulex LP8000-F1	Brocade Silkworm: 2400[2], 2800[2], 6400[2]; EMC Connectrix: DS-16B[2, 3], DS-8B[2]	6	6	128	256	N
3	DG DG/UX R4.20MU07	Emulex LP8000-F1	Brocade Silkworm: 2400[2], 2800[2], 6400[2]; EMC Connectrix: DS-16B[2, 3], DS-16B2[4], DS-8B[2]	6	6	128	256	N

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
3. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
4. EMC DS-16B2 for "Extended Fabric License" use minimum 3.0.2f firmware. 1 ISL per quad only

EMC NAS

EMC NAS								
No	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	EMC NAS 2.2.60	EMC 250-736-900	Brocade Silkworm: 2400, 2800, 3800, 3900[1]; EMC Connectrix: DS-16B[5], DS-16B2[8], DS-16M, DS-32B2[1, 6], DS-32M, DS-8B, ED-1032, ED-140M[1], ED-64M; EMC: DP3-SCB1, DP3-SCQ1 Fujitsu Siemens PSFS-B161 McDATA: ED-5000, ED-6064, ED-6140[1], ES-2500, ES-3016, ES-3032, ES-3216[1], ES-3232[1]	6	6	128, 256[3, 7]	4096[2]	N[4]
2	EMC NAS 2.2.60	EMC 250-736-900	EMC Connectrix: DS-16M2[1], DS-24M2[1], DS-32M2[1] McDATA ES-4500[1]	6	6	128[2], 256[2, 3, 7]	4096[2]	N[4]
3	EMC NAS 2.2.60	EMC 201-712-900, 250-736-900	EMC Connectrix ED-12000B[1, 6]	6	6	128[2], 256[2, 3]	[illegible]	[illegible]

EMC NAS								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
4	EMC NAS 5.0.9	EMC: 201-712-900, 250-734-902, 250-735-900, 250-736-900	Brocade Silkworm: 2400, 2800, 3800, 3900[1]; Cisco MDS: 9216[1], 9509[1]; EMC Connectrix: DS-16B[5], DS-16B2[8], DS-16M, DS-16M2[1], DS-24M2[1], DS-32B2[1, 6], DS-32M, DS-32M2[1], DS-8B, ED-1032, ED-140M[1], ED-64M; EMC: DP3-SCB1, DP3-SCQ1; Fujitsu Siemens PSFS-B161; McDATA: ED-5000, ED-6064, ED-6140[1], ES-2500, ES-3016, ES-3032 ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128, 256[3, 7]	4096[2]	N[4]
5	EMC NAS: 2.2.25, 2.2.49	EMC: 201-712-900, 250-736-900	Brocade Silkworm: 2400[1], 2800[1]; EMC Connectrix: DS-16B[1, 5], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 6], ED-64M[1]; Fujitsu Siemens PSFS-B161[1]; McDATA: ED-5000[1], ED-6064[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128[2], 256[2, 3]	4096[2]	N[4]
6	EMC NAS: 2.2.60, 4.1.12, 4.2.11	EMC 201-712-900	Brocade Silkworm: 2400[1], 2800[1]; EMC Connectrix: DS-16B[1, 5], DS-16M[1], DS-32M[1], DS-8B[1], ED-1032[1], ED-64M[1]; Fujitsu Siemens PSFS-B161[1]; McDATA: ED-5000[1], ED-6064[1], ES-2500[1], ES-3016[1], ES-3032[1]	6	6	128[2], 256[2, 3, 7]	4096[2]	N[4]
7	EMC NAS: 2.2.60, 4.1.12, 4.2.11, 5.0.11, **5.1.15**, 5.1.9	EMC 201-712-900	Brocade Silkworm: 3800, 3900[1]; EMC Connectrix: DS-16B2[8], DS-16M2[1], DS-24M2[1], DS-32B2[1, 6], DS-32M2[1], ED-140M[1]; EMC: DP3-SCB1, DP3-SCQ1; McDATA: ED-6140[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128, 256[3, 7]	4096[2]	N[4]
8	EMC NAS: 4.1.12, 4.2.11	EMC: 250-734-902, 250-735-900, 250-736-900	Brocade Silkworm: 2400, 2800, 3800, 3900[1]; EMC Connectrix: DS-16B[5], DS-16B2[8], DS-16M, DS-32B2[1, 6], DS-32M, DS-8B, ED-1032, ED-140M[1], ED-64M; EMC: DP3-SCB1, DP3-SCQ1; Fujitsu Siemens PSFS-B161; McDATA: ED-5000, ED-6064, ED-6140[1], ES-2500, ES-3016, ES-3032, ES-3216[1], ES-3232[1]	6	6	128, 256[3, 7]	4096[2]	N[4]
9	EMC NAS: 4.1.12, 4.2.11, 5.0.11, **5.1.15**, 5.1.9	EMC: 201-712-900, 250-734-902, 250-735-900, 250-736-900	EMC Connectrix ED-12000B[1, 6]	6	6	128[2], 256[2, 3]	4096[2]	N[4]
10	EMC NAS: 4.1.12, 4.2.11, 5.0.11, **5.1.15**, 5.1.9	EMC: 250-734-902, 250-735-900, 250-736-900	EMC Connectrix: DS-16M2[1], DS-24M2[1], DS-32M2[1]; McDATA ES-4500[1]	6	6	128[2], 256[2, 3, 7]	4096[2]	N[4]
11	EMC NAS: 4.1.8, **4.2.18**, 4.2.5	EMC: 201-712-900, 250-734-902, 250-735-900, 250-736-900	Brocade Silkworm: 2400, 2800, 3800, 3900[1]; EMC Connectrix: DS-16B[5], DS-16B2[8], DS-16M, DS-16M2[1], DS-24M2[1], DS-32B2[1, 6], DS-32M, DS-32M2[1], DS-8B, ED-1032, ED-140M[1], ED-64M; EMC: DP3-SCB1, DP3-SCQ1, Fujitsu Siemens PSFS-B161; McDATA: ED-5000, ED-6064, ED-6140[1], ES-2500, ES-3016, ES-3032, ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128, 256[3, 7]	4096[2]	N[4]
12	EMC NAS: 5.0.11, **5.1.15**, 5.1.9	EMC 201-712-900	Brocade Silkworm: 2400[1], 2800[1]; Cisco MDS: 9216[1], 9509[1]; EMC Connectrix: DS-16B[1, 5], DS-16M[1], DS-32M[1], DS-8B[1], ED-1032[1], ED-64M[1]; Fujitsu Siemens PSFS-B161[1]; McDATA: ED-5000[1], ED-6064[1], ES-2500[1], ES-3016[1], ES-3032[1]	6	6	128[2], 256[2, 3, 7]	4096[2]	N[4]
13	EMC NAS: 5.0.11 **5.1.15** 5.1.9	EMC: 250-734-902 250-735-900, 250-736-900	Brocade Silkworm: 2400, 2800, 3800, 3900[1]; Cisco MDS: 9216[1], 9509[1]; EMC Connectrix: DS-16B[5], DS-16B2[8], DS-16M, DS-32B2[1, 6], DS-32M, DS-8B, ED-1032, ED-140M[1], ED-64M; EMC: DP3-SCB1, DP3-SCQ1; Fujitsu Siemens PSFS-B161 McDATA: ED-5000, ED-6064, ED-6140[1], ES-2500, ES-3016, ES-3032 ES-3216[1] ES-3232[1]	6	6	128, 256[3, 7]	4096[2]	N[4]

1 For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
2 Addressable from Data Mover. Constrained by the number of targets addressable through a Symmetrix FA port.
3 The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
4. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note, "N" for No means this host cannot share an FA port with any different OS/HBA): 1 ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2 Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example. Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6 The Fanout/Fanin is restricted to 6.1/1.6. 3. See appropriate host matrices for approved drivers, BIOS. firmware boot and cluster information 4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information 5. Microcode level 5x66 and above
5 EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
6 EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware. 1 x L1 or 2 x L2 ports per quad only
7 Symmetrix 8000 Series
8 EMC DS-16B2 for "Extended Fabric License" use minimum 3.0.2f firmware 1 ISL per quad only

Fuji Serv (ICL) Open VME

Fuji Serv (ICL) Open VME								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Fuji Serv (ICL) Open VME 4[2]	QLogic QLA2200F	Brocade Silkworm: 2400[1], 2800[1]; EMC Connectrix: DS-16B[1, 5], DS-8B[1]	6	6	256[3, 4], 32	256	N
2	Fuji Serv (ICL) Open VME: 3. 4[2]	QLogic QLA2100F	Brocade Silkworm: 2400[1, 6], 2800[1, 6]; EMC Connectrix: DS-16B[1, 5, 6], DS-8B[1, 6]	6	6	256[3, 4], 32	32	N
3	**Fuji Serv (ICL) Open VME: 4.2. 5**	**QLogic QLA2200F**	**Brocade Silkworm: 2400[1], 2800[1], 3200[1], 3800[1];** **EMC Connectrix: DS-16B[1, 5], DS-16B2[7], DS-16M, DS-32M, DS-8B[1];** **McDATA. ES-3016, ES-3032[8]**	**6**	**6**	**256[4]**	**256**	**Y**

1. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
2. Requires OV/K/0041.3
3. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
4. Symmetrix 8000 Series
5. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
6. Quick Loop Only
7. **EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.**
8. **E/OS version 4.01.02**

Fujitsu Solaris

Fujitsu Solaris								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Fujitsu Solaris 7	Fujitsu GP7B8FC1	Brocade Silkworm: 12000[1, 2], 2400[1, 2], 2800[1, 2], 3900[1, 2], 6400[1, 2]; EMC Connectrix: DS-16B[1, 2, 3], DS-32B2[1, 4, 5], DS-8B[1, 2], ED-1032[2]; EMC: DP3-SCB1[1, 2], DP3-SCQ1[1, 2]	12	12	128, Symmetrix 8xxx Series: 256	256	Y
2	Fujitsu Solaris 7	Fujitsu GP7B8FC1	EMC Connectrix: DS-16M[4], DS-16M2[4], DS-24M2[4], DS-32B2[1, 4, 5], DS-32M[4], DS-32M2[4], ED-12000B[4, 5], ED-64M[4]	12	12	128, 256[2]	256	Y
3	Fujitsu Solaris: 8, 9 09/02[6]	Fujitsu GP7B8FC1	Brocade Silkworm: 12000[1, 2], 2400[1, 2], 2800[1, 2], 3900[1, 2], 6400[1, 2]; EMC Connectrix: DS-16B[1, 2, 3], DS-32B2[1, 4, 5], DS-8B[1, 2], ED-1032[2], ED-140M[1]; EMC: DP3-SCB1[1, 2], DP3-SCQ1[1, 2]; McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	12	128, Symmetrix 8xxx Series: 256	256	Y
4	Fujitsu Solaris: 8, 9 09/02[6]	Fujitsu GP7B8FC1	EMC Connectrix: DS-16M[4], DS-16M2[4], DS-24M2[4], DS-32B2[1, 4, 5], DS-32M[4], DS-32M2[4], ED-12000B[4, 5], ED-140M[1], ED-64M[4]; McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	12	128, 256[2]	256	Y

1. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
2. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
3. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
4. See Switched Fabric Topology Parameters for switch firmware levels.
5. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
6. EMC requires Solaris patches for Fujitsu servers running Solaris 9:

   112233-05 SunOS 5.9 kernel update patch,
   113277-08 SunOS 5.9: sd,ssd patch
   112834-02
   Fujitsu requires that all patches for Solaris 9 be obtained through Fujitsu in the form of a Solaris 9 PTF patch CD. The current patch CD is Solaris 9 PTF R03051.

Fujitsu Siemens BS2000/OSD

Fujitsu Siemens BS2000/OSD								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Fujitsu Siemens BS2000/OSD V5.0	Fujitsu Siemens: GS214FC05, GS216FC05, GS8551C05, GS8951C05	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 6400: EMC Connectrix: DS-16B[2], DS-16B2[3], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[1], ED-140M, ED-64M: EMC: DP3-SCB1, DP3-SCQ1. McDATA: ED-5000, ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	4	4	256	256	N

1 EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
2 EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
3 EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only

Fujitsu Siemens Reliant UNIX

Fujitsu Siemens Reliant UNIX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Fujitsu Siemens Reliant UNIX V5.45B00	Fujitsu Siemens RM6T5-CF10	Brocade Silkworm: 3200[1], 3800[1], 3900[1]; EMC Connectrix: DS-16B2[1, 5], DS-24M2[1], DS-32B2[4, 6], ED-140M[1]; McDATA: ED-6140[1], ES-4500[1]	6	6	128	256	N
2	Fujitsu Siemens Reliant UNIX V5.45B20	Fujitsu Siemens RM6T5-CF10	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 6400[1]; EMC Connectrix: DS-16B[1, 2], DS-16B2[1, 5], DS-16M[1], DS-16M2[1], DS-32B2[4, 6], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 4], ED-140M[1], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; Fujitsu Siemens PSFS-B161[1, 3]: McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	6	6	128	256	N
3	Fujitsu Siemens Reliant UNIX: V5.43C50, V5.44C40, V5.45A30	Fujitsu Siemens RM6T5-CF10	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 2], DS-16B2[1, 5], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[4, 6], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 4], ED-140M[1], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; Fujitsu Siemens PSFS-B161[1, 3]: McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128	256	N

1. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
2. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
3. is a Brocade 2800.
   EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
   EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
   See Switched Fabric Topology Parameters for switch firmware levels.

Fujitsu Siemens Solaris

Fujitsu Siemens Solaris									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	Fujitsu Siemens Solaris 2.6	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 4], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[5, 6], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128	128 (Sol 2.6) 256 (Sol 7,8,9), 256	Y	
2	Fujitsu Siemens Solaris 2.6	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[2, 3]	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 4], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[5, 6], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128	256	Y	
3	Fujitsu Siemens Solaris 7	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X), LP9002-E (LP9002L-E) GP70F-CF30	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 4], DS-32B2[5, 6], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128, 256[7]	256	Y	See[6]
4	Fujitsu Siemens Solaris 7 Nov 99	Fujitsu Siemens LP9002-E (LP9002L-E) GP70F-CF30	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 4], DS-32B2[1, 5], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128, 256[7]	256	Y	See[6]
5	Fujitsu Siemens Solaris 8	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X), LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 4], DS-32B2[5, 6], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128, 256[7]	256	Y	See[6]

Fujitsu Siemens Solaris									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
6	Fujitsu Siemens Solaris 8	Fujitsu Siemens LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1] 6400[1]; EMC Connectrix: DS-16B[1, 4], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[5, 6], DS-32M[1] DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128	256	Y	
7	Fujitsu Siemens Solaris 8: 02/02, 850/650; Fujitsu Siemens Solaris 9 04/03	Fujitsu Siemens LP9002-E (LP9002L-E) GP70F-CF30 LP9802-E (GP70F-CF31)	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1] EMC Connectrix: DS-16B[1, 4], DS-16M[1], DS-16M2[1] DS-24M2[1], DS-32B2[1, 5, 6], DS-32M[1] DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128	256	Y	
8	Fujitsu Siemens Solaris 8: 02/02, 850/650; Fujitsu Siemens Solaris 9 04/03	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30 LP9802-E (GP70F-CF31)	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1] EMC Connectrix: DS-16B[1, 4], DS-32B2[1, 5], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128, 256[7]	256	Y	See[6]
9	Fujitsu Siemens Solaris: 2.6 May 98, 7 Nov 99	Fujitsu Siemens LP9002-E (LP9002L-E) GP70F-CF30	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1], EMC Connectrix: DS-16B[1, 4], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[1, 5, 6], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128	256	Y	
10	Fujitsu Siemens Solaris: 2.6 May 98, 7 Nov 99, 8 02/02, 8 850/650, 9 04/03	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 4], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[1, 5, 6], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128	128 Sol 6, 256 Sol 7,8,9	Y	
11	Fujitsu Siemens Solaris: 2.6 May 98, 7 Nov 99, 8 02/02, 8 850/650, 9 04/03	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[2, 3]	Brocade Silkworm: 12000[1], 2400[1], 2800[1] 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 4], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[1, 5, 6], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128	256	Y	
12	Fujitsu Siemens Solaris: 2.6 May 98, 7 Nov 99, 8 02/02, 8 850/650, 9 04/03	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[2, 3]	EMC: Connectrix DS-32B2[1, 5, 6], DP3-SCB1[1], DP3-SCQ1[1]	6	6	128	128(Sol 2.6), 256(Sol 7,8)	Y	
13	Fujitsu Siemens Solaris: 2.6, 7	Fujitsu Siemens LP9002-E (LP9002L-E) GP70F-CF30	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1], EMC Connectrix: DS-16B[1, 4], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[5, 6], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128	256	Y	
14	Fujitsu Siemens Solaris: 2.6, 7, 8	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[2, 3]	EMC: Connectrix DS-32B2[5, 6], DP3-SCB1[1], DP3-SCQ1[1]	6	6	128	128(Sol 2.6), 256(Sol 7,8)	Y	
15	Fujitsu Siemens Solaris: 7 Nov 99, 8 02/02, 8 850/650, 9 04/03	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)	Brocade Silkworm: 12000[1] 2400[1], 2800[1] 3900[1] 6400[1], EMC Connectrix: DS-16B[1, 4], DS-32B2[1, 5] DS-8B[1], ED-1032[1] ED-12000B[1, 5] ED-64M[1] EMC: DP3-SCB1[1], DP3-SCQ1[1] McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128, 256[7]	128 Sol 6, 256 Sol 7,8,9	Y	See[6]

Fujitsu Siemens Solaris									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
16	Fujitsu Siemens Solaris: 7, 8	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)	EMC: Connectrix DS-32B2[5, 6], DP3-SCB1[1], DP3-SCQ1[1]	6	6	128	256	Y	
17	Fujitsu Siemens Solaris: 7, 8	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[2, 3]	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]. EMC Connectrix: DS-16B[1, 4], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 5], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128	256	Y	

1. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
5. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
6. See Switched Fabric Topology Parameters for switch firmware levels.
7. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)

HPQ HP-UX

HPQ HP-UX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	HPQ HP-UX 11.0 990P[20, 21, 32]	HPQ A5158A	Brocade Silkworm: 12000[7, 30], 2400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-16M[1, 2, 7], DS-16M2[7], DS-24M2[7], DS-32B2[31], DS-32M[1, 2, 7], DS-32M2[7], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11], ED-1032[1, 2, 4, 7, 9, 29], ED-12000B[7, 30, 31], ED-64M[1, 2, 7]; EMC: DP3-SCB1[1, 2, 7], DP3-SCQ1[2, 7]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]. McDATA: ED-5000[1, 2, 4, 7, 9, 29], ES-3216[7], ES-3232[7]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[17], 512[15, 28]	Y[19]	
2	HPQ HP-UX 11.0 990P[20, 21, 32]	HPQ A6684A	Brocade Silkworm: 12000[7, 30], 2400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-16M[1, 2, 7], DS-16M2[7], DS-24M2[7], DS-32B2[31], DS-32M[1, 2, 7], DS-32M2[7], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11], ED-1032[1, 2, 4, 7, 9, 29], ED-12000B[7, 30, 31], ED-64M[1, 2, 7]; EMC: DP3-SCB1[1, 2, 7], DP3-SCQ1[2, 7]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]. McDATA: ED-5000[1, 2, 4, 7, 9, 29], ES-3216[7], ES-3232[7]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[16, 17], 512[14, 15, 28]	Y[19]	
3	HPQ HP-UX 11.0 990P[20, 21, 32]	HPQ A6685A	Brocade Silkworm: 12000[7, 30], 2400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-16M[1, 2, 7], DS-16M2[7], DS-24M2[7], DS-32B2[31], DS-32M[1, 2, 7], DS-32M2[7], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11], ED-1032[1, 2, 4, 7, 9, 29], ED-12000B[7, 30, 31], ED-64M[1, 2, 7]; EMC: DP3-SCB1[1, 2, 7], DP3-SCQ1[2, 7]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]. McDATA: ED-5000[1, 2, 4, 7, 9, 29], ES-3216[7], ES-3232[7], ES-4500[7]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[16, 17], 512[14, 15, 28]	Y[19]	
4	HPQ HP-UX 11.0 ACE[20, 21]	HPQ A5158A	Brocade Silkworm: 12000[7, 30], 2400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-16M[1, 2, 7], DS-16M2[7], DS-24M2[7], DS-32B2[31], DS-32M[1, 2, 7], DS-32M2[7], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11], ED-1032[1, 2, 4, 7, 9, 29], ED-12000B[7, 30, 31], ED-64M[1, 2, 7]; EMC: DP3-SCB1[1, 2, 7], DP3-SCQ1[2, 7]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]. McDATA: ED-5000[1, 2, 4, 7, 9, 29], ES-3216[7], ES-3232[7], ES-4500[7]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[17], 512[15, 28]	Y[19]	
5	HPQ HP-UX 11.0 ACE[20, 21]	HPQ A6684A, A6685A	Brocade Silkworm: 12000[7, 30], 2400[1, 2, 7] EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-16M[1, 2, 7], DS-16M2[7], DS-24M2[7], DS-32B2[31], DS-32M[1, 2, 7], DS-32M2[7], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11], ED-1032[1, 2, 4, 7, 9, 29], ED-12000B[7, 30, 31], ED-64M[1, 2, 7]; EMC: DP3-SCB1[1, 2, 7], DP3-SCQ1[2, 7]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60] Inrange FC9000/64[29, 57, 58]. McDATA: ED-5000[1, 2, 4, 7, 9, 29], ES-3216[7], ES-3232[7], ES-4500[7]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[16, 17], 512[14, 15, 28]	Y[19]	
6	HPQ HP-UX 11.0 March 2003[21]	HPQ A5158A	Cisco MDS 9509[57]	12	12	256	320, 512	Y	

HPQ HP-UX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
7	HPQ HP-UX 11.0: 990P[20, 21, 32], ACE[20, 21]	HPQ A6795A	Brocade Silkworm: 12000[7, 30], 2400[1, 2, 7]; Cisco MDS 9509[67]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-16M[1, 2, 7], DS-16M2[7], DS-24M2[7], DS-32B2[31], DS-32M[1, 2, 7], DS-32M2[7], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11], ED-1032[1, 2, 4, 7, 9, 29], ED-12000B[7, 30, 31], ED-64M[1, 2, 7]; EMC: DP3-SCB1[1, 2, 7], DP3-SCQ1[2, 7]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]. McDATA: ED-5000[1, 2, 4, 7, 9, 29], ES-3216[7], ES-3232[7], ES-4500[7]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[17], 512[15, 28]	Y[19]	
8	HPQ HP-UX 11.0: 990P[20, 21, 32], ACE[20, 21]	HPQ A6795A	Brocade Silkworm: 3200[7, 26, 37, 38], 3800[7, 26, 37, 38], 3900[7, 37, 38], 6400[7, 37, 38]; Cisco MDS 9509[67]	12[18]	12	256[6, 8]	320[17], 512[15]	Y[39, 40]	
9	HPQ HP-UX 11.0: 990P[20, 21, 32], ACE[20, 21]	HPQ: A5158A, A6684A, A6685A	Brocade Silkworm: 3200[7, 26, 37, 38], 3800[7, 26, 37, 38], 3900[7, 37, 38], 6400[7, 37, 38]	12[18]	12	256[6, 8]	320[17], 512[15]	Y[39, 40]	
10	**HPQ HP-UX 11.0[20, 21, 32]**	**HPQ A6795A**	**Cisco MDS 9509[67]**	12[18]	12	256[6, 8]	320[17], 512[15]	Y[39, 40]	
11	HPQ HP-UX 11.0[21, 32]	HPQ A5158A	Brocade Silkworm: 12000[7, 44], 2400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-16M[1, 2, 7], DS-16M2[7], DS-24M2[7], DS-32B2[31], DS-32M[1, 2, 7], DS-32M2[7], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11], ED-1032[1, 2, 4, 7, 9, 29], ED-12000B[7, 30, 31], ED-64M[1, 2, 7]; EMC: DP3-SCB1[1, 2, 7], DP3-SCQ1[2, 7]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]. McDATA: ED-5000[1, 2, 4, 7, 9, 29], ES-3216[7], ES-3232[7], ES-4500[7]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[17], 512[15, 28]	Y[19]	
12	HPQ HP-UX 11.0[21, 32]	HPQ A6795A	Brocade Silkworm: 12000[7, 44], 2400[1, 2, 7]; Cisco MDS 9509[67]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-16M[1, 2, 7], DS-16M2[7], DS-24M2[7], DS-32B2[31], DS-32M[1, 2, 7], DS-32M2[7], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11], ED-1032[1, 2, 4, 7, 9, 29], ED-12000B[7, 30, 31], ED-64M[1, 2, 7]; EMC: DP3-SCB1[1, 2, 7], DP3-SCQ1[2, 7]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]. McDATA: ED-5000[1, 2, 4, 7, 9, 29], ES-3216[7], ES-3232[7], ES-4500[7]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[17], 512[15, 28]	Y[19]	
13	HPQ HP-UX 11.0[21, 32]	HPQ: A5158A, A6684A, A6685A, A6795A	Brocade Silkworm: 3200[7, 26, 37, 38], 3800[7, 26, 37, 38], 3900[7, 37, 38], 6400[7, 37, 38]	12[18]	12	256[6, 8]	320[17], 512[15]	Y[39, 40]	
14	HPQ HP-UX 11.0[21, 32]	HPQ: A6684A, A6685A	Brocade Silkworm: 12000[7, 44], 2400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-16M[1, 2, 7], DS-16M2[7], DS-24M2[7], DS-32B2[31], DS-32M[1, 2, 7], DS-32M2[7], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11], ED-1032[1, 2, 4, 7, 9, 29], ED-12000B[7, 30, 31], ED-64M[1, 2, 7]; EMC: DP3-SCB1[1, 2, 7], DP3-SCQ1[2, 7]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]. McDATA: ED-5000[1, 2, 4, 7, 9, 29], ES-3216[7], ES-3232[7], ES-4500[7]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[16, 17], 512[14, 15, 28]	Y[19]	
15	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2003[21]	**HPQ A5158A**	**Cisco MDS 9509[67]**	12	12	256	512	Y	
16	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ A3591A	Brocade Silkworm 6400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[35], 512	Y[19]	
17	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ A3591B	EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[16, 17], 512[14, 15, 28]	Y[19]	
18	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ A3591B	EMC Connectrix: DS-16B[7, 22, 23, 24, 25, 42, 62], DS-8B[7, 24, 42, 62]; HPQ: A5624A[7, 22, 24, 42, 59, 60, 62], A5667A[7, 22, 24, 42, 59, 60, 62]	24[18]	16[63]	128[10], 256[6, 8, 12, 13]	320[16, 17], 512[14, 15, 28]	Y[19]	See[61]
19	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ A3636A	EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[35], 512	Y[19]	

HPQ HP-UX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
20	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ A5158A	Brocade Silkworm 6400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-16M[1, 2, 7], DS-16M2[7], DS-24M2[7], DS-32B2[31], DS-32M[1, 2, 7], DS-32M2[7], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11], ED-1032[1, 2, 4, 7, 9, 29], ED-12000B[7, 30, 31], ED-64M[1, 2, 7]; EMC: DP3-SCB1[1, 2, 7], DP3-SCQ1[2, 7]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]. McDATA: ED-5000[1, 2, 4, 7, 9, 29], ED-6140[1, 2, 7], ES-3216[7], ES-3232[7]	12[18]	12	128[10], 256[6, 8, 12, 13]	32[17] 512[15, 28]	Y[19]	
21	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ A5158A	EMC Connectrix: DS-16B[7, 22, 23, 24, 25, 42, 62], DS-32B2[31], DS-8B[7, 24, 42, 62]; HPQ: A5624A[7, 22, 24, 42, 59, 60, 62], A5667A[7, 22, 24, 42, 59, 60, 62]	24[18]	16[63]	128[10], 256[6, 8, 12, 13]	32[17] 512[15, 28]	Y[19]	See[61]
22	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ A6795A	Brocade Silkworm 6400[1, 2, 7], Cisco MDS 9509[67]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-16M[1, 2, 7], DS-16M2[7], DS-24M2[7], DS-32B2[31], DS-32M[1, 2, 7], DS-32M2[7], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11], ED-1032[1, 2, 4, 7, 9, 29], ED-12000B[7, 30, 31], ED-64M[1, 2, 7]; EMC: DP3-SCB1[1, 2, 7], DP3-SCQ1[2, 7]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]. McDATA: ED-5000[1, 2, 4, 7, 9, 29], ED-6140[1, 2, 7], ES-3216[7], ES-3232[7]	12[18]	12	128[10], 256[6, 8, 12, 13]	32[17] 512[15, 28]	Y[19]	
23	HPQ HP-UX 11i v1.0 (HP-UX 11 11)[20, 21, 33, 34]	HPQ A6795A	Cisco MDS 9509[67], EMC Connectrix: DS-16B[7, 22, 23, 24, 25, 42, 62], DS-32B2[31], DS-8B[7, 24, 42, 62]; HPQ: A5624A[7, 22, 24, 42, 59, 60, 62], A5667A[7, 22, 24, 42, 59, 60, 62]	24[18]	16[63]	128[10], 256[6, 8, 12, 13]	32[17] 512[15, 28]	Y[19]	See[61]
24	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ: A3591A, A3636A	EMC Connectrix: DS-16B[7, 22, 23, 24, 25, 42, 62], DS-8B[7, 24, 42, 62]; HPQ: A5624A[7, 22, 24, 42, 59, 60, 62], A5667A[7, 22, 24, 42, 59, 60, 62]	24[18]	16[63]	128[10], 256[6, 8, 12, 13]	32[35], 512	Y[19]	See[61]
25	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ: A3591A, A3636A	HPQ: A5223A/AZ[22, 42, 62, 65], A5224A/AZ[22, 42, 62, 65]	16[18]	8[66]	128[10, 13] 256[3, 5, 6, 8]	32[35], 512	Y[19]	See[61]
26	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ: A6684A, A6685A	Brocade Silkworm: 12000[7, 30], 6400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25], DS-16B2[1, 2, 7, 26, 27], DS-16M[1, 2, 7], DS-16M2[7], DS-24M2[7], DS-32B2[31], DS-32M[1, 2, 7], DS-32M2[7], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11], ED-1032[1, 2, 4, 7, 9, 29], ED-12000B[7, 30, 31], ED-64M[1, 2, 7]; EMC: DP3-SCB1[1, 2, 7], DP3-SCQ1[2, 7]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]. McDATA: ED-5000[1, 2, 4, 7, 9, 29], ED-6140[1, 2, 7], ES-3216[7], ES-3232[7]	12[18]	12	128[10], 256[6, 8, 12, 13]	32[16, 17] 512[14, 15, 28]	Y[19]	
27	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ: A6684A, A6685A	EMC Connectrix: DS-16B[7, 22, 23, 24, 25, 42, 62], DS-32B2[31], DS-8B[7, 24, 42, 62]; HPQ: A5624A[7, 22, 24, 42, 59, 60, 62], A5667A[7, 22, 24, 42, 59, 60, 62]	24[18]	16[63]	128[10], 256[6, 8, 12, 13]	32[16, 17] 512[14, 15, 28]	Y[19]	See[61]
28	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[21, 34, 47, 48, 49, 50, 51, 52, 53, 54]**	**HPQ A6795A**	**Cisco MDS 9509[67]**	**12[18]**	**12**	**256[6, 8]**	**512[28]**	**Y[39, 40]**	
29	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[21, 34, 47, 48, 49, 50, 51, 52, 53, 54]	HPQ: A3591A[36], A3591B[36] A3636A[36], A5158A, A6684A, A6685A, A6795A	Brocade Silkworm 3200[7, 26, 38, 45, 46]	12[18]	12	256[6]	512[28]	Y[39, 40]	
30	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[21, 47, 48, 49, 50, 51, 52, 53, 54]	HPQ: A3591A[36], A3591B[36] A3636A[36]	Brocade Silkworm: 2400[7, 38, 42, 46, 55], 2800[7, 38, 42, 46, 55] 3800[7, 38, 45, 46, 56]	12	12	256[6]	512[28]	Y[39, 40]	
31	HPQ HP-UX 11i v1.0 (HP-UX 11 11)[21, 47, 48, 49, 50, 51, 52, 53, 54]	HPQ A5158A, A6795A	Brocade Silkworm 12000[7, 44], 2400[7, 38, 42, 46, 55], 2800[7, 38, 42, 46, 55], 3800[7, 38, 45, 46, 56], 3900[7, 38, 45, 46]	12	12	256[6]	512[28]	Y[39, 40]	
32	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[21, 47, 48, 49, 50, 51, 52, 53, 54]	HPQ: A6684A A6685A	Brocade Silkworm: 2400[7, 38, 42, 46, 55], 2800[7, 38, 42, 46, 55] 3800[7, 38, 45, 46, 56], 3900[7, 38, 45, 46]	12	12	256[6]	512[28]	Y[39, 40]	
33	HPQ HP-UX 11i v1.0 (HP-UX 11 11)[21, 47, 48, 49, 50, 51, 52, 54]	HPQ: A5158A, A6684A A6685A, A6795A	McDATA ED-6064[7, 38, 46]	12	12	256[6]	512[28]	Y[39, 40]	
34	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[21, 48, 49, 50, 51, 52, 54]	HPQ: A5158A, A6684A, A6685A, A6795A	McDATA ES-3016[7, 38, 46]	12	12	256[6, 8]	512[28]	Y[39, 40]	
35	HPQ HP-UX 11i v1.0 (HP-UX 11 11)[21, 48, 49, 50, 51, 52, 54]	HPQ: A5158A, A6684A, A6685A, A6795A	McDATA ES-3032[7, 38, 46]	12	12	256[6]	512[28]	Y[39, 40]	
36	HPQ HP-UX 11i v1.5 (HP-UX 11.20)[20, 64]	HPQ: A5158A, A6795A	Brocade Silkworm 2400[23, 42], 2800[23, 42]; EMC Connectrix: DS-16B[7, 22, 23, 24, 25, 42, 62] DS-8B[7, 24, 42, 62]; HPQ: A5624A[7, 22, 24, 42, 59, 60, 62], A5667A[7, 22, 24, 42, 59, 60, 62]	24[18]	16[63]	128[10], 256[6, 8, 12, 13]	32[35], 512	Y[19]	See[61]
37	HPQ HP-UX 11i v1.5 (HP-UX 11.20)[20, 64]	HPQ: A5158A, A6795A	HPQ: A5223A/AZ[22, 42, 62, 65], A5224A/AZ[22, 42, 62, 65]	16[18]	8[66]	128[10, 13] 256[3, 5, 6, 8]	32[35], 512	Y[19]	See[61]

HPQ HP-UX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
38	HPQ HP-UX: 11.0 March 2003[21], 11i v1.0 (HP-UX 11.11) Dec 2002[21]	HPQ A5158A	Cisco MDS 9216[67]	12	12	256	512	Y	
39	HPQ HP-UX: 11.0 March 2003[21], 11i v1.0 (HP-UX 11.11) Dec 2002[21]	HPQ A6795A	Cisco MDS. 9216[67], 9509[67]	12	12	256	512	Y	
40	HPQ HP-UX: 11.0 March 2003[21], 11i v1.0 (HP-UX 11.11) Dec 2002[21]	HPQ: A6684A, A6685A	Cisco MDS 9509[67]	12	12	256	512	Y	
41	HPQ HP-UX: 11.0[20, 21, 32], 11.0 990P[20, 21, 32], 11.0 ACE[20, 21]	HPQ: A3591A[36], A3591B[36] A3636A[36], A3740A[36], A5158A, A6684A, A6685A, A6795A	Brocade Silkworm 2800[7, 38, 41, 42, 43]	12	12	256[6, 8]	320[17] 512[15]	Y[39, 40]	
42	HPQ HP-UX: 11.0[20, 21], 11.0 990P[20, 21], 11.0 ACE[20, 21]	HPQ A3591B	Brocade Silkworm 2400[23, 42]; EMC Connectrix: DS-16B[7, 22, 23, 24, 25, 42, 62], DS-8B[7, 24, 42, 62]; HPQ: A5624A[7, 22, 24, 42, 59, 60, 62], A5667A[7, 22, 24, 42, 59, 60, 62]	24[18]	16[63]	128[10], 256[6, 8, 12, 13]	320[16, 17] 512[14, 15, 28]	Y[19]	See[61]
43	HPQ HP-UX: 11.0[20, 21], 11.0 990P[20, 21], 11.0 ACE[20, 21]	HPQ A3740A	Brocade Silkworm 2400[23, 42]; EMC Connectrix: DS-16B[7, 22, 23, 24, 25, 42, 62], DS-8B[7, 24, 42, 62]; HPQ: A5624A[7, 22, 24, 42, 59, 60, 62], A5667A[7, 22, 24, 42, 59, 60, 62]	24[18]	16[63]	128[10], 256[6, 8, 12, 13]	320[17] 512[15]	Y[19]	See[61]
44	HPQ HP-UX: 11.0[20, 21], 11.0 990P[20, 21], 11.0 ACE[20, 21]	HPQ A3740A	HPQ: A5223A/AZ[22, 42, 62, 65], A5224A/AZ[22, 42, 62, 65]	16[18]	8[66]	128[10, 13] 256[3, 5, 6, 8]	320[17] 512[15]	Y[19]	See[61]
45	HPQ HP-UX: 11.0[20, 21], 11.0 990P[20, 21], 11.0 ACE[20, 21]	HPQ A5158A	Brocade Silkworm 2400[23, 42]; EMC Connectrix: DS-16B[7, 22, 23, 24, 25, 42, 62], DS-32B2[31], DS-8B[7, 24, 42, 62]; HPQ: A5624A[7, 22, 24, 42, 59, 60, 62], A5667A[7, 22, 24, 42, 59, 60, 62]	24[18]	16[63]	128[10], 256[6, 8, 12, 13]	320[17] 512[15, 28]	Y[19]	See[61]
46	HPQ HP-UX: 11.0[20, 21], 11.0 990P[20, 21], 11.0 ACE[20, 21]	HPQ A6795A	Brocade Silkworm 2400[23, 42]; Cisco MDS 9509[67]; EMC Connectrix: DS-16B[7, 22, 23, 24, 25, 42, 62], DS-32B2[31], DS-8B[7, 24, 42, 62]; HPQ: A5624A[7, 22, 24, 42, 59, 60, 62], A5667A[7, 22, 24, 42, 59, 60, 62]	24[18]	16[63]	128[10], 256[6, 8, 12, 13]	320[17] 512[15, 28]	Y[19]	See[61]
47	HPQ HP-UX: 11.0[20, 21], 11.0 990P[20, 21], 11.0 ACE[20, 21]	HPQ: A3591A, A3636A	Brocade Silkworm 2400[23, 42]; EMC Connectrix: DS-16B[7, 22, 23, 24, 25, 42, 62], DS-8B[7, 24, 42, 62]; HPQ: A5624A[7, 22, 24, 42, 59, 60, 62], A5667A[7, 22, 24, 42, 59, 60, 62]	24[18]	16[63]	128[10], 256[6, 8, 12, 13]	320[16, 17] 512[14, 15]	Y[19]	See[61]
48	HPQ HP-UX: 11.0[20, 21], 11.0 990P[20, 21], 11.0 ACE[20, 21]	HPQ: A3591A, A3636A	HPQ: A5223A/AZ[22, 42, 62, 65], A5224A/AZ[22, 42, 62, 65]	16[18]	8[66]	128[10, 13] 256[3, 5, 6, 8]	320[16, 17] 512[14, 15]	Y[19]	See[61]
49	HPQ HP-UX: 11.0[20, 21], 11.0 990P[20, 21], 11.0 ACE[20, 21]	HPQ: A6684A, A6685A	Brocade Silkworm 2400[23, 42]; EMC Connectrix: DS-16B[7, 22, 23, 24, 25, 42, 62], DS-32B2[31], DS-8B[7, 24, 42, 62]; HPQ: A5624A[7, 22, 24, 42, 59, 60, 62], A5667A[7, 22, 24, 42, 59, 60, 62]	24[18]	16[63]	128[10], 256[6, 8, 12, 13]	320[16, 17] 512[14, 15, 28]	Y[19]	See[61]
50	HPQ HP-UX: 11.0[20, 21], 11.0 990P[20, 21], 11.0 ACE[20, 21], 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ A3591B	HPQ: A5223A/AZ[22, 42, 62, 65], A5224A/AZ[22, 42, 62, 65]	16[18]	8[66]	128[10, 13] 256[3, 5, 6, 8]	320[16, 17] 512[14, 15] 28	Y[19]	See[61]
51	HPQ HP-UX: 11.0[20, 21], 11.0 990P[20, 21], 11.0 ACE[20, 21], 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ A5158A	EMC Connectrix DS-32B2[31]; HPQ: A5223A/AZ[22, 42, 62, 65], A5224A/AZ[22, 42, 62, 65]	16[18]	8[66]	128[10, 13] 256[3, 5, 6, 8]	320[17] 512[15, 28]	Y[19]	See[61]
52	HPQ HP-UX: 11.0[20, 21], 11.0 990P[20, 21], 11.0 ACE[20, 21], 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ A6795A	Cisco MDS 9509[67]; EMC Connectrix DS-32B2[31]; HPQ: A5223A/AZ[22, 42, 62, 65], A5224A/AZ[22, 42, 62, 65]	16[18]	8[66]	128[10, 13] 256[3, 5, 6, 8]	320[17] 512[15, 28]	Y[19]	See[61]
53	HPQ HP-UX: 11.0[20, 21], 11.0 990P[20, 21], 11.0 ACE[20, 21], 11i v1.0 (HP-UX 11.11)[20, 21, 33, 34]	HPQ: A6684A, A6685A	EMC Connectrix DS-32B2[31]; HPQ: A5223A/AZ[22, 42, 62, 65], A5224A/AZ[22, 42, 62, 65]	16[18]	8[66]	128[10, 13] 256[3, 5, 6, 8]	320[16, 17] 512[14, 15, 28]	Y[19]	See[61]
54	HPQ HP-UX: 11.0[21, 32, 48, 49, 50, 51, 52, 54], 11.0 990P[21, 32, 48, 49, 50, 51, 52, 54], 11.0 ACE[21, 48, 49, 50, 51, 52, 54]	HPQ A6795A	Cisco MDS 9509[67]	12[18]	12	256[6, 8]	512[15]	Y[39, 40]	
55	HPQ HP-UX: 11.0[21, 32, 48, 49, 50, 51, 52, 54], 11.0 990P[21, 32, 48, 49, 50, 51, 52, 54], 11.0 ACE[21, 48, 49, 50, 51, 52, 54]	HPQ: A5158A, A6684A, A6685A A6795A	McDATA ES-3016[7, 38, 46]	12	12	256[6]	512[15]	Y[39, 40]	
56	HPQ HP-UX: 11.0[21, 32, 48, 49, 50, 51, 52, 54], 11.0 990P[21, 32, 48, 49, 50, 51, 52, 54], 11.0 ACE[21, 48, 49, 50, 51, 52, 54]	HPQ: A5158A A6684A, A6685A, A6795A	McDATA ES-3032[7, 38, 46]	12	12	256[6, 8]	512[15]	Y[39, 40]	
57	HPQ HP-UX: 11.0[21, 32, 48, 49, 51, 52, 54], 11.0 990P[21, 32, 48, 49, 51, 52, 54], 11.0 ACE[21, 48, 49, 51, 52, 54]	HPQ: A5158A, A6684A A6685A A6795A	McDATA ED-6064[7, 38, 46]	12[18]	12	256[6, 8]	512[15]	Y[39, 40]	
58	HPQ HP-UX: 11.0[21, 32, 48, 49, 51, 52, 54], 11.0 990P[21, 32, 48, 49, 51, 52, 54], 11.0 ACE[21, 48, 49, 51, 52, 54]	HPQ: A5158A A6684A, A6685A A6795A	McDATA ED-6140[7, 38, 46]	12	12	256[6]	512[15]	Y[39, 40]	

HPQ HP-UX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
59	HPQ HP-UX: 11.0[21, 32], 11.0 990P[20, 21, 32], 11.0 ACE[20, 21]	HPQ A3591A	Brocade Silkworm 2400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25] DS-16B2[1, 2, 7, 26, 27], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[16, 17], 512[14, 15]	Y[19]	
60	HPQ HP-UX: 11.0[21, 32], 11.0 990P[20, 21, 32], 11.0 ACE[20, 21]	HPQ A3591B	Brocade Silkworm 2400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25] DS-16B2[1, 2, 7, 26, 27], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]; Inrange FC9000/64[29, 57, 58]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[16, 17], 512[14, 15], 28	Y[19]	
61	HPQ HP-UX: 11.0[21, 32], 11.0 990P[20, 21, 32], 11.0 ACE[20, 21]	HPQ A3636A	Brocade Silkworm 2400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25] DS-16B2[1, 2, 7, 26, 27], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[16, 17], 512[14, 15]	Y[19]	
62	HPQ HP-UX: 11.0[21, 32], 11.0 990P[20, 21, 32], 11.0 ACE[20, 21]	HPQ A3740A	Brocade Silkworm 2400[1, 2, 7]; EMC Connectrix: DS-16B[1, 2, 4, 7, 9, 11, 22, 23, 24, 25] DS-16B2[1, 2, 7, 26, 27], DS-8B[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]; HPQ: A5624A, A5667A[1, 2, 7, 9, 24, 59, 60]	12[18]	12	128[10], 256[6, 8, 12, 13]	320[17], 512[15]	Y[19]	
63	HPQ HP-UX: 11.0[21, 32], 11.0 990P[20, 21, 32], 11.0 ACE[20, 21]	HPQ: A3591A[36], A3591B[36], A3636A[36], A3740A[36]	Brocade Silkworm: 3200[7, 26, 37, 38], 3800[7, 26, 37, 38]	12[18]	12	256[6, 8]	320[17], 512[15]	Y[39, 40]	
64	HPQ HP-UX: 11.0[21], 11i v1.0 (HP-UX 11.11)[21]	HPQ A6795A	Cisco MDS 9509[67]; EMC Connectrix ED-140M	1	12	256	512	N	
65	HPQ HP-UX: 11.0[21], 11i v1.0 (HP-UX 11.11)[21]	HPQ: A5158A, A6684A, A6685A	EMC Connectrix ED-140M	1	12	256	512	N	

1. Maximum of two hops between any two nodes of a SG cluster. Boot device cannot be more than 2 hops from initiator. Symmetrix microcode version: 5266.33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher. For the Inrange FC9000, single switch only. Connectrix ED-1032 requires Connectrix microcode 3.00.01 or later.
2. Switched fabric cannot use domain 8. Execute ioscan -fn following zone configuration changes on all affected servers so that the changes will be recognized. When using soft zoning (WWN) with PowerPath, if you remove a path from the zone configuration, you must remove this path from PowerPath in order to prevent accessibility to this path.
3. For HP-UX 11.0 of June 2000 or higher release is required (patch bundle XSWHWCR1100B.11.00.49.3 or XSWGR1100B.11.00.49.3 or later released patch bundle).
4. Heterogeneous storage attachments are supported in a Fibre Channel fabric configuration provided the different storage types are isolated in different fabric zones. Shared fabric and shared server are allowed with heterogeneous storage.
5. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
6. Requires microcode level 5566.29 or higher.
7. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
8. 256 LUN support: HP-UX 10.20 requires patch PHKL_23259 or patches superceded by or having co-dependencies as defined by HP. HP-UX 11.0 requires patch PHKL_21607 or patches superceded by or having co-dependencies as defined by HP.
9. For Fabric Switches, EMC recommends single initiator WWN zoning, but will support both WWN and port-, single-, or multi-initiator zoning.
10. More LUNs/port may be available via RPQ depending on configuration.
11. Fabric support at firmware version 2.1.3 and above.
12. Buil DCCG148-0000 = LP8000E fiber.
13. Symmetrix 8000 Series
14. Maximum of 512 visible LUNs per hba supported with HP-UX 10.20 non-HA configurations
15. Maximum of 512 visible LUNs per hba supported with HP-UX 11.0 non-HA configurations
16. Maximum of 320 visible LUNs per hba supported with HP-UX 10.20 HA configurations.
17. Maximum of 320 visible LUNs per hba supported with HP-UX 11.0 HA configurations.
18. If Fanin/Fanout are greater than 4:1/1:4.: HP-UX 10.20 requires patch PHKL_23259 or patches superceded by or having co-dependencies as defined by HP. HP-UX 11.0 requires patch PHKL_21607 or patches superceded by or having co-dependencies as defined by HP.
19. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1.12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information. 4. The director bits must be set according to each initiator's required settings by using the Heterogeneous Host Configuration feature in the EMC Solutions Enabler SYMCLI Device masking component Version 5.x. 5. Microcode level 5568 and above.
20. In HP and MC/ServiceGuard environments, the maximum number of active devices per server is 1024 for mid-range and high-end servers. This high device count is questionable for low-end servers (D/R-Class), and so remains at 768 for them (not counting alternate path LUNs for PV/Links or EMC PowerPath). Maximum limitations per server (subject to server and resources): HP-UX 10.20 768 devices, 1536 LUNs; HP-UX 11.0 2400 devices, 4800 LUNs; HP-UX 11i 4096 devices, 8096 LUNs; HP-UX 11i Version 1.5 (11.20) 4096 devices, 8096 LUNs.
21. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples. lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
22. Requires a minimum HP-UX 10.20 TFC or a minimum HP-UX 11.0 99OP, or 11i. HP-UX versions may be mixed in the same logical quick loop.
23. Minimum Symmetrix microcode 5265.42, 5266.22, 5267.22, 5566.22, 5567.29 .
24. QuickLoop and fabric intermixing on the same switch is allowed. Requires firmware rev v2.2.1a. QuickLoop must use port zoning.
25. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
26. Firmware v3 0 2a or later is required for 2 Gb or auto sensing support with the DS-16B2 and Brocade 3200/3800 switches. Minimum of 5568-3414 microcode is required for 2 Gb/auto negotiation support on Symmetrix.
27. EMC DS-16B2 for "Extended Fabric License" use minimum 3.0.2f firmware, 1 ISL per quad only
28. Maximum of 512 visible LUNs per hba supported with HP-UX 11i v1 0 (HP-UX 11.11) HA and non-HA configurations
29. Supported at minimum firmware version 2.00 01
30. No boot support at this time.
31. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only
32. HP-UX 11.0 switched fabric support is enabled with: fabric device driver version B.11.00.03 and higher, minimum operating system level HP/ UX 11.0 99OP with March 2000 HW-CR bundle Refer to Base Connectivity table for additional information.
33. Symmetrix microcode version 5266 33.23 or higher, 5566.35.23 or higher, 5267.22 15 or higher, 5567.29 15 or higher
34. See Single section for minimum microcode required.
35. In an HA environment with HP-UX 11i, 512 LUNs per HBA are allowed
36. Supports FC-AL only
37. Maximum of two hops between any two nodes of a SG cluster. Boot device cannot be more than 2 hops from initiator. Symmetrix microcode version. 5266.33.23 or higher, 5566.35 23 or higher, 5267.22.15 or higher, 5567.29 15 or higher
38. Domain value 8 can not be utilized when attaching HP-UX initiators (hba's)
39. Solution Enabler 5.0 or later on the host for heterogeneous FA port sharing
40. Requires microcode level 5568.23 or later.
41. Minimum Symmetrix microcode 5560 22 5567 29.
42. In FC-AL mode support 1280 LUNs/loop
43. Maximum of two hops between any two nodes of a SG cluster Bool device cannot be more than 2 hops from initiator. Symmetrix microcode version. 5566.35.23 or higher, 5567.29 15 or Higher
44. Boot support Minimum fw v4 0.2a
45. The switch port a hba is attached to which is utilized for HP-UX boot or dump processes must be configured for G port lock
46. Single initiator zoning recommended
47. Maximum LUNs per server 8192
48. Boot device can not be located more than two hops from initiator utilized for booting
49. Maximum of two hops between any two nodes belonging to the same Service Guard Cluster
50. HP-UX Tachyon TL Fibre Channel Driver patch PHSS_26799 required

51. Execute "ioscan -fn" following zone configuration changes on all affected servers in order for the changes to be recognized by the servers.
52. Initiators from servers running HP-UX 11.0 and initiators from servers running HP-UX 11i v1.0 (HP-UX 11i) may share the same FA port.
53. Maximum devices per server 4096
54. The Powerpath path must be removed from the Powerpath configuration for all paths deleted from a zone configuration utilizing non-hardware enforced WWN zoning in order to prevent accessibility to the paths deleted from the zone configuration.
55. Firmware v2.5.1b or later required
56. minimum firmware revision v3.0.2rn or later EMC qualified firmware revision
57. For D- and K-Class only: HP-UX 11.0 with PHKL_21834. HP A3404A. FC-AL only with switch TL mode.
58. T-port mode only. Port zoning only. Single switch only.
59. EMC supports both 8-port (A5667A) and 16-port (A5624A) versions.
60. HP A5624A and A5667A Fibre Channel switches are supported with Brocade firmware levels 1.3.0, 2.1.9d, 2.1.9F and 2.4.1, switched fabric cascading requires 2.1.9F firmware or higher.
61. Brocade QuickLoop.
62. Cascading of up to 2 switches and 2 hubs with QuickLoop.
63. Connectrix DS-16B and HP A5624A switches each support up to 16 HBAs. 24 Symmetrix FA ports maximum in a QuickLoop, but only 4 from any one cluster.
64. Non-HA, single initiator only. PowerPath not supported.
65. Switch is for Enhanced Private Loop (EPL) not Fabric.
66. EPL (Enhanced Private Loop) loop supports up to 8 HBAs and 16 Symmetrix ports (max of 24 port connections), but only 4 from any one cluster.
67. During initial switch configuration, the Persistent FC ID's must be enabled on the Vsan that contains any HPUX HBAs. If Persistent FC IDs are enabled to an existing Vsan containing non HPUX HBAs, the process may be disruptive. See MDS 9000 Family Configuration Guild for details.

HPQ Open VMS

HPQ Open VMS								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	HPQ Open VMS V7.2-1[2, 3]	HPQ: KGPSA-BC (380574-001)[1], KGPSA-CA (168794-B21)[1]	Brocade Silkworm: 12000[4, 15], 3900[4]; EMC Connectrix: DS-16B[4, 5], DS-16M[4], DS-16M2[4], DS-24M2[4], DS-32B2[4, 12], DS-32M[4], DS-32M2[4], DS-8B[4], ED-1032[4], ED-12000B[4, 12], ED-140M[4], ED-64M[4]; EMC: DP3-SCB1[4], DP3-SCQ1[4]; HPQ: 158222-B21, 158223-B21, DS-DSGGA-AA[9], DS-DSGGA-AB[8]; McDATA: ED-5000[4], ED-6064[4], ED-6140[4], ES-3016[4], ES-3032[4], ES-3216[4], ES-3232[4], ES-4500[4]	8	8	128, 255	255	N
2	HPQ Open VMS V7.2-1H1[2, 3]	HPQ: KGPSA-BC (380574-001)[1], KGPSA-CA (168794-B21)[1]	Brocade Silkworm: 12000[4, 15], 2400[11], 2800[11], 3900[4]; EMC Connectrix: DS-32B2[4, 12], ED-140M[4]; McDATA ED-6140[4]	8	8	128, 255[6]	255	N
3	HPQ Open VMS V7.2-1H1[2, 3]	HPQ: KGPSA-BC (380574-001)[1], KGPSA-CA (168794-B21)[1]	Brocade Silkworm: 12000[4, 15], 3900[4]; EMC Connectrix: DS-16B[4, 5, 6], DS-16M[4, 6], DS-16M2[4, 6], DS-24M2[4, 6], DS-32B2[4, 12], DS-32M[4, 6], DS-32M2[4, 6], DS-8B[4, 6], ED-1032[4, 6], ED-12000B[4, 6, 12], ED-140M[4], ED-64M[4, 6]; EMC: DP3-SCB1[4, 6], DP3-SCQ1[4, 6]; HPQ: 158222-B21[6], 158223-B21[6], DS-DSGGA-AA[6, 9], DS-DSGGA-AB[6, 8]; McDATA: ED-5000[4, 6], ED-6064[4, 6], ED-6140[4], ES-3016[4, 6], ES-3032[4, 6], ES-3216[4, 6], ES-3232[4, 6], ES-4500[4, 6]	8	8	128, Symmetrix 8xxx Series: 255	255	N
4	HPQ Open VMS V7.2-2[2, 10]	HPQ: KGPSA-BC (380574-001)[1], KGPSA-CA (168794-B21)[1]	EMC Connectrix: DS-16B[4, 5], DS-16M[4], DS-16M2[4], DS-24M2[4], DS-32M[4], DS-32M2[4], DS-8B[4], ED-1032[4], ED-12000B[4, 12], ED-64M[4]; EMC: DP3-SCB1[4], DP3-SCQ1[4]; HPQ: 158222-B21, 158223-B21, DS-DSGGA-AA[9], DS-DSGGA-AB[8]; McDATA: ED-5000[4], ED-6064[4], ES-3016[4], ES-3032[4], ES-3216[4], ES-3232[4], ES-4500[4]	8	8	128, 255	255	N
5	HPQ Open VMS V7.3-1[2]	HPQ: KGPSA-BC (380574-001)[1], KGPSA-CA (168794-B21)[1]	Brocade Silkworm: 12000[4], 2400[11], 2800[11], 3900[4]; EMC Connectrix: DS-32B2[4, 12], ED-140M[4]; McDATA ED-6140[4]	8	8	128, 255[6]	255	N
6	HPQ Open VMS: V7.2-1[2, 3], V7.2-1H1[2, 3], V7.2-2[2, 10], V7.3[2, 7], V7.3-1[2]	HPQ: FCA2354 (LP9002)[1], KGPSA-DA (261329-B21)[1]	Brocade Silkworm: 12000[4], 2400[11], 2800[11], 3900[4]; EMC Connectrix: DS-16B[5, 11], DS-16M[11], DS-16M2[11], DS-24M2[11], DS-32B2[4, 12], DS-32M[11], DS-32M2[11], DS-8B[11], ED-1032[11], ED-12000B[11, 12], ED-140M[4], ED-64M[11]; EMC DP3-SCB1[11]; HPQ: 158222-B21, 158223-B21, DS-DSGGA-AA[9], DS-DSGGA-AB[8]; McDATA: ED-5000[11], ED-6064[11], ED-6140[4], ES-3016[11], ES-3032[11], ES-3216[11], ES-3232[11], ES-4500[11]	8	8	128, 255[6]	255	N
7	HPQ Open VMS: V7.2-1[2, 3], V7.2-1H1[2, 3], V7.3-1[2]	HPQ: FCA2354 (LP9002), KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)	Brocade Silkworm: 3200[4], 3800[4]; EMC Connectrix DS-16B2[4, 13]	8	8	128, 255[6, 14]	255	N
8	HPQ Open VMS V7.2-1[2, 3], V7.2-2[2, 10], V7.3[2, 7]	HPQ: KGPSA-BC (380574-001)[1], KGPSA-CA (168794-B21)[1]	Brocade Silkworm: 2400[11], 2800[11]	8	8	128, 255[6]	255	N
9	HPQ Open VMS V7.2-2[2, 10], V7.3[2, 7]	HPQ: FCA2354 (LP9002), KGPSA-DA (261329-B21)	Brocade Silkworm: 3200[4], 3800[4] EMC Connectrix DS-16B2[4, 13]	8	8	128, 255[6, 14]	255	N
10	HPQ Open VMS V7.2-2[2, 10], V7.3[2, 7]	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	Brocade Silkworm: 12000[4], 3200[4], 3800[4], 3900[4] EMC Connectrix: DS-16B2[4, 13], DS-32B2[4, 12], ED-140M[4]; McDATA ED-6140[4]	8	8	128, 255[6, 14]	255	N

HPQ Open VMS								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
11	HPQ Open VMS: V7.3[2, 7], V7.3-1[2]	HPQ: KGPSA-BC (380574-001)[1], KGPSA-CA (168794-B21)[1]	Brocade Silkworm: 12000[4], 3900[4]; EMC Connectrix: DS-16B[4, 5, 6], DS-16M[4, 6], DS-16M2[4, 6], DS-24M2[4, 6], DS-32B2[4, 12], DS-32M[4, 6], DS-32M2[4, 6], DS-8B[4, 6], ED-1032[4, 6], ED-12000B[4, 6, 12], ED-140M[4], ED-64M[4, 6]; EMC: DP3-SCB1[4, 6], DP3-SCQ1[4, 6]; HPQ: 158222-B21[6], 158223-B21[6], DS-DSGGA-AA[6, 9], DS-DSGGA-AB[6, 8]; McDATA: ED-5000[4, 6], ED-6064[4, 6], ED-6140[4], ES-3016[4, 6], ES-3032[4, 6], ES-3216[4, 6], ES-3232[4, 6], ES-4500[4, 6]	8	8	128, Symmetrix 8xxx Series: 255	255	N

1. For compatibility with Connectrix ED-1032, requires Connectrix microcode 2.2 or later (KGPSA-BC) or 2.2.0 (KGPSA-CA).
2. Open VMS is supported as of April 17, 2000, and requires a minimum Symmetrix microcode level of 5265.48.30, 5266.23.19s. or 5566.26.19s.
3. OpenVMS 7.2-1, 7.2-1H1 FC-SW requires console firmware 5.6 or later and patch VMS721_fibre_SCSI-V0400. Available from http://ftp1.support.compaq.com/public/
4. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
5. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
6. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
7. Open VMS 7.3 FC-SW requires console firmware 5.6 or later and patch VMS73_update-V0100 or patch VMS73_fibre_SCSI-V0200.
8. 16-port Fibre Channel board.
9. 8-port Fibre Channel board.
10. Open VMS 7.2-2 FC-SW requires console firmware 5.6 or later and patch VMS722_fibre_SCSI-V0100.
11. See Switched Fabric Topology Parameters for switch firmware levels.
12. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
13. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
14. Symmetrix 8000 Series
    The KGPSA-BC will not boot if the Brocade 12000/Connectrix ED-12000B port speed is set to auto-negotiate. Set the port speed to 1 Gb.

HPQ Tru64 UNIX

HPQ Tru64 UNIX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	HPQ Tru64 UNIX V5.0A[5]	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2], 3800[2], 3900[2]; EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 13], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[2, 12], DS-32M[2], DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 12], ED-140M[2], ED-64M[2]; EMC: DP3-SCB1[2], DP3-SCQ1[2]; McDATA: ED-5000[2], ED-6064[2], ED-6140[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	8	8	128, 255[5]	255	Y[7]
2	**HPQ Tru64 UNIX V5.1[5, 8]**	**HPQ: FCA2354 (LP9002), KGPSA-DA (261329-B21)**	**Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2], 3800[2], 3900[2];** **Cisco MDS: 9216[2], 9509[2];** **EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 13], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[2, 12], DS-32M[2], DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 12], ED-140M[2], ED-64M[2];** **EMC: DP3-SCB1[2], DP3-SCQ1[2];** **McDATA: ED-5000[2], ED-6064[2], ED-6140[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]**	8	8	128, 255[5, 11]	512	Y[7]
3	HPQ Tru64 UNIX: V4.0F[1], V4.0G[9]	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2], 3800[2], 3900[2]; EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 13], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[2, 12], DS-32M[2], DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 12], ED-140M[2], ED-64M[2]; EMC: DP3-SCB1[2], DP3-SCQ1[2]; McDATA: ED-5000[2], ED-6064[2], ED-6140[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	6	6	8[3]	48	Y[4]
4	HPQ Tru64 UNIX: **V5.1[5, 8]**, V5 1A[5, 10], **V5.1B[5, 14]**	HPQ KGPSA-BC (380574-001)	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2] 3800[2], 3900[2]; Cisco MDS: 9216[2], 9509[2]; EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 13], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[2, 12], DS-32M[2], DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 12], ED-140M[2], ED-64M[2]; EMC: DP3-SCB1[2], DP3-SCQ1[2]; McDATA: ED-5000[2], ED-6064[2], ED-6140[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	8	8	128, 255[5]	255	Y[7]
5	HPQ Tru64 UNIX: **V5.1[5, 8]**, V5 1A[5, 10], **V5.1B[5, 14]**	HPQ KGPSA-CA (168794-B21)	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2], 3800[2], 3900[2]; EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 13], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[2, 12], DS-32M[2], DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 12], ED-140M[2], ED-64M[2]; EMC: DP3-SCB1[2], DP3-SCQ1[2]; McDATA: ED-5000[2], ED-6064[2], ED-6140[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	8	8	128, 255[5]	255	Y[7]
6	HPQ Tru64 UNIX: **V5.1[5, 8]**, V5 1A[5, 10], **V5.1B[5, 14]**	HPQ KGPSA-CA (168794-B21)[15]	Cisco MDS: 9216[2], 9509[2]	8	8	128, 255[5]	255	Y[7]

HPQ Tru64 UNIX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
7	HPQ Tru64 UNIX: V5.1A[5, 10], **V5.1B[5, 14]**	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)**, KGPSA-DA (261329-B21)	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2], 3800[2], 3900[2]; Cisco MDS: 9216[2], 9509[2]; EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 13], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[2, 12], DS-32M[2], DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 12], ED-140M[2], ED-64M[2]; EMC: DP3-SCB1[2], DP3-SCQ1[2]; McDATA: ED-5000[2], ED-6064[2], ED-6140[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	8	8	128, 255[5, 11]	512	Y[7]

1. Tru64 V4.0F BL13 Patch Kit 2 may introduce problems with KZPBA adapters. Tru64 V4.0F latest qualified Patch Kit-0007 (DUV40FB18AS0007-20020102).
2. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
3. V4.0F, V4.0G: 8 LUNs/Symmetrix Fibre director port (LUNs 000-007 valid).
4. If sharing port with Tru64 UNIX V5 hosts, use the Heterogeneous Host Configuration feature in EMC Solutions Enabler SYMCLI Device Masking Component V5.x (minimum 5568 microcode), or use Tru64 UNIX V5 director bit settings (with OVMS director bit set, the resulting LUN 000 array controller device will not be usable as a disk device by the Tru64 hosts).
5. V5.x: 255 LUNs/Symmetrix Fibre director port (LUNs 000-0FE valid) on Symmetrix 8000 Series, requires OVMS director bit setting (minimum 5265.48.30 or 5566.26.19), LUN 000 must be mapped to gatekeeper device, the LUN 000 array controller device will not be usable by the Tru64 host.
6. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
7. Requires the Heterogeneous Host Configuration feature in EMC Solutions Enabler SYMCLI Device Masking Component Version 5.x
8. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
9. Tru64 V4.0G latest qualified patch kit-0003 (T64V40GAS0003-20010613).
10. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
11. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
12. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
13. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
14. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
15. KGPSA-CA / Cisco MDS 9xxx: Tru64 host bootup may fail if switch port speed is hard-set to 1 Gb/s. Switch port should be set to Auto-Negotiate.

IBM AIX

IBM AIX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	IBM AIX 4.3.3	IBM: 6227, 6228	**Brocade Silkworm 3200[2]**; EMC Connectrix: **DS-16B2[2, 5, 17]**, ED-140M[6]	10	10	256	256	Y	
2	IBM AIX 4.3.3	IBM: 6227[1], 6228[1]	**Brocade Silkworm 3200[2]**; EMC Connectrix: **DS-16B2[2, 5, 17]**, DS-32B2[2, 15]; McDATA ED-6140[2]	10	10	128, Symmetrix 8xxx Series: 256	256	Y[18]	
3	IBM AIX 4.3.3	IBM: 6227[1], 6228[1]	Brocade Silkworm: 12000[2], 2400[2], 2800[2], **3200[2]**, 3900[2], 6400[2]; EMC Connectrix: DS-16B[2, 5], **DS-16B2[2, 5, 17]**, DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2], DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 15], ED-64M[2]; EMC: DP3-SCB1[2], DP3-SCQ1[2]; IBM: 2032-001[2, 3], 2109[2, 4], 6064[2]; McDATA: ED-5000[2], ED-6064[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	10	10	128, Symmetrix 8xxx Series: 256	256	Y	
4	IBM AIX 5.1	Bull DCCG148-0000[9, 10]	Brocade Silkworm 6400; Bull MSKG008-0000[11, 12, 13]; EMC Connectrix: DS-16B[2, 5], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2], DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 15], ED-140M, ED-64M[2]; EMC: DP3-SCB1[2], DP3-SCQ1[2]; McDATA: ED-5000[2], ED-6064[2], ED-6140, ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	10	10	128, 256[7, 14]	256	Y	See[8]
5	IBM AIX 5.1	Bull DCCG148-0000[9, 10]	Brocade Silkworm 6400; EMC Connectrix: DS-16B2[17], DS-32B2[15], ED-12000B[15] ED-140M: McDATA ED-6140	10	10	128 Symmetrix 8xxx Series 256[7]	256	Y[18]	
6	IBM AIX 5.1	IBM 6239	Brocade Silkworm: 12000[6], 2400[6], 2800[6], 3900[6], 6400[6]; EMC Connectrix: DS-16B[5, 6], DS-16B2[17], DS-16M[6], DS-16M2[6], DS-24M2[6], DS-32M[6], DS-32M2[6], DS-8B[6], ED-1032[6], ED-12000B[6, 15], ED-64M[6]; EMC: DP3-SCB1[6], DP3-SCQ1[6]; IBM: 2032-001[2, 3], 2109[2, 4], 6064[6]; McDATA: ED-5000[6], ED-6064[6], ES-3016[6], ES-3032[6], ES-3216[6], ES-3232[6] ES-4500[6]	10	10	128, 256[7]	256, 512	Y	
7	IBM AIX 5.1	IBM 6239	EMC Connectrix DS-32B2[15]	10	10	128, 256[7]	256, 512	Y[18]	
8	IBM AIX 5.1	IBM: 6227, 6228	Brocade Silkworm: 12000[6], 2400[6], 2800[6], 3900[6], 6400[6]; EMC Connectrix: DS-16B[5, 6], DS-16B2[17], DS-16M[6], DS-16M2[6], DS-24M2[6], DS-32M[6], DS-32M2[6], DS-8B[6], ED-1032[6], ED-12000B[6, 15], ED-64M[6]; EMC: DP3-SCB1[6], DP3-SCQ1[6]; IBM: 2032-001[2, 3], 2109[2, 4], 6064[6]; McDATA: ED-5000[6], ED-6064[6], ES-3016[6], ES-3032[6], ES-3216[6], ES-3232[6] ES-4500[6]	10	10	128, 256[7]	256	Y	
9	IBM AIX 5.1	IBM: 6227, 6228	EMC Connectrix DS-32B2[15]	10	10	128, 256[7]	256	Y[18]	

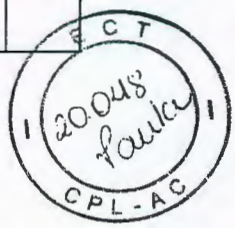
IBM AIX									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
10	IBM AIX 5.2	IBM 6239	Brocade Silkworm: 12000[6], 2400[6], 2800[6], 3900[6]; EMC Connectrix: DS-16B[5, 6], DS-16B2[17], DS-16M[6], DS-16M2[6], DS-24M2[6], DS-32M[6], DS-32M2, ED-1032[6], ED-12000B[6, 15], **ED-64M[6]**; EMC: DP3-SCB1[6], DP3-SCQ1[6]; IBM: 2032-001[2, 3], 6064[6]; McDATA: ED-5000[6], ED-6064[6], ES-3016[6], ES-3032[6], ES-3216[6], ES-3232[6], ES-4500[6]	10	10	128, 256[7]	256, 512	Y	
11	IBM AIX 5.2	IBM 6239	EMC Connectrix DS-32B2[15]; McDATA ED-6140	10	10	128, 256[7]	256, 512	Y[18]	
12	IBM AIX 5.2	IBM: 6227, 6228	Brocade Silkworm: 12000[6], 2400[6], 2800[6], 3900[6]; EMC Connectrix: DS-16B[5, 6], DS-16B2[17], DS-16M[6], DS-16M2[6], DS-24M2[6], DS-32M[6], DS-32M2, ED-1032[6], ED-12000B[6, 15], **ED-64M[6]**; EMC: DP3-SCB1[6], DP3-SCQ1[6]; IBM: 2032-001[2, 3], 6064[6]; McDATA: ED-5000[6], ED-6064[6], ES-3016[6], ES-3032[6], ES-3216[6], ES-3232[6], ES-4500[6]	10	10	128, 256[7]	256	Y	
13	IBM AIX 5.2	IBM: 6227, 6228	EMC Connectrix DS-32B2[15]; McDATA ED-6140	10	10	128, 256[7]	256	Y[18]	
14	IBM AIX: 4.3.0, 4.3.1, 4.3.2, 4.3.3	Bull DCCG148-0000[9, 10]	Brocade Silkworm: 12000[2, 7], 3900[2, 7], 6400[2, 7]; Bull MSKG008-0000[7, 11, 12, 13]; EMC Connectrix: DS-16B[2, 5, 7], DS-16M[2, 7], DS-16M2[2, 7], DS-24M2[2, 7], DS-32M[2, 7], DS-32M2[2, 7], DS-8B[2, 7], ED-1032[2, 7], ED-12000B[2, 7, 15], ED-64M[2, 7]; EMC: DP3-SCB1[2, 7], DP3-SCQ1[2, 7]; McDATA: ED-5000[2, 7], ED-6064[2, 7], ES-3016[2, 7], ES-3032[2, 7], ES-3216[2, 7], ES-3232[2, 7], ES-4500[2, 7]	10	10	128, Symmetrix 8xxx Series: 256	256	Y	
15	IBM AIX: 4.3.0, 4.3.1, 4.3.2, 4.3.3	EMC CKIT-E70-AIX[16]	Brocade Silkworm: 12000, 3800, 3900; EMC Connectrix: DS-16B2[17], DS-32B2[15], ED-12000B[15]; McDATA ED-6140[2]	10	10	128 Symmetrix 8xxx Series 256[7]	256	Y[18]	
16	IBM AIX: 4.3.0, 4.3.1, 4.3.2, 4.3.3	EMC CKIT-E70-AIX[16]	Brocade Silkworm: 12000[2, 7], 2400[2, 7], 2800[2, 7], 3900[2, 7], 6400[2, 7]; EMC Connectrix: DS-16B[2, 5, 7], DS-16M[2, 7], DS-16M2[2, 7], DS-24M2[2, 7], DS-32M[2, 7], DS-32M2[2, 7], DS-8B[2, 7], ED-1032[2, 7], ED-12000B[2, 7, 15], ED-64M[2, 7]; EMC: DP3-SCB1[2, 7], DP3-SCQ1[2, 7]; IBM: 2032-001[2, 3, 7], 2109[2, 4, 7], 6064[2, 7]; McDATA: ED-5000[2, 7], ED-6064[2, 7], ED-6140[2], ES-3016[2, 7], ES-3032[2, 7], ES-3216[2, 7], ES-3232[2, 7], ES-4500[2, 7]	10	10	128, Symmetrix 8xxx Senes: 256	256	Y	
17	IBM AIX: 5.1, 5.2	IBM 6239	Cisco MDS: 9216[6], 9509[6]	10	10	256[7, 14]	256, 512	Y[18]	
18	IBM AIX: 5.1, 5.2	IBM 6239	EMC Connectrix ED-140M[6]	10	10	256	256, 512	Y	
19	IBM AIX: 5.1, 5.2	IBM: 6227, 6228	Cisco MDS: 9216[6], 9509[6]	10	10	256[7, 14]	512	Y[16]	
20	IBM AIX: 5.1, 5.2	IBM: 6227, 6228	EMC Connectrix ED-140M[6]	10	10	256	256	Y	

1. For all PCI-based hosts only: See http://www-1.ibm.com/servers/eserver/pseries/library/hardware_docs/sa38/380538.pdf for appropriate HBA placement guidelines.
2. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
   The IBM 2032-001 is the McData ED-5000.
   IBM SAN FC S08 (8-port) and S16 (16-port). Firmware level is 2.1.3. S08SAN FC switch includes four shortwave optical GBIC ports, and the option to add an additional 4 (8 total) longwave or shortwave ports to the S08. The S08 8-port switch is a single power entry. S16 SAN FC switch includes four shortwave optical GBIC ports, and the option to add an additional 12 (16 total) longwave or sortwave ports to the S16. The S16 is dual-powered. S08 & S16: 1) Shortwave GBIC: Feature Code=2010; 2) Longwave GBIC: Feature Code=2020, 3) Fibre Channel Cable Multimode optical 50.0u, 5m: Feature Code=5805; 4) Fibre Chanel Cable Multimode optical 50.0u, 25m: Feature Code=5825.
5. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
6. See Switched Fabric Topology Parameters for switch firmware levels
7. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
8. All adapters must be the same type except with HP-UX
9. Bull DCCG148-0000 = LP8000E fiber
10. Fibre Channel device driver distributed and supported by Bull.
11. MSKG0008-0000 = Brocade Silkworm 2800.
12. This is a Brocade Silkworm 2800 (16 ports)
13. Firmware revision levels distributed and supported by Bull. Please see appropriate Bull documentation
14. Symmetrix 8000 Series
15. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware. 1 x L1 or 2 x L2 ports per quad only.
16. No longer available
17. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
18. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information. 4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information. 5. Microcode level 5x66 and above.

IBM DYNIX/ptx

IBM DYNIX/ptx								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	IBM DYNIX/ptx: 4.4.6[3], 4.4.7[3], 4.4.8[3], 4.5.2[3], 4.5.3[3], 4.6.1[3]	IBM: IOC-210-52 (LP6500)[1] IOC-210-54 (LP7000E-N1)[1]	Brocade Silkworm 2800[2, 4]; EMC Connectrix DS-16B[2, 4, 5]; Sequent: FCS-0006-01[2], FCS-0008-01[2], FCS-0016-02[2], FCS-0016-05[2]	15	15	158, Symmetrix 8xxx Series: 256 (200-563	256	N

1 EMC DP3-FCD42G and EMC DP3-FCD42GS supported on DYNIX/ptx 4 4.8, 4.4.9 and 4.4.10 only
2. The 200-561-9XX. and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
3. For DYNIX/ptx 4.4.x connected to Brocade 2xxx, EMC, FCS-xxxx families of switches, configure the following DYNIX/ptx OS parameters: fabric.ops.mode.vcEncode: 1, route.delayReroute: 1, route.stickyRoutes: 1, xlative.ModeDisable: 1.
4. Only supported with IBM xSeries host that does not have an internal switch installed. Requires firmware 2.1.7 or 2.2.1.
5. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.

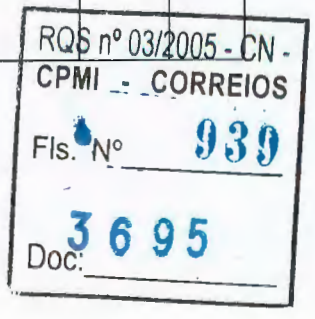


IBM OS/400								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	IBM OS/400 V5R1[3]	IBM: 2766, 2843	IBM 2109[1, 2]	1	1	32	32	N

1. Quick Loop Only
2. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
3. Subject to IBMs limitations per host model.

Microsoft Windows 2000

Microsoft Windows 2000								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2]; Microsoft Windows 2000 Datacenter: SP2[2], SP3[2]; Microsoft Windows 2000 Server: SP2[2], SP3[2]	Emulex LP7000E-EMC; QLogic: QLA2202F-EMC, QLA2300F-E-SP	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 7], DS-16B2[1, 6], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[10, 12], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 10], **ED-140M**, ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; Inrange FC9000/64[8]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	12	128, 256[3, 4]	256	Y[5]
2	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2]; Microsoft Windows 2000 Datacenter: SP2[2], SP3[2]; Microsoft Windows 2000 Server: SP2[2], SP3[2]	Emulex LP8000-EMC[9]	Brocade Silkworm 2400[1]; Cisco MDS: 9216[1], 9509[1]; EMC Connectrix: DS-32B2[10, 12], DS-8B[1], **ED-140M**	12	12	128, 256[3, 4]	256	N
3	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2]; Microsoft Windows 2000 Datacenter: SP2[2], SP3[2]; Microsoft Windows 2000 Server: SP2[2], SP3[2]	Emulex: LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; Cisco MDS: 9216[1], 9509[1]; EMC Connectrix: DS-16B[1, 7], DS-16B2[1, 6], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[10, 12], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 10], ED-140M, ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; Inrange FC9000/64[8]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	12	128, 256[3, 4]	256	Y[5]
4	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2]; Microsoft Windows 2000 Datacenter: SP2[2], SP3[2]; Microsoft Windows 2000 Server: SP2[2], SP3[2]	IBM 00N6881 (QLA2200)[11]	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; Cisco MDS: 9216[1], 9509[1]; EMC Connectrix: DS-16B[1, 7], DS-16B2[1, 6], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[10, 12], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 10], **ED-140M**, ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1], McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	12	128, 256[3, 4]	256	N
5	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2]; Microsoft Windows 2000 Datacenter: SP2[2], SP3[2]; Microsoft Windows 2000 Server: SP2[2], SP3[2]	QLogic QLA2200F-EMC	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; Cisco MDS: 9216[1], 9509[1]; EMC Connectrix: DS-32B2[10, 12], **ED-140M**; Inrange FC9000/64[8]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	12	128, 256[3, 4]	256	Y[5]



Microsoft Windows 2000								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
6	Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2], SP4; Microsoft Windows 2000 Datacenter: SP2[2], SP3[2], SP4; Microsoft Windows 2000 Server: SP2[2], SP3[2], SP4	HPQ Dual-port mezzanine controller card[13]	EMC Connectrix: DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], ED-1032[1], ED-140M, ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	12	128, 256[3, 4]	256	Y[5]
7	**Microsoft Windows 2000 Advanced Server: SP2[2], SP3[2], SP4;** **Microsoft Windows 2000 Datacenter: SP2[2], SP3[2], SP4;** **Microsoft Windows 2000 Server: SP2[2], SP3[2], SP4**	**IBM 00N6881 (QLA2200)[11]; QLogic QLA2200F-EMC**	**EMC Connectrix ED-140M[1]**	**12**	**12**	**128, 256[3, 4]**	**256**	**Y**
8	Microsoft Windows 2000 Server: SP2[2], SP3[2]	QLogic QLA2204F	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 7], DS-16B2[1, 6], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[10, 12], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], **ED-140M**, ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; Inrange FC9000/64[1, 8]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	12	128, 256[3, 4]	256	Y[5]
	Microsoft Windows 2000: Advanced Server SP4, Datacenter SP4, Server SP4	**HPQ Dual-port mezzanine controller card[13]**	**EMC Connectrix: DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], ED-140M[1], ED-64M[1];** **McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]**	**12, 6**	**12, 6**	**128**	**128**	**Y**

1. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
4. Symmetrix 8000 Series
5. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information. 4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information. 5. Microcode level 5x66 and above.
6. EMC DS-16B2 for "Extended Fabric License", use minimum 3.0.2f firmware, 1 ISL per quad only.
7. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
8. T-port mode only. Port zoning only. Single switch only.
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
10. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
11. (QLA2200) For IBM xSeries and Netfinity servers only.
12. See Switched Fabric Topology Parameters for switch firmware levels.
13. FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.

Microsoft Windows 2003

Microsoft Windows 2003								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Emulex: LP8000-EMC[13], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC); IBM: 19K1246(QLA2310)[15], 24P0960(QLA2340)[14]; NEC N8803-031 (QLA2310F); QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1) FCH732213-P64 (LP9002L-F2)	Brocade Silkworm 2400[7]; Cisco MDS: 9216[7], 9509[7]; EMC Connectrix: DS-32B2[10, 12], DS-8B[7], **ED-140M**	12	12	128, 256[4, 5]	256	N
2	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Emulex: LP8000-EMC[13], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E, HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC), IBM: 19K1246(QLA2310)[15], 24P0960(QLA2340)[14]; NEC N8803-031 (QLA2310F) QLogic: QLA2310F-E-SP QLA2340-E-SP QLA2342-E-SP Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1) FCH732213-P64 (LP9002L-F2)	Brocade Silkworm 12000[7], 2400[7], 2800[7], 3200[7], 3800[7], 3900[7], 6400[7], Cisco MDS 9216[7], 9509[7]; EMC Connectrix: DS-16B[7, 9], DS-16B2[7, 8], DS-16M[7], DS-16M2[7], DS-24M2[7], DS-32B2[10, 12], DS-32M[7] DS-32M2[7], DS-8B[7], ED-1032[7], ED-12000B[7, 10] ED-140M, ED-64M[7], EMC: DP3-SCB1[7] DP3-SCQ1[7] Inrange FC9000/64[11] McDATA: ED-5000[7], ED-6064[7], ES-3016[7], ES-3032[7], ES-3216[7] ES-3232[7], ES-4500[7]	12	12	128, 256[4, 5]	256	Y[6]

1. PowerPath is not supported.
2. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
5. Symmetrix 8000 Series
6. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information. 4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information. 5. Microcode level 5x66 and above.
7. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
8. EMC DS-16B2 for "Extended Fabric License", use minimum 3.0.2f firmware. 1 ISL per quad only.
9. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
10. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware. 1 x L1 or 2 x L2 ports per quad only.
11. T-port mode only. Port zoning only. Single switch only.
12. See Switched Fabric Topology Parameters for switch firmware levels.
13. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
14. This HBA is equivalent to the qLogic QLA2340
15. This HBA is equivalent to the qLogic QLA2310

Microsoft Windows NT

Microsoft Windows NT								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[7]	Brocade Silkworm, 12000[6], 2400[6], 2800[6], 3200[6], 3800[6], 3900[6], 6400[6]; EMC Connectrix, DS-16B[6, 10], DS-16B2[6, 9], DS-16M[6], DS-16M2[6], DS-24M2[6], DS-32B2[6, 8, 12], DS-32M[6], DS-32M2[6], ED-1032[6], ED-12000B[6, 8], ED-140M[6], ED-64M[6]; EMC: DP3-SCB1[6], DP3-SCQ1[6]; McDATA: ED-5000[6], ED-6064[6], ED-6140, ES-3016[6], ES-3032[6], ES-3216[6], ES-3232[6], ES-4500[6]	12	12	128, 256[4, 5]	256	Y
2	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[7]	Cisco MDS, 9216[6], 9509[6]; EMC Connectrix: DS-32B2[8, 12], **ED-140M**; Inrange FC9000/64[3]; McDATA ES-2500	12	12	128, 256[4, 5]	256	N
3	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[7]	Cisco MDS: 9216[6], 9509[6]; EMC Connectrix: DS-8B, **ED-140M**	12	12	128, 256[4, 5]	256	Y[11]
4	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP850-EMC, HPQ 176479-B21 IBM 00N6881 (QLA2200)[1], QLogic QLA2200F-EMC	Brocade Silkworm: 12000[6], 2400[6], 2800[6], 3200[6], 3800[6], 3900[6], 6400[6]; Cisco MDS: 9216[6], 9509[6]; EMC Connectrix: DS-16B[6, 10], DS-16B2[6, 9], DS-16M[6], DS-16M2[6], DS-24M2[6], DS-32B2[6, 8, 12], DS-32M[6], DS-32M2[6], DS-8B[6], ED-1032[6], ED-12000B[6, 8], ED-140M[6], ED-64M[6]; EMC: DP3-SCB1[6], DP3-SCQ1[6]; Inrange FC9000/64[3]: McDATA: ED-5000[6], ED-6064[6], ED-6140, ES-3016[6], ES-3032[6], ES-3216[6], ES-3232[6], ES-4500[6]	12	12	128, 256[4, 5]	256	Y
5	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP7000E-EMC, LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2202F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000[6], 2400[6], 2800[6], 3200[6], 3800[6], 3900[6], 6400[6]; EMC Connectrix: DS-16B[6, 10], DS-16B2[6, 9], DS-16M[6], DS-16M2[6], DS-24M2[6], DS-32B2[6, 8, 12], DS-32M[6], DS-32M2[6], DS-8B[6], ED-1032[6], ED-12000B[6, 8], ED-140M[6], ED-64M[6]; EMC: DP3-SCB1[6], DP3-SCQ1[6]; Inrange FC9000/64[3]: McDATA: ED-5000[6], ED-6064[6], ED-6140, ES-3016[6], ES-3032[6], ES-3216[6], ES-3232[6], ES-4500[6]	12	12	128, 256[4, 5]	256	Y
6	Microsoft Windows NT 4.0 SP6A[2]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E, QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Cisco MDS, 9216[6], 9509[6]; **EMC Connectrix ED-140M**	12	12	128, 256[4, 5]	256	Y[11]
7	Microsoft Windows NT 4.0 SP6A[2]	HPQ: KGPSA-CB, KGPSA-CY	Brocade Silkworm, 12000[6], 2400[6], 2800[6], 3200[6], 3800[6], 3900[6], 6400[6]; Cisco MDS: 9216[6], 9509[6]; EMC Connectrix: DS-16B[6, 10], DS-16B2[6, 9], DS-16M[6], DS-16M2[6], DS-24M2[6], DS-32B2[6, 8, 12], DS-32M[6], DS-32M2[6], DS-8B[6], ED-1032[6], ED-12000B[6, 8], ED-140M[6], ED-64M[6]; Inrange FC9000/64[3]: McDATA: ED-5000[6], ED-6064[6], ED-6140, ES-3016[6], ES-3032[6], ES-3216[6], ES-3232[6], ES-4500[6]	12	12	128, 256[4, 5]	256	Y
8	Microsoft Windows NT 4.0 SP6A[2]	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	Brocade Silkworm, 12000[6], 2400[6], 2800[6], 3200[6], 3800[6], 3900[6], 6400[6]; Cisco MDS: 9216[6], 9509[6]; EMC Connectrix: DS-16B[6, 10], DS-16B2[6, 9], DS-16M[6], DS-16M2[6], DS-24M2[6], DS-32B2[6, 8, 12], DS-32M[6], DS-32M2[6], DS-8B[6], ED-1032[6], ED-12000B[6, 8], ED-140M[6], ED-64M[6]; EMC: DP3-SCB1[6], DP3-SCQ1[6]; Inrange FC9000/64[3]: McDATA: ED-5000[6], ED-6064[6], ED-6140, ES-2500, ES-3016[6], ES-3032[6], ES-3216[6], ES-3232[6], ES-4500[6]	12	12	128, 256[4, 5]	256	N

1. (QLA2200) For IBM xSeries and Netfinity servers only.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. T-port mode only. Port zoning only. Single switch only.
4. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
5. Symmetrix 8000 Series
6. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
8. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
9. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
10. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
11. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information. 4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information. 5. Microcode level 5x66 and above.
12. See Switched Fabric Topology Parameters for switch firmware levels.

Novell Netware

Novell Netware									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	**Novell Netware 6.0: SP1[3], SP2[3], SP3**	**IBM: 00N6881 (QLA2200)[19, 20], 19K1246(QLA2310)[20, 21], 24P0960(QLA2340)[20, 22];** **QLogic QLA2342-E-SP**	**Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400;** **EMC Connectrix: DS-16B[2, 9], DS-16B2[10], DS-16M, DS-16M2, DS-24M2, DS-32B2[12, 18], DS-32M, DS-32M2, DS-8B[2], ED-1032[11], ED-12000B[12], ED-140M, ED-64M[11];** **McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**1**	**6[7]**	**128[6]**	**128**	**Y[8]**	**See[1]**
2	**Novell Netware 6.0: SP1[3], SP2[3], SP3**	**IBM: 00N6881 (QLA2200)[19, 20], 19K1246(QLA2310)[20, 21], 24P0960(QLA2340)[20, 22];** **QLogic QLA2342-E-SP**	**Brocade Silkworm: 12000[13], 2400[13], 2800[13], 3200[13], 3800[13], 3900[13], 6400[13];** **EMC Connectrix: DS-16B[9], DS-16B2[10], DS-16M, DS-16M2, DS-24M2, DS-32B2[12], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[12], ED-140M, ED-64M;** **EMC: DP3-SCB1, DP3-SCQ1[13];** **McDATA: ED-5000[13], ED-6064[13], ED-6140[13], ES-3016[13], ES-3032[13], ES-3216[13], ES-3232[13], ES-4500[13];**	**6**	**6**	**128[15]**	**128**	**Y[16]**	**See[14]**
3	Novell Netware 6.0: SP1[3], SP2[3], SP3	QLogic: QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400; EMC Connectrix: DS-16B[2, 9], DS-16B2[10], DS-16M, DS-16M2, DS-24M2, DS-32B2[12, 18], DS-32M, DS-32M2, DS-8B[2], ED-1032[11], ED-12000B[12], ED-140M, ED-64M[11]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	1	6[7]	128[6]	223[4], 256[5]	Y[8]	See[1]
4	**Novell Netware: 5.00 SP6A[3, 17], 5.10 SP2A[3], 5.10 SP5[3], 5.10 SP6**	**IBM: 00N6881 (QLA2200)[19], 19K1246(QLA2310)[20, 21], 24P0960(QLA2340)[20, 22];** **QLogic QLA2342-E-SP**	**Brocade Silkworm: 12000[13], 2400[13], 2800[13], 3200[13], 3800[13], 3900[13], 6400[13];** **EMC Connectrix: DS-16B[9], DS-16B2[10], DS-16M, DS-16M2, DS-24M2, DS-32B2[12], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[12], ED-140M, ED-64M;** **EMC: DP3-SCB1, DP3-SCQ1[13];** **McDATA: ED-5000[13], ED-6064[13], ED-6140[13], ES-3016[13], ES-3032[13], ES-3216[13], ES-3232[13], ES-4500[13];**	**6**	**6**	**128[15]**	**128**	**Y[16]**	**See[14]**
5	Novell Netware: 5.00 SP6A[3, 17], 5.10 SP2A[3], 5.10 SP5[3], 5.10 SP6, 6.0 SP1[3], 6.0 SP2[3], 6.0 SP3	Emulex LP9002-E (LP9002L-E); QLogic: QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000[13], 2400[13], 2800[13], 3200[13], 3800[13], 3900[13], 6400[13]; EMC Connectrix: DS-16B[9], DS-16B2[10], DS-16M, DS-16M2, DS-24M2, DS-32B2[12], DS-32M, DS-32M2, DS-8B, ED-1032 ED-12000B[12], ED-140M, ED-64M; EMC: DP3-SCB1, DP3-SCQ1[13]; McDATA: ED-5000[13], ED-6064[13], ED-6140[13], ES-3016[13], ES-3032[13], ES-3216[13], ES-3232[13], ES-4500[13]	6	6	128[15]	256	Y[16]	See[14]

1. Refer to Table 71 on page 202 for single-vendor and mixed-vendor switched fabrics and supported switch firmware.
2. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
3. Maximum number of NWFS volumes that can be mounted is 64
4. FC4700, FC4500, and FC5300.
5. CX600 and CX400
6. NetWare 5.00 NSS has a 120 LUNs per port limitation. If NSS is used, the maximum LUNs per Symm-Port/HBA is 120/120
7. Fanout represents the maximum initiators (host adapters) per Symmetrix port. Fanin represents the number of Symmetrix ports visible to a single initiator (host adapter). In arbitrated loop
environments, these numbers represent the maximum initiators per loop. In switch environments, these numbers are achieved through Zoning. For further details on Fanin/Fanout, see Connectrix
Enterprise Storage Network Planning Guide or EMC Networked Storage Topology Guide.
8. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA)
   1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port
   2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/Fanin of 12:1/1:12 and NetWare
   using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6
   3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information
   4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information, Table 138 on page 345
   5. Microcode level 5x66 and above
9. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
10. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only
11. ED-64 and ED-1032 not supported for FC5300.
12. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only

13. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
14. Fanout represents the maximum initiators (host adapters) per Symmetrix port. Fanin represents the number of Symmetrix ports visible to a single initiator (host adapter). In arbitrated loop environments, these numbers represent the maximum initiators per loop. In switch environments, these numbers are achieved through Zoning. For further details on Fanin/Fanout, see Connectrix Enterprise Storage Network Planning Guide or EMC Networked Storage Topology Guide.
15. NetWare 5.00 NSS has a 120 LUNs per port limitation. If NSS is used, the maximum LUNs per Symm-Port/HBA is 120/120.
16. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information. 4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information. 5. Microcode level 5x66 and above.
17. Requires NWPA.NLM V.3.07A update from Novell website.
18. See Switched Fabric Topology Parameters for switch firmware levels.
19. **(QLA2200) For IBM xSeries and Netfinity servers only.**
20. **For IBM Netfinity and xSeries Intel servers only.**
21. **This HBA is equivalent to the qLogic QLA2310.**
22. **This HBA is equivalent to the qLogic QLA2340.**

Red Hat Linux

Red Hat Linux									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 14], v2.4.9-E.12[3, 14], v2.4.9-E.16[3, 14], **v2.4.9-E.3[3, 4]**; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 14]**, v2.4.9-e.16[3, 14]; Red Hat Linux 7.3: (v2.4.18-3)[3], updated w/ v2.4.18-27.7.x rpm[3]	Emulex: LP9002-E (LP9002L-E)[5], LP9802-E[5], LP9802DC-E[5], LP982-E[5]; QLogic: QLA2200F-EMC[5], QLA2310F-E-SP[5], QLA2340-E-SP[5]	Brocade Silkworm: 1000[2], 12000[2], 2400[2, 7], 2800[2, 7], 3200[2, 8], 3800[2, 7], 3900[2, 13], 6400[2, 7]; EMC Connectrix: DS-16B[2, 9], DS-16B2[2, 7, 10], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[12, 13], DS-32M[2], DS-32M2[2], DS-8B[2, 7], ED-1032[2, 11], ED-12000B[2, 12], ED-64M[2]; EMC: DP3-SCB1[2], DP3-SCQ1[2]; McDATA: ED-5000[2, 11], ED-6064[2], ES-2500, ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	12	128	128	Y[6]	See[1]
2	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 14], v2.4.9-E.12[3, 14], v2.4.9-E.16[3, 14], **v2.4.9-E.3[3, 4]**, v2.4.9-E.9[3, 14]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 14]**, v2.4.9-e.16[3, 14]; Red Hat Linux 7.3: (v2.4.18-3)[3], updated w/ v2.4.18-27.7.x rpm[3]	Emulex: LP9002-E (LP9002L-E)[5], LP9802-E[5], LP9802DC-E[5], LP982-E[5]; QLogic: QLA2200F-EMC[5], QLA2310F-E-SP[5], QLA2340-E-SP[5]	Brocade Silkworm 3900[2]; EMC Connectrix DS-32B2[2, 12]	6	6[16]	128[15]	128	Y	
3	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[3, 14], v2.4.9-E.3[3]; Red Hat Linux 8.0 updated to v2.4.18-19.8.0[3]	HPQ Dual-port mezzanine controller card[17]	EMC Connectrix: DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2], DS-32M2[2], ED-140M[2], ED-64M[2]; McDATA: ED-5000[2], ED-6064[2], ED-6140[2], ES-2500[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12. 6	12, 6	128	128	Y	

1. All adapters must be the same type except with HP-UX.
2. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
3. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
4. **Supported with QLogic driver v6.04.02 or v6.05.00.**
5. Single HBA zoning is required regardless of the switch being utilized.
6. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information. 4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information. 5. Microcode level 5x66 and above.
7. Requires Brocade firmware v2.5.1b or later.
8. Requires Brocade firmware v3. 0. 2a or later.
9. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
10. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware. 1 ISL per quad only.
11. Requires Connectrix microcode v2.0.1 or later or v2.2 or later.
12. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only
13. See Switched Fabric Topology Parameters for switch firmware levels.
14. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
15. NetWare 5.00 NSS has a 120 LUNs per port limitation. If NSS is used, the maximum LUNs per Symm-Port/HBA is 120/120.
16. Fanout represents the maximum initiators (host adapters) per Symmetrix port. Fanin represents the number of Symmetrix ports visible to a single initiator (host adapter). In arbitrated loop environments, these numbers represent the maximum initiators per loop. In switch environments, these numbers are achieved through Zoning. For further details on Fanin/Fanout, see Connectrix Enterprise Storage Network Planning Guide or EMC Networked Storage Topology Guide.
17. FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.

SGI IRIX

SGI IRIX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	SGI IRIX 6 5 15	SGI PCI-FC-1P-OPT-A	Brocade Silkworm: 12000[3], 2400[3], 2800[3], 3900[3], 6400[3]; EMC Connectrix: DS-16B[2, 3], DS-16M[3], DS-16M2[3], DS-24M2[3], DS-32M[3], DS-32M2[3], DS-8B[3]; EMC: DP3-SCB1[3], DP3-SCQ1[3]; McDATA: ED-6064[3], ES-3216[3], ES-3232[3], ES-4500[3]	4	4	128	128	N
2	SGI IRIX 6 5 15	SGI PCI-FC-1P-OPT-B	Brocade Silkworm: 2400[3], 2800[3], 6400[3]; EMC Connectrix: DS-16B[2, 3], DS-16M[3], DS-16M2[3], DS-24M2[3], DS-32M[3], DS-32M2[3], DS-8B[3]; EMC DP3-SCB1[3] McDATA: ED-6064[3], ES-3216[3], ES-3232[3], ES-4500[3]	4	4	128	128	N

SGI IRIX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
3	SGI IRIX 6.5.15	SGI XT-FC-1P-OPT-A	Brocade Silkworm: 12000[3], 2400[3], 2800[3], 3900[3], 6400[3]; EMC Connectrix: DS-16B[2, 3], DS-8B[3]; EMC DP3-SCQ1[3]	4	4	128	128	N
4	SGI IRIX 6.5.16	SGI: PCI-FC-1P-OPT-A, XT-FC-1P-OPT-A	EMC Connectrix: DS-16M[3], DS-16M2[3], DS-24M2[3], DS-32M[3], DS-32M2[3], ED-12000B[3, 4]; EMC DP3-SCB1[3]; McDATA: ED-6064[3], ES-3216[3], ES-3232[3], ES-4500[3]	4	4	128	252	N
5	SGI IRIX: 5.3, 6.4.1	SGI XT-FC-1P-OPT-A	Brocade Silkworm: 2400[3], 2800[3], 3900[3], 6400[3]; EMC Connectrix: DS-16B[2, 3], DS-8B[3]; EMC DP3-SCQ1[3]	4	4	128	128	N
6	SGI IRIX: 6.5.10, 6.5.11, 6.5.14, 6.5.16, 6.5.9	SGI: PCI-FC-1P-OPT-A, XT-FC-1P-OPT-A	Brocade Silkworm: 12000[3], 2400[3], 2800[3], 3900[3], 6400[3]; EMC Connectrix: DS-16B[2, 3], DS-8B[3]; EMC DP3-SCQ1[3]	4	4	128	128	N
7	SGI IRIX: 6.5.12, 6.5.13	SGI PCI-FC-1P-OPT-A	Brocade Silkworm: 12000[3], 2400[3], 2800[3], 3900[3], 6400[3]; EMC Connectrix: DS-16B[2, 3], DS-8B[3]; EMC DP3-SCQ1[3]	4	4	128	128	N
8	SGI IRIX: 6.5.12, 6.5.13	SGI XT-FC-1P-OPT-A	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 2], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1]; EMC: DP3-SCB1[1], DP3-SCQ1[3]; McDATA ED-6064[1]	4	4	128	128	N
9	SGI IRIX: 6.5.12, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B, XT-FC-1P-OPT-A	EMC Connectrix ED-64M	4	4	256	255	N
10	SGI IRIX: 6.5.14, 6.5.17, 6.5.18	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B, XT-FC-1P-OPT-A	McDATA ED-6064	4	4	4	256	N
11	SGI IRIX: 6.5.17, 6.5.18	SGI PCI-FC-1P-OPT-A	EMC Connectrix DS-32B2[4]	4	4	128	252	N
12	SGI IRIX: 6.5.17, 6.5.18	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B	EMC Connectrix DS-32B2[4]	4	4	128	128	N
13	SGI IRIX: 6.5.17, 6.5.18	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B, XT-FC-1P-OPT-A	Brocade Silkworm: 12000, 2400, 2800, 3900; EMC Connectrix: DS-16B[2], DS-16B2[5], DS-16M, DS-16M2, DS-24M2, DS-32B2[4], DS-32M, DS-32M2, ED-140M	4	4	256	256	N
14	SGI IRIX: 6.5.17, 6.5.18	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B, XT-FC-1P-OPT-A	EMC Connectrix ED-12000B[4]	4	4	255	255	N

1 See Switched Fabric Topology Parameters for switch firmware levels.
2. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
3. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
4. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
5. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.

SuSE Linux

SuSE Linux									
No	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	SuSE Linux SLES 7 (v2.4.7)[3, 4, 5]	Emulex: LP9002-E (LP9002L-E)[6], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2200F-EMC[5], QLA2310F-E-SP[6], QLA2340-E-SP[6]	Brocade Silkworm: 1000[2], 12000[2], 2400[2, 8], 2800[2, 8], 3200[2, 9], 3800[2, 8], 3900[2, 14], 6400[2, 8]; EMC Connectrix: DS-16B[2, 10], DS-16B2[2, 8, 11], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[13, 14], DS-32M[2], DS-32M2[2], DS-8B[2, 8], ED-1032[2, 12], ED-12000B[2, 13], ED-64M[2]; EMC: DP3-SCB1[2], DP3-SCQ1[2]; McDATA: ED-5000[2, 12], ED-6064[2], ES-2500, ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	12	128	128	Y[7]	See[1]

1 All adapters must be the same type except with HP-UX
2 For Switch Firmware levels and other fabric parameters see Switched Fabric Topology parameters
3. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
4 Supported with QLogic driver v6.04.02.
5. Requires rev1 sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
6 Single HBA zoning is required regardless of the switch being utilized
7. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note, "N" for No means this host cannot share an FA port with any different OS/HBA) 1 ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port 2 Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12 1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1 6 The Fanout/Fanin is restricted to 6 1/1:6 3 See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information 4 Reference the Heterogeneous FA Port Sharing section of Director Bit Information 5 Microcode level 5x66 and above
8 Requires Brocade firmware v2 5 1b or later
9 Requires Brocade firmware v3 0 2a or later
10 EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
11 EMC DS-16B2 for "Extended Fabric License" use minimum 3.0.2f firmware, 1 ISL per quad only
12 Requires Connectrix microcode v2 0 1 or later or v2.2 or later
13 EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4 0.2a firmware, 1 x L1 or 2 x L2 ports per quad only
14 See Switched Fabric Topology Parameters for switch firmware levels.

Sun Solaris

Sun Solaris									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	Sun Solaris 2.6	Emulex: LP8000-EMC[5], LP9002-E (LP9002L-E), LP9002S-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCI-1063-EMC; QLogic: QLA2200F-EMC, QLA2300F-E-SP	Brocade Silkworm: 1000[1], 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 7], DS-16B2[1, 6], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 8], ED-140M[1], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; Inrange FC9000/64[9]; McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	12	12	128[2], 256[3]	128	Y[4]	
2	Sun Solaris 7	Emulex: LP8000-EMC[5], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCI-1063-EMC, FCX2-6562-E; QLogic: QLA2200F-EMC, QLA2202FS-E, QLA2300F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 1000[1], 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 7], DS-16B2[1, 6], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 8], ED-140M[1], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; Inrange FC9000/64[9]; McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	12	12	128[2], 256[3]	256	Y[4]	
3	Sun Solaris 8	Emulex LP8000-EMC[5]	Cisco MDS: 9216[11], 9509[11]; EMC Connectrix DS-32B2[8, 10]	6	6	128	128(Sol 2.6), 256(Sol 7,8)	Y	
4	Sun Solaris 8	Emulex LP8000-EMC[5]	Cisco MDS: 9216[11], 9509[11]; EMC Connectrix DS-32B2[8, 10]	6	6	128	256	Y	
5	Sun Solaris 8	Emulex LP9002S-E	Cisco MDS: 9216[11], 9509[11]; EMC Connectrix DS-32B2[8, 10]	6	6	128, 256[3]	256	Y	See[10]
6	Sun Solaris 8	Emulex: LP8000-EMC[5], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2342-E-SP	Brocade Silkworm: 1000[1], 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; Cisco MDS: 9216[11], 9509[11]; EMC Connectrix: DS-16B[1, 7], DS-16B2[1, 6], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[8, 10], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 8], ED-140M[1], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; Inrange FC9000/64[9]; McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	12	12	128[2], 256[3]	256	Y[4]	
7	Sun Solaris 8	Emulex: LP9002S-E, LP9802-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E; QLogic: QLA2202FS-E, QLA2340-E-SP	Brocade Silkworm: 1000[1], 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; Cisco MDS: 9216[11], 9509[11]; EMC Connectrix: DS-16B[1, 7], DS-16B2[1, 6], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 8], ED-140M[1], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; Inrange FC9000/64[9]; McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	12	12	128[2], 256[3]	256	Y[4]	
8	Sun Solaris 8	JNI FCI-1063-EMC; QLogic QLA2300F-E-SP	Brocade Silkworm: 1000[1], 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 7], DS-16B2[1, 6], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 8], ED-140M[1], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; Inrange FC9000/64[9]; McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	12	12	128[2], 256[3]	256	Y[4]	
9	Sun Solaris 9	Emulex LP8000-EMC[5]	Brocade Silkworm 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; Cisco MDS: 9216[11], 9509[11]; EMC Connectrix: DS-16B[1, 7], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[8, 10], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 8], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128	256	Y	
10	Sun Solaris 9	Emulex LP8000-EMC[5]	Cisco MDS: 9216[11] 9509[11]; EMC Connectrix DS-32B2[8, 10], DP3-SCB1[1] DP3-SCQ1[1]	6	6	128	128(Sol 2.6), 256(Sol 7,8)	Y	

Sun Solaris									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
11	Sun Solaris 9	Emulex LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; Cisco MDS: 9216[11], 9509[11]; EMC Connectrix: DS-16B[1, 7], DS-32B2[8, 10], DS-8B[1], ED-1032[1], ED-12000B[1, 8], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128, 256[3]	256	Y	See[10]
12	Sun Solaris 9	Emulex: LP8000-EMC[5], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2342-E-SP	Brocade Silkworm: 1000[1], 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; Cisco MDS: 9216[11], 9509[11]; EMC Connectrix: DS-16B[1, 7], DS-16B2[1, 6], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[8, 10], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 8], ED-140M[1], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; Inrange FC9000/64[9]: McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	12	12	128[2], 256[3]	256	Y[4]	
13	Sun Solaris 9	JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; Cisco MDS: 9216[11], 9509[11]; EMC Connectrix: DS-16B[1, 7], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[8, 10], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 8], ED-64M[1]; EMC: DP3-SCB1[1], DP3-SCQ1[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	6	128	256	Y	

1. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
2. Symmetrix 8000 Series
3. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
4. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information. 4. Reference the Heterogeneous FA Port Sharing section of Director Bit information. 5. Microcode level 5x66 and above.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
6. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
7. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
8. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
9. T-port mode only. Port zoning only. Single switch only.
10. See Switched Fabric Topology Parameters for switch firmware levels.
11. No boot support at this time.

Unisys MCP

Unisys MCP								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Unisys MCP: 47.1 (HMP 6.0), 48.1 (HMP 7.0)	Unisys: FCA621-CU[5], FCA622-SW[1], FCA623-LW[6], FCA661-CU[2], FCA662-SW[3], FCA663-LW[4]	Brocade Silkworm: 2400, 2800, 3800; EMC Connectrix: DS-16B[7], DS-16B2[8], DS-8B	2	2	512	512	Y

Fibre Short Wave
Hi Perform Fibre Copper
3 Hi Perform Short Wave
4 Hi Perform Long Wave
5. Fibre Copper
6 Fibre Long Wave
7 EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
8 EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.

Unisys OS 2200

Unisys OS 2200								
No	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Unisys OS 2200 HMP, 6.1 7.0 7.1, 8.0	Unisys: FCA622-SW[1] FCA662-SW[2]	Brocade Silkworm: 12000, 2400, 2800, 3800, 3900; EMC Connectrix: DS-16B[3], DS-16B2[4], DS-16M DS-16M2, DS-24M2, DS-32B2[5], DS-32M, DS-32M2, DS-8B, ED-12000B[5], ED-140M	4	1	256	256	Y

1 Fibre Short Wave
2 Hi Perform Short Wave
3 EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
4 EMC DS-16B2 for "Extended Fabric License" use minimum 3.0.2f firmware, 1 ISL per quad only
5 EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware 1 x L1 or 2 x L2 ports per quad only

Unisys SB7

Unisys SB7								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Unisys SB7	Unisys FCA622-SW[2]	Brocade Silkworm: 2400 3900; EMC Connectrix DS-16B2[6], DS-16M2, DS-32B2[7], DS-8B, ED-12000B[7], ED-140M	1	4	256	256	Y
2	Unisys SB7	Unisys FCA622-SW[2]	EMC Connectrix DS-24M2[1], DS-32M[1], DS-32M2[1]; McDATA: ES-3032 ES-3232, ES-4500	1	4	256	256	
3	Unisys SB7	Unisys: FCA621-CU[3], FCA622-SW[2], FCA623-LW[4]	Brocade Silkworm: 12000, 2400, 2800, 3800, 3900; EMC Connectrix DS-16B[5], DS-16B2[6], DS-16M, DS-16M2, DS-32B2[7] DS-32M DS-8B, ED-12000B[7], ED-140M	4	1	256	256	Y

1. The FCA622-SW channel must be used in conjunction with Unisys Fibre CA-MCODE version 1R13Q7 E0.FB (30.251) or higher.
2. Fibre Short Wave
3. Fibre Copper
4. Fibre Long Wave
5. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
6. EMC DS-16B2 for "Extended Fabric License" use minimum 3.0.2f firmware 1 ISL per quad only.
7. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.

VMware ESX

VMware ESX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	**VMware ESX v1.5.2: patch2, patch3[1, 2, 3]**	**QLogic QLA2340-E-SP QLA2342-E-SP**	**Brocade Silkworm: 1000 12000, 2400, 2800, 3200, 3800, 3900, 6400;** **Cisco MDS: 9216, 9509,** **EMC Connectrix DS-16B[6], DS-16B2[5], DS-16M, DS-16M2, DS-24M2, DS-32B2[4], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[4], ED-140M, ED-64M;** **EMC: DP3-SCB1, DP3-SCQ1;** **Inrange FC9000/64[7],** **McDATA: ED-5000, ED-6064, ED-6140, ES-2500, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500**	**12**	**12**	**128**	**256**	Y

1. **Path failover and load-balancing are not supported.**
2. **EMC software will function on neither the VMkernel nor the VMs as the currently-released versions of the SymAPI do not include support for VMware ESX.**
3. **Windows 2000 SP3 and SP4. Windows NT 4.0, and RedHat 2.1 Advanced Server are qualified to run as Virtual Machines.**
4. **EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.**
5. **EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.**
6. **EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.**
7. **T-port mode only. Port zoning only. Single switch only.**

Application Software

Fujitsu Solaris

Fujitsu Solaris			
No.	Operating System	Host Bus Adapter	Application Software
1	Fujitsu Solaris. 7. 8	Fujitsu GP7B8FC1	PowerPath: 2.0.3, 2.1.0, 2.1.2, 3.0.2, 3.0.3, 3.0.4

Fujitsu Siemens Solaris

Fujitsu Siemens Solaris			
No.	Operating System	Host Bus Adapter	Application Software
1	Fujitsu Siemens Solaris 8. 02/02 850/650. Fujitsu Siemens Solaris 9 04/03	Fujitsu Siemens LP9802-E (GP70F-CF31)	PowerPath: 3.0.3, 3.0.4, 4.0.0[3, 4], **4.0.1[4]**
2	Fujitsu Siemens Solaris 2.6 May 98 7 Nov 99, 8 02/02, 8 850/650, 9 04/03	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X), LP9002-E (LP9002L-E) GP70F-CF30	PowerPath: 3.0.3, 3.0.4, 4.0.0[3, 4], **4.0.1[4]**
3	Fujitsu Siemens Solaris 2.6, 2.6 May 98, 7 7 Nov 99, 8, 8 02/02, 8 850/650	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[1, 2], LP9002-E (LP9002L-E) GP70F-CF30	PowerPath: 2.0.3, 2.1.0, 2.1.2, 3.0.2
4	Fujitsu Siemens Solaris: 8. 8 02/02 8 850/650	Fujitsu Siemens LP9802-E (GP70F-CF31)	PowerPath: 2.0.3, 2.1.0, 2.1.2, 3.0.2

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
3. Pending final general availability dates
4. RPQ for PowerPath Volume Manager support with PRIMECLUSTER

HPQ HP-UX

HPQ HP-UX			
No.	Operating System	Host Bus Adapter	Application Software
1	HPQ HP-UX 11.0[2, 6] 11i v1.0 HP-UX 11.11[2]	HPQ A5158A[5] A6684A[5] A6685A[5], A6795A[5]	PowerPath 3.0.2 b41[3, 7]
2	HPQ HP-UX 11.0[2] 11i 9000[2] 11.0 ACE[2] 11i v1.0 (HP-UX 11.11)[1, 2]	HPQ A3404A, A3591A, A3591B A3636A A3740A A5158A, A6684A A6685A A6795A	PowerPath 3.0.0[3] 3.0.1 [illegible]

1. Symmetrix microcode version 5266.33.23 or higher, 5566.35.23 or higher 5267.22.15 or higher, 5567.29.15 or higher
2. For HP-UX systems only LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a media error is returned should be enabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N dev/vg01/lvol1 or lvcreate -r N /dev/vg01 The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set
3. Sites using VERITAS VxVM, see VERITAS Volume Manager Table
4. Configurations are limited to systems using HP-UX Logical Volume Manager (LVM) All devices configured into PowerPath must also be configured into HP LVM.
5. For driver versions, see Hewlett-Packard Base Connectivity table

6. On HP-UX 11.00 LVM support only – no VxVM
7. Supported with HP-UX 11.0, 11i only

HPQ Tru64 UNIX

HPQ Tru64 UNIX			
No.	Operating System	Host Bus Adapter	Application Software
1	HPQ Tru64 UNIX V4.0F[5]	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	PowerPath: 2.0.0, 2.1.0, 2.1.1
2	HPQ Tru64 UNIX V4.0G[4]	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	PowerPath: 2.0.0, 2.1.0, 2.1.1, 3.0.0
3	HPQ Tru64 UNIX V5.0A	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	PowerPath: 2.0.0, 2.1.0, 2.1.1, 3.0.0[3]
4	**HPQ Tru64 UNIX V5.1[2]**	**HPQ: FCA2354 (LP9002), KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	**PowerPath: 2.0.0, 2.1.0, 2.1.1, 3.0.0**
5	HPQ Tru64 UNIX V5.1A[1]	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)**, KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)	PowerPath: 2.1.1, 3.0.0
6	**HPQ Tru64 UNIX V5.1B[6]**	**HPQ: FCA2354 (LP9002), FCA2384 (LP9802), KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	**PowerPath 3.0.0**

1. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
2. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
3. For support on Tru64 5.0A, RPQ.
4. Tru64 V4.0G latest qualified patch kit-0003 (T64V40GAS0003-20010613).
5. Tru64 V4.0F BL13 Patch Kit 2 may introduce problems with KZPBA adapters. Tru64 V4.0F latest qualified Patch Kit-0007 (DUV40FB18AS0007-20020102).
6. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**

IBM AIX

IBM AIX			
No.	Operating System	Host Bus Adapter	Application Software
	IBM AIX 4.3.3	IBM: 6227, 6228	PowerPath: 2.0.2, 2.1.0, 2.1.3, 3.0.0, 3.0.1, 3.0.3[3], 3.0.4[3]
2	IBM AIX 5.1	Bull DCCG148-0000[1]	PowerPath: 2.1.3, 3.0.1, 3.0.2
3	IBM AIX 5.1	IBM: 6227, 6228, **6239**	PowerPath: 2.1.1, 2.1.3, 3.0.0, 3.0.1, 3.0.3[3], 3.0.4[3]
4	IBM AIX 5.2	IBM: 6227, 6228, **6239**	PowerPath: 3.0.3[3], 3.0.4[3]
5	IBM AIX: 4.3.2, 4.3.3	Bull DCCG148-0000[1]	PowerPath: 2.0.2, 2.1.0, 2.1.2, 3.0.1, 3.0.2
6	IBM AIX: 4.3.2, 4.3.3	EMC CKIT-E70-AIX[2]	PowerPath: 2.0.2, 2.1.0, 2.1.3

1. Fibre Channel device driver distributed and supported by Bull.
2. No longer available
3. For customers attached to Symmetrix 8000 series arrays running 5567 or 5568 code and have applied Symmetrix microcode fix 16710 will also need to apply Symmetrix microcode fix 19491. It is only available by special request through Customer Service. If customers haven't applied 16710, then they do not need 19491.

Microsoft Windows 2000

Microsoft Windows 2000			
No.	Operating System	Host Bus Adapter	Application Software
1	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Emulex: LP7000E-EMC, LP8000-EMC[6], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; HPQ: D8602A (Agilent HHBA-5101B)[1, 5], D8602B (Agilent HHBA-5101C)[1, 4], Dual-port mezzanine controller card; IBM: 00N6881 (QLA2200)[3], 24P0960(QLA2340)[7]; QLogic: QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	PowerPath: 3.0.0[2], 3.0.2[2]
2	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Emulex: LP7000E-EMC, LP8000-EMC[6], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; HPQ: D8602A (Agilent HHBA-5101B)[1, 5], D8602B (Agilent HHBA-5101C)[1, 4]; IBM: 00N6881 (QLA2200)[3], 24P0960(QLA2340)[7]; QLogic: QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	PowerPath: 2.0.4, 2.1.0, 2.1.1
3	Microsoft Windows 2000: Advanced Server SP4, Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP7000E-EMC, LP8000-EMC[6], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; HPQ: D8602A (Agilent HHBA-5101B)[1, 5], D8602B (Agilent HHBA-5101C)[1, 4], Dual-port mezzanine controller card; IBM: 00N6881 (QLA2200)[3], 24P0960(QLA2340)[7]; QLogic: QLA2200F-EMC, QLA2202F-EMC, QLA2204F, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	PowerPath: 3.0.0[2], 3.0.2[2]
4	Microsoft Windows 2000: Advanced Server SP4, Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP7000E-EMC, LP8000-EMC[6], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; HPQ: D8602A (Agilent HHBA-5101B)[1, 5], D8602B (Agilent HHBA-5101C)[1, 4]; IBM: 00N6881 (QLA2200)[3], 24P0960(QLA2340)[7]; QLogic: QLA2200F-EMC, QLA2202F-EMC, QLA2204F, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	PowerPath: 2.0.4, 2.1.0, 2.1.1

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server
2. ATF/CDE and PowerPath cannot co-exist in the same server

3. (QLA2200) For IBM xSeries and Netfinity servers only.
4. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
5. (HHBA-5101BK-01)
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
7. This HBA is equivalent to the qLogic QLA2340.

Microsoft Windows NT

Microsoft Windows NT			
No.	Operating System	Host Bus Adapter	Application Software
1	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP7000E-EMC, LP8000-EMC[2], LP850-EMC, LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; HPQ: 176479-B21, A5246A (Agilent HHBA-5000A)[1], D8602A (Agilent HHBA-5101B)[1, 3], D8602B (Agilent HHBA-5101C)[1, 4], KGPSA-CB, KGPSA-CY; IBM: 00N6881 (QLA2200)[5], 24P0960(QLA2340)[6]; QLogic: QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1), PCI 1100-FC (QLA2100), PCI 1120-FC (QLA2100-EMC, QLA2100F)	PowerPath: 2.0.2, 2.1.0, 2.1.1, 3.0.0, 3.0.1

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. (HHBA-5101BK-01)
4. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
5. (QLA2200) For IBM xSeries and Netfinity servers only.
6. This HBA is equivalent to the qLogic QLA2340.

Novell Netware

Novell Netware			
No.	Operating System	Host Bus Adapter	Application Software
1	Novell Netware: 5.00 SP6A[1, 2], 5.10 SP2A[2], 5.10 SP5[2], 5.10 SP6	QLogic: QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP	PowerPath: 2.1.0, 2.1.1
2	Novell Netware: 5.00 SP6A[1, 2], 5.10 SP2A[2], 5.10 SP5[2], 5.10 SP6, 6.0 SP1[2], 6.0 SP2[2], 6.0 SP3	QLogic: QLA2200F-EMC, QLA2202F-EMC, QLA2300F-E-SP, QLA2310F-E-SP, QLA2340-E-SP	PowerPath 3.0.1

1. Requires NWPA.NLM V.3.07A update from Novell website.
2. Maximum number of NWFS volumes that can be mounted is 64.

Red Hat Linux

Red Hat Linux			
No.	Operating System	Host Bus Adapter	Application Software
1	Red Hat Linux 2.1 Advanced Server v2.4.9-E.16	QLogic QLA2342-E-SP	PowerPath 3.0.2 b069
2	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[2, 3], v2.4.9-E.12[2, 3]; Red Hat Linux 2.1 ES: **v2.4.9-e.12**[2, 3], v2.4.9-e.16[2, 3]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	PowerPath 3.0.2 b069
3	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[2, 3], v2.4.9-E.9[1, 2, 3]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	PowerPath 3.0.2 b069

1. This kernel is supported with PowerPath v3.0.2 via RPQ only.
2. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
3. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.

SuSE Linux

SuSE Linux			
No.	Operating System	Host Bus Adapter	Application Software
1	SuSE Linux SLES 8 v2.4.19-SuSE.175[1, 2]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP[3]	PowerPath 3.0.3 b065

1. Requires QLogic v6.04.02 driver.
2. Requires rev3_sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
3. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65

Sun Solaris

Sun Solaris			
No.	Operating System	Host Bus Adapter	Application Software
1	Sun Solaris 2.6	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002S-E; JNI: FC-1063-EMC, FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCI-1063-EMC QLogic: QLA2200F-EMC, QLA2300F-E-SP	PowerPath: 2.0.3, 2.1.0, 2.1.2, 3.0.0, 3.0.2
2	Sun Solaris 2.6	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002S-E; JNI: FC-1063-EMC, FCE-1063-E, FCE2-1063-E, FCI-1063-EMC; QLogic: QLA2200F-EMC, QLA2300F-E-SP	PowerPath: 3.0.3, 3.0.4, **4.0.0**[2, 3], **4.0.1**[2]
3	Sun Solaris 7	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E, LP9002S-E; JNI: FC-1063-EMC, FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCI-1063-EMC, FCX2-6562-E; QLogic: QLA2200F-EMC, QLA2202FS-E, QLA2300F-E-SP, QLA2342-E-SP	PowerPath: 2.0.3, 2.1.0, 2.1.2, 3.0.0, 3.0.2
4	Sun Solaris 7	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E, LP9002S-E, LP9802-E; JNI: FC-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCI-1063-EMC, FCX2-6562-E; QLogic: QLA2200F-EMC, QLA2202FS-E, QLA2300F-E-SP, QLA2340-E-SP, QLA2342-E-SP	PowerPath: 3.0.3, 3.0.4, **4.0.0**[2, 3], **4.0.1**[2]

Sun Solaris			
No.	Operating System	Host Bus Adapter	Application Software
5	Sun Solaris 8	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9002S-E; JNI: FC-1063-EMC, FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCI-1063-EMC, FCX2-6562-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2202FS-E, QLA2300F-E-SP, QLA2342-E-SP	PowerPath: 2.0.3, 2.1.0, 2.1.2, 3.0.0, 3.0.2
6	Sun Solaris 8	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9002S-E, LP9802-E; JNI: FC-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCI-1063-EMC, FCX2-6562-E, QLogic: QCP2202F-E, QLA2200F-EMC, QLA2202FS-E, QLA2300F-E-SP, QLA2340-E-SP, QLA2342-E-SP	PowerPath: 3.0.3, 3.0.4, **4.0.0[2, 3]**, **4.0.1[2]**
7	Sun Solaris 9	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9002S-E, LP9802-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2202FS-E, QLA2300F-E-SP, QLA2340-E-SP, QLA2342-E-SP	PowerPath: 3.0.3, 3.0.4, **4.0.0[2, 3]**, **4.0.1[2]**

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. **The Volume Manager component of PowerPath 4.x is not currently supported with Sun SunCluster products.**
3. **Pending final general availability dates.**

Fibre Bit Settings

5568 Settings

No.	Operating Environment	Bits to Set	Comments
1	AS/400 2105 External Emulation	Avoid Reset Broadcast (ARB), Enable Volume Set Addressing (V), Unique World Wide Name (UWN)	
2	BULL Escala AIX	Disable Queue Reset on Unit Attention (D)[12]	
3	**Compaq Tru64 UNIX V5.x[1]**	Open VMS (OVMS)	
4	Compaq/DEC OpenVMS	Open VMS (OVMS), SCSI 3 (SC3)	
5	Data General AViiON NUMA 25000	Disable Queue Reset on Unit Attention (D)	
6	EMC Celerra	Avoid Reset Broadcast (ARB)	
7	EMC GeoSpan for VCS, Veritas Cluster Server (VCS)	Common Serial Number (C)[8], Disable Queue Reset on Unit Attention (D)[9]	
8	FC-AL 5568	Enable Auto Negotiation (EAN)[3, 4], Unique World Wide Name (UWN)	
9	FC-SW 5568	Enable Auto Negotiation (EAN)[3], Enable Point-to-point (PP), Unique World Wide Name (UWN)	
10	FSC BS2000/OSD FC-SW Director Bits	Common Serial Number (C), Disable Queue Reset on Unit Attention (D), Enable Point-to-point (PP), Unique World Wide Name (UWN)	
11	FSC PRIMEPOWER (GP7000F) Series Host	Common Serial Number (C)[11], Disable Queue Reset on Unit Attention (D)[10, 11, 12]	
12	FSC Reliant UNIX RM Series	Disable Queue Reset on Unit Attention (D), Enable Siemens Hosts Rm/400 - Rm/600 (S), Environment Reports to Host (E)	
13	Heterogeneous FA Port Sharing	Common Serial Number (C)[7], Enable Point-to-point (PP), SCSI 3 (SC3), Unique World Wide Name (UWN)	See[5, 6]
14	HP-UX FC-AL	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[15], Common Serial Number (C), Enable Volume Set Addressing (V)	
15	HP-UX FC-SW	Common Serial Number (C), Enable Volume Set Addressing (V)	
16	IBM AIX with EMC Fibre Channel Interface for AIX Platform[14]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[15], Disable Queue Reset on Unit Attention (D)[10, 12]	
17	IBM AIX with FC 6227, 6228	Disable Queue Reset on Unit Attention (D)[10, 12], SCSI 3 (SC3)	
18	ICL OpenVME	Common Serial Number (C)	
19	Linux 5568 FC-AL Director Bit Settings	Enable Auto Negotiation (EAN)[3], Enable Fibrepath on this Port (VCM)[38], Unique World Wide Name (UWN)	
20	Linux 5568 FC-SW Director Bit Settings	Enable Auto Negotiation (EAN)[3], Enable Fibrepath on this Port (VCM)[38], Enable Point-to-point (PP), Unique World Wide Name (UWN)	
21	NCR (MPRAS/Windows NT)	Disable Queue Reset on Unit Attention (D)[23], Environment Reports to Host (E)[24]	
22	Novell Netware[25]	Disable Queue Reset on Unit Attention (D)[26]	
23	Sequent NUMA-Q DYNIX/ptx 4.4.x, and 4.5.x FC-SW	Common Serial Number (C), Enable Volume Set Addressing (V), Environment Reports to Host (E), Sequent Host (SEQ)	
24	Sequent NUMA-Q DYNIX/ptx 4.5.x FC-AL direct	Common Serial Number (C), Environment Reports to Host (E), Sequent Host (SEQ)	
25	**SUN Solaris**	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[15], Common Serial Number (C)[11, 34, 35, 37], Disable Queue Reset on Unit Attention (D)[10, 11, 12, 34, 35, 36], Enable Sunapee (SCL)[34]	

No.	Operating Environment	Bits to Set	Comments
26	Windows NT/Windows 2000[21]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[15], Common Serial Number (C)[7], Disable Queue Reset on Unit Attention (D)[10, 12], Enable Volume Set Addressing (V)[22]	

1. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
2. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
3. EAN bit set for 2 Gb FA support
4. Direct connect only, no hubs.
5. These settings refer to the configuration in the Switch section (see FA Port Sharing column) Note: operating environments that have required director bit settings other than these are not supported.
6. Note: With the introduction of EMC Solution Enabler 5.0, FA ports need not use the 'Heterogeneous FA Port Sharing' flags. Instead, users can use the CLI function 'Heterogeneous Host Configuration' to set the director flags for each initiator.
7. C Bit required for VERITAS VxVM DMP functionality.
8. C Bit with Veritas DMP.
9. D Bit is not required for VCS 2.0 or later.
10. Sites with PowerPath 2.0 or later already running with the D-bit enabled do not require the D-bit to be disabled.
11. C + D Bits with Veritas DMP.
12. D Bit required with PowerPath 1.5.x or earlier.
13. Requires OV/K/0041.3
14. No longer available
15. A4S bit when sharing AS/400 drives on this port (direct connect only).
16. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
17. Requires HP-UX 11.0 Extension Pack release May 1999 or equivalent.
18. Symmetrix microcode supported:5266.40.28 or higher, 5566.41.28 or higher, 5267.27.19 or higher, 5567.34.19 or higher.
19. Requires HP-UX 11.0 General Release patch bundle XSWGR1100 B.11.00.47.05 released November 1999 or equivalent.
20. Symmetrix microcode version: 5266.33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher.
21. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
22. V Bit for HP/Agilent controllers only
23. D Bit for multiple vendor platforms; if only NCR hosts, set IMPL flag A010.
24. E Bit: if Windows NT OS is used with TNT, set the FBA Environmental Sense key to 4, else set it to 6.
25. Maximum number of NWFS volumes that can be mounted is 64.
26. D Bit with Cluster.
27. Requires NWPA.NLM V.3.07A update from Novell website.
28. Open VMS 7.1-2 requires console firmware 5.6 or later and patch VMS712_SCSI-V0300.
29. OpenVMS 7.2-1, 7.2-1H1 FC-SW requires console firmware 5.6 or later and patch VMS721_fibre_SCSI-V0400. Available from http://ftp1.support.compaq.com/public/
30. Subject to IBMs limitations per host model.
31. Limited support available for MPARS 3.01.
32. Open VMS 7.3 FC-SW requires console firmware 5.6 or later and patch VMS73_update-V0100 or patch VMS73_fibre_SCSI-V0200.
33. Open VMS 7.2-2 FC-SW requires console firmware 5.6 or later and patch VMS722_fibre_SCSI-V0100.
34. C + D + SCL Bits with SUN Cluster 1.x, 2.x.
35. Enabling the D-bit for DMP is recommended but not required for VxVM 3.1 and higher. The D-bit is not required for VxVM 3.1 and higher.
36. Note: In a heterogeneous FA port sharing environment using VxVM 3.1 or higher, D-bit should be disabled.
37. C Bit with Sun Cluster 3.0.
38. VCM for Volume Logix configurations only
39. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
40. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
41. **Supported with QLogic driver v6.04.02 or v6.05.00.**
42. Requires rev2_sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
43. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
44. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
45. Supported with QLogic driver v6.04.02.
46. Requires rev1_sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.

5x67 Settings

No.	Operating Environment	Bits to Set
1	BULL Escala AIX	Disable Queue Reset on Unit Attention (D)[10, 11], Enable Hard Addressing (H), Tagged Command (T), Unique World Wide Name (UWN)
2	BULL Escala AIX, Windows 2000[26], Windows NT	Common Serial Number (C)[6], Disable Queue Reset on Unit Attention (D)[10, 11], Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
3	Compaq/DEC Alpha Server Tru64 UNIX 4.0F[1], Compaq/DEC Alpha Server Tru64 UNIX 4.0G[2], SGI Origin	Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
4	**Compaq/DEC Alpha Server Tru64 UNIX 5.x[4]**	Enable Point-to-point (PP), Open VMS (requires 5266.23.19 or 5566.26.19) (OVMS), Tagged Command (T), Unique World Wide Name (UWN)
5	Compaq/DEC OpenVMS	Enable Point-to-point (PP), Open VMS (requires 5266.23.19 or 5566.26.19) (OVMS), SCSI 3 (SC3), Tagged Command (T), Unique World Wide Name (UWN)
6	Data General AViiON NUMA 25000	Disable Queue Reset on Unit Attention (D), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
7	EMC Celerra	Avoid Reset Broadcast (ARB), Enable Fibrepath on this Port (VCM)[3], Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
8	EMC GeoSpan for VCS, Veritas Cluster Server (VCS)	Common Serial Number (C)[7], Disable Queue Reset on Unit Attention (D)[8], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
9	FSC BS2000/OSD FC-SW Director Bits	Common Serial Number (C), Disable Queue Reset on Unit Attention (D), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)

No.	Operating Environment	Bits to Set
10	FSC PRIMEPOWER (GP7000F) Series Host	Common Serial Number (C)[9], Disable Queue Reset on Unit Attention (D)[9, 10, 11], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
11	FSC Reliant UNIX RM Series	Command Reordering (R), Disable Queue Reset on Unit Attention (D), Enable Hard Addressing (H), Enable Point-to-point (PP), Enable Siemens Hosts Rm/400 - Rm/600 (S), Environment Reports to Host (E), Tagged Command (T), Unique World Wide Name (UWN)
12	Heterogeneous FA Port Sharing	Common Serial Number (C)[6], Enable Fibrepath on this Port (VCM), Enable Point-to-point (PP), SCSI 3 (SC3), Tagged Command (T), Unique World Wide Name (UWN)
13	HP-UX FC-AL	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[20], Common Serial Number (C), Enable Disk Array Inq Response (A), Enable Hard Addressing (H), Enable Volume Set Addressing (V), Global Third Party Logout (TP), Tagged Command (T), Unique World Wide Name (UWN)
14	HP-UX FC-SW	Common Serial Number (C), Enable Disk Array Inq Response (A), Enable Point-to-point (PP), Enable Volume Set Addressing (V), Global Third Party Logout (TP), Tagged Command (T), Unique World Wide Name (UWN)
15	IBM AIX with EMC Fibre Channel Interface for AIX Platform[19]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[20], Disable Queue Reset on Unit Attention (D)[10, 11], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
16	IBM AIX with FC 6227, IBM AIX with FC 6228	Disable Queue Reset on Unit Attention (D)[10, 11], Enable Hard Addressing (H), Enable Point-to-point (PP), SCSI 3 (SC3), Tagged Command (T), Unique World Wide Name (UWN)
17	ICL OpenVME	Common Serial Number (C), Enable Hard Addressing (H)[12], Tagged Command (T), Unique World Wide Name (UWN)
18	**Linux**	Enable Fibrepath on this Port (VCM)[3], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
19	NCR MPRAS[37], NCR Windows NT	Disable Queue Reset on Unit Attention (D)[29], Enable Hard Addressing (H), Environment Reports to Host (E)[30], Tagged Command (T), Unique World Wide Name (UWN)
20	Novell Netware[31]	Disable Queue Reset on Unit Attention (D)[32], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
21	SCO 7.1x	Common Serial Number (C)[40], Enable Fibrepath on this Port (VCM)[3], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
22	Sequent NUMA-Q DYNix/ptx 4.4.x, and 4.5.x FC-SW	Common Serial Number (C), Enable Disk Array Inq Response (A), Enable Point-to-point (PP), Enable Volume Set Addressing (V), Environment Reports to Host (E), Sequent Host (SEQ), Tagged Command (T), Unique World Wide Name (UWN)
23	Sequent NUMA-Q DYNIX/ptx 4.5.x FC-AL direct	Class II Service (C2S), Enable Hard Addressing (H), Environment Reports to Host (E), FA Loop ID (FA Loop ID), Sequent Host (SEQ), Tagged Command (T), Unique World Wide Name (UWN)
24	SGI Origin	Enable Hard Addressing (H), Tagged Command (T), Unique World Wide Name (UWN)
25	**SUN Solaris**	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[20], Common Serial Number (C)[9, 41, 42], Disable Queue Reset on Unit Attention (D)[9, 10, 11, 41, 42], Enable Hard Addressing (H), Enable Point-to-point (PP), Enable Sunapee (SCL)[42], Tagged Command (T), Unique World Wide Name (UWN)

No.	Operating Environment	Bits to Set
26	Windows 2000[26], Windows NT	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[20], Common Serial Number (C)[6], Disable Queue Reset on Unit Attention (D)[10, 11], Enable Disk Array Inq Response (A)[28], Enable Fibrepath on this Port (VCM)[27], Enable Hard Addressing (H), Enable Volume Set Addressing (V)[28], Tagged Command (T), Unique World Wide Name (UWN)

1. Tru64 V4.0F BL13 Patch Kit 2 may introduce problems with KZPBA adapters. Tru64 V4.0F latest qualified Patch Kit-0007 (DUV40FB18AS0007-20020102).
2. Tru64 V4.0G latest qualified patch kit-0003 (T64V40GAS0003-20010613)
3. VCM for Volume Logix configurations only
4. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
5. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206)
6. C Bit required for VERITAS VxVM DMP functionality
7. C Bit with Veritas DMP
8. D Bit is not required for VCS 2.0 or later
9. C + D Bits with Veritas DMP
10. Sites with PowerPath 2.0 or later already running with the D-bit enabled do not require the D-bit to be disabled.
11. D Bit required with PowerPath 1.5.x or earlier
12. H Bit for FC-AL topology
13. Requires OV/K/0041.3
14. **Supported with QLogic driver v6.04.02 or v6.05.00.**
15. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
16. Supported with QLogic driver v6.04.02
17. Requires rev1_sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
18. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
19. No longer available
20. A4S bit when sharing AS/400 drives on this port (direct connect only)
21. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
22. Requires HP-UX 11.0 Extension Pack release May 1999 or equivalent
    Symmetrix microcode supported:5266.40.26 or higher, 5566.41.28 or higher, 5267.27.19 or higher, 5567.34.19 or higher.
    Requires HP-UX 11.0 General Release patch bundle XSWGR1100 B.11.00.47.05 released November 1999 or equivalent.
23. Symmetrix microcode version: 5266.33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher.
26. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
27. VCM for VCM configurations only
28. Set bit for HP (e.g.: D8602A, D8602B / Agilent (e.g.: HHBA-5101B, HHBA-5101C) controllers only.
29. D Bit for multiple vendor platforms; if only NCR hosts, set IMPL flag A010
30. E Bit: if Windows NT OS is used with TNT, set the FBA Environmental Sense key to 4, else set it to 6.
31. Maximum number of NWFS volumes that can be mounted is 64.
32. D Bit with Cluster
33. E Bit with MPE/ix 5.5, 6.0, 6.5, 6.5 02
34. Requires NWPA.NLM V.3.07A update from Novell website.
35. Open VMS 7.1-2 requires console firmware 5.6 or later and patch VMS712_SCSI-V0300.
36. OpenVMS 7.2-1, 7.2-1H1 FC-SW requires console firmware 5.6 or later and patch VMS721_fibre_SCSI-V0400. Available from http://ftp1.support.compaq.com/public/
37. Limited support available for MPARS 3.01
38. Open VMS 7.3 FC-SW requires console firmware 5.6 or later and patch VMS73_update-V0100 or patch VMS73_fibre_SCSI-V0200.
39. Open VMS 7.2-2 FC-SW requires console firmware 5.6 or later and patch VMS722_fibre_SCSI-V0100.
40. C Bit with Multi-path.
41. Enabling the D-bit for DMP is recommended but not required for VxVM 3.1 and higher. The D-bit is not required for VxVM 3.1 and higher.
42. C + D + SCL Bits with SUN Cluster 1.x, 2.x.

5x66 Settings

No.	Operating Environment	Bits to Set
1	BULL Escala AIX	Disable Queue Reset on Unit Attention (D)[7, 8], Enable Hard Addressing (H), Tagged Command (T), Unique World Wide Name (UWN)
2	BULL Escala AIX, Windows 2000[24], Windows NT	Common Serial Number (C)[1], Disable Queue Reset on Unit Attention (D)[7, 8], Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
3	Compaq/DEC Alpha Server Tru64 UNIX 4.0F[2], Compaq/DEC Alpha Server Tru64 UNIX 4.0G[3], SGI Origin	Enable Point-to-point (PP) Tagged Command (T), Unique World Wide Name (UWN)
4	Compaq/DEC Alpha Server Tru64 UNIX 5.x	Enable Point-to-point (PP), Open VMS (requires 5266.23.19 or 5566.26.19) (OVMS), Tagged Command (T) Unique World Wide Name (UWN)
5	Compaq/DEC OpenVMS	Enable Point-to-point (PP), Open VMS (requires 5266.23.19 or 5566.26.19) (OVMS), SCSI 3 (SC3), Tagged Command (T), Unique World Wide Name (UWN)
6	Data General AViiON NUMA 25000	Disable Queue Reset on Unit Attention (D) Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
7	EMC Celerra	Avoid Reset Broadcast (ARB), Enable Fibrepath on this Port (VCM)[6], Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
8	EMC GeoSpan for VCS (Veritas Cluster Server (VCS)	Common Serial Number (C)[5], Disable Queue Reset on Unit Attention (D)[4] Enable Hard Addressing (H), Enable Point-to-point (PP) Tagged Command (T) Unique World Wide Name (UWN)
9	FSC PRIMEPOWER (GP7000F) Series Host	Common Serial Number (C)[9], Disable Queue Reset on Unit Attention (D)[7, 8, 9], Enable Hard Addressing (H), Enable Point-to-point (PP) Tagged Command (T) Unique World Wide Name (UWN)

No.	Operating Environment	Bits to Set
10	FSC Reliant UNIX RM Series	Command Reordering (R), Disable Queue Reset on Unit Attention (D), Enable Hard Addressing (H), Enable Point-to-point (PP), Enable Siemens Hosts Rm/400 - Rm/600 (S), Environment Reports to Host (E), Tagged Command (T), Unique World Wide Name (UWN)
11	Heterogeneous FA Port Sharing	Common Serial Number (C)[1], Enable Fibrepath on thie Port (VCM), Enable Point-to-point (PP), SCSI 3 (SC3), Tagged Command (T), Unique World Wide Name (UWN)
12	HP-UX FC-AL	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[20], Common Serial Number (C), Enable Disk Array Inq Response (A), Enable Hard Addressing (H), Enable Volume Set Addressing (V), Global Third Party Logout (TP), Tagged Command (T), Unique World Wide Name (UWN)
13	HP-UX FC-SW	Common Serial Number (C), Enable Disk Array Inq Response (A), Enable Point-to-point (PP), Enable Volume Set Addressing (V), Global Third Party Logout (TP), Tagged Command (T), Unique World Wide Name (UWN)
14	IBM AIX with EMC Fibre Channel Interface for AIX Platform[19]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[20], Disable Queue Reset on Unit Attention (D)[7, 8], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
15	IBM AIX with FC 6227, IBM AIX with FC 6228	Disable Queue Reset on Unit Attention (D)[7, 8], Enable Hard Addressing (H), Enable Point-to-point (PP), SCSI 3 (SC3), Tagged Command (T), Unique World Wide Name (UWN)
16	ICL OpenVME	Common Serial Number (C), Enable Hard Addressing (H)[10], Tagged Command (T), Unique World Wide Name (UWN)
17	Linux	Enable Fibrepath on thie Port (VCM)[6], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
18	NCR MPRAS[35], NCR Windows NT	Disable Queue Reset on Unit Attention (D)[28], Enable Hard Addressing (H), Environment Reports to Host (E)[27], Tagged Command (T), Unique World Wide Name (UWN)
19	Novell Netware[29]	Disable Queue Reset on Unit Attention (D)[30], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
20	SCO 7.1x	Common Serial Number (C)[38], Enable Fibrepath on thie Port (VCM)[6], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
21	Sequent NUMA-Q DYNix/ptx 4.4.x, and 4.5.x FC-SW	Common Serial Number (C), Enable Disk Array Inq Response (A), Enable Point-to-point (PP), Enable Volume Set Addressing (V), Environment Reports to Host (E), Sequent Host (SEQ), Tagged Command (T), Unique World Wide Name (UWN)
22	Sequent NUMA-Q DYNIX/ptx 4.5.x FC-AL direct	Class II Service (C2S), Enable Hard Addressing (H), Environment Reports to Host (E), FA Loop ID (FA Loop ID), Sequent Host (SEQ), Tagged Command (T), Unique World Wide Name (UWN)
23	SGI Origin	Enable Hard Addressing (H), Tagged Command (T), Unique World Wide Name (UWN)
24	SUN Solaris	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[20], Common Serial Number (C)[9, 39, 40], Disable Queue Reset on Unit Attention (D)[7, 8, 9, 39, 40], Enable Hard Addressing (H), Enable Point-to-point (PP), Enable Sunapee (SCL)[40], Tagged Command (T), Unique World Wide Name (UWN)
25	Windows 2000[24], Windows NT	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[20], Common Serial Number (C)[1], Disable Queue Reset on Unit Attention (D)[7, 8], Enable Disk Array Inq Response (A)[25], Enable Fibrepath on thie Port (VCM)[26], Enable Hard Addressing (H), Enable Volume Set Addressing (V)[25], Tagged Command (T), Unique World Wide Name (UWN)

1 C Bit required for VERITAS VxVM DMP functionality

2 Tru64 V4.0F BL13 Patch Kit 2 may introduce problems with KZPBA adapters. Tru64 V4.0F latest qualified Patch Kit-0007 (DUV40FB18AS0007-20020102)

3. Tru64 V4.0G latest qualified patch kit-0003 (T64V40GAS0003-20010613).
4. D Bit is not required for VCS 2.0 or later.
5. C Bit with Veritas DMP.
6. VCM for Volume Logix configurations only
7. Sites with PowerPath 2.0 or later already running with the D-bit enabled do not require the D-bit to be disabled.
8. D Bit required with PowerPath 1.5.x or earlier.
9. C + D Bits with Veritas DMP.
10. H Bit for FC-AL topology
11. Requires OV/K/0041.3
12. **Supported with QLogic driver v6.04.02 or v6.05.00.**
13. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
14. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
15. Supported with QLogic driver v6.04.02.
16. Requires rev1_sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only.
17. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
18. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
19. No longer available
20. A4S bit when sharing AS/400 drives on this port (direct connect only).
21. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
22. Symmetrix microcode supported:5266.40.28 or higher, 5566.41.28 or higher, 5267.27.19 or higher, 5567.34.19 or higher.
23. Symmetrix microcode version: 5266.33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher.
24. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
25. Set bit for HP (e.g.: D8602A, D8602B / Agilent (e.g.: HHBA-5101B, HHBA-5101C) controllers only.
26. VCM for VCM configurations only
27. E Bit: if Windows NT OS is used with TNT, set the FBA Environmental Sense key to 4, else set it to 6.
28. D Bit for multiple vendor platforms; if only NCR hosts, set IMPL flag A010.
29. Maximum number of NWFS volumes that can be mounted is 64
30. D Bit with Cluster
31. E Bit with MPE/ix 5.5, 6.0, 6.5, 6.5.02.
32. Requires NWPA.NLM V.3.07A update from Novell website
33. Open VMS 7.1-2 requires console firmware 5.6 or later and patch VMS712_SCSI-V0300.
34. OpenVMS 7.2-1, 7.2-1H1 FC-SW requires console firmware 5.6 or later and patch VMS721 fibre SCSI-V0400. Available from http://ftp1.support.compaq.com/public/
35. Limited support available for MPARS 3.01.
    Open VMS 7.3 FC-SW requires console firmware 5.6 or later and patch VMS73 update-V0100 or patch VMS73 fibre SCSI-V0200.
    Open VMS 7.2-2 FC-SW requires console firmware 5.6 or later and patch VMS722_fibre_SCSI-V0100.
36. C Bit with Multi-path.
39. Enabling the D-bit for DMP is recommended but not required for VxVM 3.1 and higher. The D-bit is not requried for VxVM 3.1 and higher.
40. C + D + SCL Bits with SUN Cluster 1.x, 2.x.

5265 Settings

No.	Operating Environment	Bits to Set
1	AViiON 25000	Command Reordering (R), Disable Queue Reset on Unit Attention (D), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
2	BULL Escala AIX	Disable Queue Reset on Unit Attention (D)[17]. Enable Hard Addressing (H), Enable Point-to-point (PP), Return BUSY on ABORT (B), Tagged Command (T), Unique World Wide Name (UWN)
3	Compaq/DEC Alpha Server Tru64 UNIX 4.0x[1]	Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
4	**Compaq/DEC Alpha Server Tru64 UNIX 5.x[2]**	Enable Point-to-point (PP), Open VMS 7.2-1 (OVMS), Tagged Command (T), Unique World Wide Name (UWN)
5	Compaq/DEC OpenVMS 7.2-1[5]	Enable Point-to-point (PP), Open VMS 7.2-1 (OVMS), SCSI 3 (SC3), Tagged Command (T), Unique World Wide Name (UWN)
6	Defaults at Microcode 5265.11.11 and below	Common Serial Number (C), Enable Disk Array Inq Response (A), Enable Hard Addressing (H), Enable Volume Set Addressing (V), Global Third Party Logout (TP) Tagged Command (T), Unique World Wide Name (UWN)
7	Defaults at Microcode 5265.14.12. Defaults at Microcode 5265.17.13, Defaults at Microcode 5265.19.14 and above	Common Serial Number (C), Enable Disk Array INQ Response (DAR), Enable Hard Addressing (H), Enable Volume Set Addressing (V), Global Third Party Logout (TP), Tagged Command (T), Unique World Wide Name (UWN)
8	EMC Celerra	Avoid Reset Broadcast (ARB), Enable Fibrepath on this Port (VCM)[12], Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
9	EMC Connetrix (Base Setting)[9]	Common Serial Number (C), Enable Hard Addressing (H), Enable Point-to-point (PP), Enable Volume Set Addressing (V), Global Third Party Logout (TP), Port as Disk Array (A), Tagged Command (T), Unique World Wide Name (UWN)

No.	Operating Environment	Bits to Set
10	EMC GeoSpan for VCS, Veritas Cluster Server (VCS)	Common Serial Number (C)[7], Disable Queue Reset on Unit Attention (D)[8], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T)
11	FSC PRIMEPOWER (GP7000F) Series Host	Command Reordering (R), Common Serial Number (C)[7], Disable Queue Reset on Unit Attention (D), Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
12	FSC UNIX RM Series	Command Reordering (R), Disable Queue Reset on Unit Attention (D), Enable Hard Addressing (H), Enable Point-to-point (PP), Enable Siemens: RM/400 (S), Environment Reports to Host (E), Tagged Command (T), Unique World Wide Name (UWN)
13	HP Windows NT TachLight, HP Windows NT Tachyon, HP-UX	Common Serial Number (C)[19], Enable Hard Addressing (H), Enable Volume Set Addressing (V), Global Third Party Logout (TP), Port as Disk Array (A), Tagged Command (T), Unique World Wide Name (UWN)
14	HP-UX	Common Serial Number (C), Enable Point-to-point (PP), Enable Volume Set Addressing (V), Global Third Party Logout (TP), Port as Disk Array (A), Tagged Command (T), Unique World Wide Name (UWN)
15	IBM AIX FC 6227, IBM AIX FC 6228	Disable Queue Reset on Unit Attention (D)[17], Enable Hard Addressing (H), Enable Point-to-point (PP), SCSI 3 (SC3), Tagged Command (T), Unique World Wide Name (UWN)
16	IBM AIX with Fibre Channel Interface for AIX[16]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[18], Disable Queue Reset on Unit Attention (D)[17], Enable Hard Addressing (H), Enable Point-to-point (PP), Return BUSY on ABORT (B), Tagged Command (T), Unique World Wide Name (UWN)
17	ICL OpenVME, Unisys Aquanta Servers, Unisys SMP61000 Servers	Common Serial Number (C), Enable Hard Addressing (H), Tagged Command (T), Unique World Wide Name (UWN)
18	Linux, SCO UnixWare	Enable Fibrepath on thie Port (VCM)[12], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
19	Novell Netware[28]	Disable Queue Reset on Unit Attention (D)[29], Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
20	Sequent NUMA-Q Dynix 4.4.2, Sequent NUMA-Q Dynix 4.4.4, Sequent NUMA-Q Dynix 4.4.5, Sequent NUMA-Q Dynix 4.4.6, Sequent NUMA-Q Dynix 4.4.7, Sequent NUMA-Q Dynix 4.4.8, Sequent NUMA-Q Dynix 4.4.9, Sequent NUMA-Q Dynix 4.5.1, Sequent NUMA-Q Dynix 4.5.2, Sequent NUMA-Q Dynix 4.5.3	Common Serial Number (C), Enable Point-to-point (PP), Enable Volume Set Addressing (V), Environment Reports to Host (E)[6], Port as Disk Array (A), Sequent Host (SEQ), Tagged Command (T), Unique World Wide Name (UWN)
21	Sequent NUMA-Q Dynix 4.5.1, Sequent NUMA-Q Dynix 4.5.2, Sequent NUMA-Q Dynix 4.5.3	Common Serial Number (C), Enable Hard Addressing (H), Environment Reports to Host (E)[6], Sequent Host (SEQ), Tagged Command (T), Unique World Wide Name (UWN)
22	SGI Origin	Class II Service (C2S), Enable Hard Addressing (H), Enable Point-to-point (PP), Tagged Command (T), Unique World Wide Name (UWN)
23	**SUN Solaris** Sun Cluster	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[18], Common Serial Number (C)[31, 32, 33], Disable Queue Reset on Unit Attention (D)[17, 31, 32, 33], Enable Hard Addressing (H), Enable Point-to-point (PP), Enable Volume Set Addressing (V), Tagged Command (T), Unique World Wide Name (UWN)

No.	Operating Environment	Bits to Set
24	Windows 2000[25], Windows NT	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[18], Common Serial Number (C)[19], Disable Queue Reset on Unit Attention (D)[26], Enable Hard Addressing (H), Enable Point-to-point (PP), Enable Volume Set Addressing (V)[27], Port as Disk Array (A)[27], Tagged Command (T), Unique World Wide Name (UWN)

1. Tru64 V4.0F BL13 Patch Kit 2 may introduce problems with KZPBA adapters. Tru64 V4.0F latest qualified Patch Kit-0007 (DUV40FB18AS0007-20020102).
2. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
3. Tru64 V4.0G latest qualified patch kit-0003 (T64V40GAS0003-20010613).
4. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
5. OpenVMS 7.2-1, 7.2-1H1 FC-SW requires console firmware 5.6 or later and patch VMS721 fibre SCSI-V0400. Available from http://ftp1.support.compaq.com/public/
6. E bit - Optional.
7. C Bit with Veritas DMP.
8. D Bit is not required for VCS 2.0 or later
9. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
10. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
11. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
12. VCM for Volume Logix configurations only
13. Requires OV/K/0041.3
14. **Supported with QLogic driver v6.04.02 or v6.05.00.**
15. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
16. No longer available
17. D Bit with PowerPath.
18. A4S bit when sharing AS/400 drives on this port (direct connect only).
19. C Bit required for VERITAS VxVM DMP functionality.
20. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set. Requires HP-UX 11.0 Extension Pack release May 1999 or equivalent.
22. Symmetrix microcode supported:5266.40.28 or higher, 5566.41.28 or higher, 5267.27.19 or higher, 5567.34.19 or higher.
23. Requires HP-UX 11.0 General Release patch bundle XSWGR1100 B.11.00.47.05 released November 1999 or equivalent.
24. Symmetrix microcode version: 5266.33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher.
25. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
26. D Bit - Optional with PowerPath
27. A + V bits for Tachlite (D8602A)
28. Maximum number of NWFS volumes that can be mounted is 64.
29. D Bit with Cluster.
30. Requires NWPA.NLM V.3.07A update from Novell website.
31. C + D Bits with Veritas DMP.
32. Enabling the D-bit for DMP is recommended but not required for VxVM 3.1 and higher. The D-bit is not required for VxVM 3.1 and higher.
33. C + D + SCL Bits with SUN Cluster 1.x, 2.x.

SCSI Bit Settings

5568 Settings

No.	Operating Environment	Bits to Set
1	AS/400 9337 External Emulation	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[30], Avoid Reset Broadcast (ARB), Negotiate Reset (N), Set QERR (Z)
2	AS/400 Internal Emulation (load Source)	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[30], Avoid Reset Broadcast (ARB), Set QERR (Z)
3	Bull Escala AIX	Disable Queue Reset on Unit Attention (D)[2, 3], SCSI 3 (SC3)[8]
	Compaq/DEC Alpha Server (Tru64 UNIX 4.0x, 5.0A, 5.1)[1]	Common Serial Number (C)[4], Disable Queue Reset on Unit Attention (D)[2, 3]
5	Compaq/DEC OpenVMS Clusters[26]	Avoid Reset Broadcast (ARB)[27]
6	Data General AViiON 2800, 4900/5500, 3700R	Disable Queue Reset on Unit Attention (D)[6]
7	EMC Celerra	Avoid Reset Broadcast (ARB)
8	EMC GeoSpan for VCS, Veritas Cluster Server (VCS) Veritas First Watch	Common Serial Number (C)[9], Disable Queue Reset on Unit Attention (D)[10]
9	FSC Primepower (GP7000F) Series Host	Common Serial Number (C)[9], Disable Queue Reset on Unit Attention (D), Negotiate Reset (N)[11]
10	FSC RM1000 1m	Disable Queue Reset on Unit Attention (D)
11	FSC RM400(C/E)/600E	Disable Queue Reset on Unit Attention (D), Enable Siemens Hosts Rm/400 - Rm/600 (S), Environment Reports to Host (E)
12	HP 9000	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[7], Common Serial Number (C)
13	HP e3000	Environment Reports to Host (E)
14	IBM RS/6000/SP2	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[7], Disable Queue Reset on Unit Attention (D)[2, 3], SCSI 3 (SC3)[8]
15	NCR (MPRAS/Windos NT)	Disable Queue Reset on Unit Attention (D)[21], Environment Reports to Host (E)[22]
16	NCR Teradata and Empath	Disable Queue Reset on Unit Attention (D), Environment Reports to Host (E)
17	Novell[23]	Disable Queue Reset on Unit Attention (D)[24]
18	Sequent Symmetry/NUMA-Q	Common Serial Number (C), Environment Reports to Host (E), Sequent Host (SEQ)

No.	Operating Environment	Bits to Set
19	**SUN Solaris**	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[7], Common Serial Number (C)[35, 36, 37], Disable Queue Reset on Unit Attention (D)[2, 3], Enable Sunapee (SCL), Negotiate Reset (N)[11]
20	Windows 2000 5568 SCSI[19]. Windows NT 5568 SCSI	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[7], Common Serial Number (C)[20], Disable Queue Reset on Unit Attention (D)[2, 3]

1. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
2. Sites with PowerPath 2.0 or later already running with the D-bit enabled do not require the D-bit to be disabled.
3. D Bit required with PowerPath 1.5.x or earlier.
4. C Bit with Multi-path.
5. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
6. D Bit with MPIO.
7. A4S bit when sharing AS/400 drives on this port.
8. SC3 Bit allows use of LUNS 0-F.
9. C Bit with Veritas DMP.
10. D Bit is not required for VCS 2.0 or later.
11. N-Bit with PCI SCSI.
12. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
13. Requires HP-UX 11.0 Extension Pack release May 1999 or equivalent.
14. Symmetrix microcode supported:5266.40.28 or higher, 5566.41.28 or higher. 5267.27.19 or higher, 5567.34.19 or higher.
15. Requires HP-UX 11.0 General Release patch bundle XSWGR1100 B 11.00.47.05 released November 1999 or equivalent.
16. Symmetrix microcode version: 5266.33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher. 5567.29.15 or higher.
17. Symmetrix 8000 Series & 66/67 support: HP-UX 10.20,11.0,11.10, 11.0 ACE,11.i.
    Symmetrix 8000 Series 5568 support: HP-UX 10.20, 11.0, 11i.
    Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01:
    Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
18. Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01: Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
19. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
20. C Bit required for VERITAS VxVM DMP functionality
21. D Bit for multiple vendor platforms; if only NCR hosts, set IMPL flag A010.
    E Bit: if Windows NT OS is used with TNT, set the FBA Environmental Sense key to 4, else set it to 6.
    Maximum number of NWFS volumes that can be mounted is 64.
24. D Bit with Cluster.
25. Requires NWPA.NLM V.3.07A update from Novell website.
26. No specific clustering s/w required.
27. ARB Bit only with OpenVMS SCSI Cluster.
28. Open VMS 7.1-2 requires console firmware 5.6 or later and patch VMS712_SCSI-V0300.
29. OpenVMS 7.2-1, 7.2-1H1 FC-SW requires console firmware 5.6 or later and patch VMS721_fibre_SCSI-V0400. Available from http://ftp1.support.compaq.com/public/
30. A4S Bit when using DataBase Extractor. Set this bit on target host port (not on As/400 port).
31. Subject to IBMs limitations per host model.
32. Limited support available for MPARS 3.01.
33. Open VMS 7.3 FC-SW requires console firmware 5.6 or later and patch VMS73_update-V0100 or patch VMS73_fibre_SCSI-V0200.
34. Open VMS 7.2-2 FC-SW requires console firmware 5.6 or later and patch VMS722_fibre_SCSI-V0100.
35. C + D Bits with Veritas DMP
36. C + D + SCL Bits with SUN Cluster 1.x, 2.x.
37. Enabling the D-bit for DMP is recommended but not required for VxVM 3.1 and higher.

5x67 Settings

No.	Operating Environment	Bits to Set	Comments
1	AS/400 9337 External Emulation [5x66/SCSI]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[34], Avoid Reset Broadcast (ARB), Linked Commands (L), Negotiate Reset (N), Set QERR (Z), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
2	AS/400 Internal Emulation Types (load Source) [5x66/SCSI]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[34], Avoid Reset Broadcast (ARB), Linked Commands (L), Set QERR (Z), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
3	Bull Escala AIX [5x66/SCSI]	Disable Queue Reset on Unit Attention (D)[3, 4], Linked Commands (L), SCSI 3 (SC3)[12], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
4	Caldera (SCO UnixWare) [5x66/SCSI], ICL OpenVME [5x66/SCSI], Linux [5x66/SCSI], SGI Origin [5x66/SCSI]	Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
5	Compaq/DEC OpenVMS Clusters [5x66/SCSI][6]	Avoid Reset Broadcast (ARB)[9], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
6	Compaq/DEC Tru64 [5x66/SCSI][1]	Common Serial Number (C)[2], Disable Queue Reset on Unit Attention (D)[3, 4], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
7	DG AViiON [5x66/SCSI]	Disable Queue Reset on Unit Attention (D)[10], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
8	EMC Celerra [5x66/SCSI]	Avoid Reset Broadcast (ARB), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	

No.	Operating Environment	Bits to Set	Comments
9	EMC GeoSpan for VCS, Veritas Cluster Server (VCS), Veritas First Watch	Common Serial Number (C)[14], Disable Queue Reset on Unit Attention (D)[15], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
10	FSC PRIMEPOWER (GP700F) Series [5x66/SCSI]	Command Reordering (R), Common Serial Number (C)[14], Disable Queue Reset on Unit Attention (D), Linked Commands (L), Negotiate Reset (N)[16], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
11	FSC RM1000lm [5x66/SCSI]	Disable Queue Reset on Unit Attention (D), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
12	FSC RM400(C/E)/600E [5x66/SCSI]	Command Reordering (R), Disable Queue Reset on Unit Attention (D), Enable Siemens Hosts Rm/400 – Rm/600 (S), Environment Reports to Host (E), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
13	HP 9000 [5x66/SCSI]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[11], Common Serial Number (C), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
14	HP e3000 [5x66/SCSI]	Environment Reports to Host (E), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
15	IBM DYNIX/ptx 4.2.4 [5x66/SCSI]	Avoid Force Negotiation (AFN), Linked Commands (L), Sequent Cluster (Q)[13], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
16	IBM NUMA-Q [5x66/SCSI]	Common Serial Number (C), Environment Reports to Host (E), Linked Commands (L), Sequent Host (SEQ), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
17	IBM RS6000 SP2 [5x66/SCSI]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[11], Disable Queue Reset on Unit Attention (D)[3, 4], Linked Commands (L), SCSI 3 (SC3)[12], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
18	NCR MPRAS/Windows [5x66/SCSI]	Disable Queue Reset on Unit Attention (D)[29], Environment Reports to Host (E)[30], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
19	NCR Teradata and Empath [5x66/SCSI]	Disable Queue Reset on Unit Attention (D), Environment Reports to Host (E), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	See[40]
20	Novell Netware [5x66/SCSI][31]	Disable Queue Reset on Unit Attention (D)[32], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
21	SGI Challenge [5x66/SCSI]	Linked Commands (L), Set QERR (Z), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
22	Siemens Pyramid [5x66/SCSI]	Cylinder Count (P), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
23	**SUN Solaris**	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[11], Common Serial Number (C)[37, 38, 39], Disable Queue Reset on Unit Attention (D)[3, 4, 37, 38, 39], Enable Sunapee (SCL)[37], Linked Commands (L), Negotiate Reset (N)[16], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
24	Windows NT/Windows 2000 [5x66 SCSI][27]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[11], Common Serial Number (C)[28], Disable Queue Reset on Unit Attention (D)[3, 4], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	

1 True4 V4 0F BL13 Patch Kit 2 may introduce problems with KZPBA adapters. True4 V4 0F latest qualified Patch Kit=0007 (DUV40FB18AS0007-20020102)

2 C Bit with Multi-path

3. Sites with PowerPath 2.0 or later already running with the D-bit enabled do not require the D-bit to be disabled.
4. D Bit required with PowerPath 1.5.x or earlier.
5. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
6. Tru64 V4.0G latest qualified patch kit-0003 (T64V40GAS0003-20010613).
7. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
8. No specific clustering s/w required.
9. ARB Bit only with OpenVMS SCSI Cluster.
10. D Bit with MPIO.
11. A4S bit when sharing AS/400 drives on this port.
12. SC3 Bit allows use of LUNS 0-F.
13. Q Bit for cluster configurations only.
14. C Bit with Veritas DMP.
15. D Bit is not required for VCS 2.0 or later.
16. N-Bit with PCI SCSI.
17. Requires OV/K/0041.3
18. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
19. **Supported with QLogic driver v6.04.02 or v6.05.00.**
20. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
21. Requires HP-UX 11.0 Extension Pack release May 1999 or equivalent
22. Symmetrix microcode supported:5266.40.28 or higher, 5566.41.28 or higher, 5267.27.19 or higher, 5567.34.19 or higher.
23. Requires HP-UX 11.0 General Release patch bundle XSWGR1100 B.11.00.47.05 released November 1999 or equivalent.
24. Symmetrix microcode version: 5266.33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher.
25. Symmetrix 8000 Series & 66/67 support: HP-UX 10.20,11.0,11.10, 11.0 ACE,11.i.
    Symmetrix 8000 Series 5568 support: HP-UX 10.20, 11.0, 11i.
    Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01.
    Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
26. Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01: Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
27. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
28. C Bit required for VERITAS VxVM DMP functionality.
29. D Bit for multiple vendor platforms; if only NCR hosts, set IMPL flag A010.
30. E Bit: if Windows NT OS is used with TNT, set the FBA Environmental Sense key to 4, else set it to 6.
31. Maximum number of NWFS volumes that can be mounted is 64.
32. D Bit with Cluster.
33. Requires NWPA.NLM V.3.07A update from Novell website
    A4S Bit when using DataBase Extractor. Set this bit on target host port (not on As/400 port).
34. Subject to IBMs limitations per host model.
36. Limited support available for MPARS 3.01.
37. C + D + SCL Bits with SUN Cluster 1.x, 2.x.
38. C + D Bits with Veritas DMP.
39. Enabling the D-bit for DMP is recommended but not required for VxVM 3.1 and higher.
40. Set IMPL flat A010.

5x66 Settings

No.	Operating Environment	Bits to Set	Comments
1	AS/400 9337 External Emulation [5x66/SCSI]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[32], Avoid Reset Broadcast (ARB), Linked Commands (L), Negotiate Reset (N), Set QERR (Z), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
2	AS/400 Internal Emulation Types (load Source) [5x66/SCSI]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[32], Avoid Reset Broadcast (ARB), Linked Commands (L), Set QERR (Z), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
3	Bull Escala AIX [5x66/SCSI]	Disable Queue Reset on Unit Attention (D)[5, 6], Linked Commands (L), SCSI 3 (SC3)[7], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
4	Caldera (SCO UnixWare) [5x66/SCSI], ICL OpenVME [5x66/SCSI], Linux [5x66/SCSI], SGI Origin [5x66/SCSI]	Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
5	Compaq/DEC OpenVMS Clusters [5x66/SCSI][1]	Avoid Reset Broadcast (ARB)[2], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
6	Compaq/DEC Tru64 [5x66/SCSI][15]	Common Serial Number (C)[16], Disable Queue Reset on Unit Attention (D)[5, 6], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
7	DG AViiON [5x66/SCSI]	Disable Queue Reset on Unit Attention (D)[3], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
8	EMC Celerra [5x66/SCSI]	Avoid Reset Broadcast (ARB), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
9	EMC GeoSpan for VCS, Veritas Cluster Server (VCS), Veritas First Watch	Common Serial Number (C)[10], Disable Queue Reset on Unit Attention (D)[9], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	

No.	Operating Environment	Bits to Set	Comments
10	FSC PRIMEPOWER (GP700F) Series [5x66/SCSI]	Command Reordering (R), Common Serial Number (C)[10], Disable Queue Reset on Unit Attention (D), Linked Commands (L), Negotiate Reset (N)[11], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
11	FSC RM1000Im [5x66/SCSI]	Disable Queue Reset on Unit Attention (D), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
12	FSC RM400(C/E)/600E [5x66/SCSI]	Command Reordering (R), Disable Queue Reset on Unit Attention (D), Enable Siemens Hosts Rm/400 – Rm/600 (S), Environment Reports to Host (E), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
13	HP 9000 [5x66/SCSI]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[4], Common Serial Number (C), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
14	HP e3000 [5x66/SCSI]	Environment Reports to Host (E), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
15	IBM DYNIX/ptx 4.2.4 [5x66/SCSI]	Avoid Force Negotiation (AFN), Linked Commands (L), Sequent Cluster (Q)[8], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
16	IBM NUMA–Q [5x66/SCSI]	Common Serial Number (C), Environment Reports to Host (E), Linked Commands (L), Sequent Host (SEQ), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
17	IBM RS6000 SP2 [5x66/SCSI]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[4], Disable Queue Reset on Unit Attention (D)[5, 6], Linked Commands (L), SCSI 3 (SC3)[7], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
18	NCR MPRAS/Windows [5x66/SCSI]	Disable Queue Reset on Unit Attention (D)[27], Environment Reports to Host (E)[28], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
19	NCR Teradata and Empath [5x66/SCSI]	Disable Queue Reset on Unit Attention (D), Environment Reports to Host (E), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	See[38]
20	Novell Netware [5x66/SCSI][29]	Disable Queue Reset on Unit Attention (D)[30], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
21	SGI Challenge [5x66/SCSI]	Linked Commands (L), Set QERR (Z), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
22	Siemens Pyramid [5x66/SCSI]	Cylinder Count (P), Linked Commands (L) Synchronous Transaction (Y) Tagged Command (T), Wide Transaction (W)	
23	SUN Solaris	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[4], Common Serial Number (C)[35, 36, 37], Disable Queue Reset on Unit Attention (D)[5, 6, 35, 36, 37], Enable Sunapee (SCL)[37], Linked Commands (L), Negotiate Reset (N)[11], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)	
24	Windows NT/Windows 2000 [5x66/SCSI][25]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[4], Common Serial Number (C)[26], Disable Queue Reset on Unit Attention (D)[5, 6], Linked Commands (L) Synchronous Transaction (Y) Tagged Command (T) Wide Transaction (W)	

1 No specific clustering S/W required
2 ARB Bit only with OpenVMS SCSI Cluster
3 D Bit with MPIO
4 A4S bit when sharing AS/400 drives on this port
5 Sites with PowerPath 2.0 or later already running with the D-bit enabled do not require the D-bit to be disabled.
6 D Bit required with PowerPath 1.5.x or earlier
7 SC3 Bit allows use of LUNS 0–F
8 Q Bit for cluster configurations only

9. D Bit is not required for VCS 2.0 or later.
10. C Bit with Veritas DMP.
11. N-Bit with PCI SCSI.
12. Requires OV/K/0041.3
13. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
14. **Supported with QLogic driver v6.04.02 or v6.05.00.**
15. Tru64 V4.0F BL13 Patch Kit 2 may introduce problems with KZPBA adapters. Tru64 V4.0F latest qualified Patch Kit-0007 (DUV40FB18AS0007-20020102).
16. C Bit with Multi-path.
17. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
18. Tru64 V4.0G latest qualified patch kit-0003 (T64V40GAS0003-20010613).
19. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
20. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
21. Symmetrix microcode supported:5266.40.28 or higher, 5566.41.28 or higher, 5267.27.19 or higher, 5567.34.19 or higher.
22. Symmetrix microcode version: 5266 33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher.
23. Symmetrix 8000 Series & 66/67 support: HP-UX 10.20 11.0.11.10 11.0 ACE.11.i.
    Symmetrix 8000 Series 5568 support: HP-UX 10.20, 11.0, 11i.
    Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01:
    Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
24. Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01: Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
25. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
26. C Bit required for VERITAS VxVM DMP functionality.
27. D Bit for multiple vendor platforms: if only NCR hosts, set IMPL flag A010.
28. E Bit: if Windows NT OS is used with TNT, set the FBA Environmental Sense key to 4, else set it to 6.
29. Maximum number of NWFS volumes that can be mounted is 64.
30. D Bit with Cluster.
31. Requires NWPA.NLM V.3.07A update from Novell website.
32. A4S Bit when using DataBase Extractor. Set this bit on target host port (not on As/400 port).
33. Subject to IBMs limitations per host model.
34. Limited support available for MPARS 3.01.
35. C + D Bits with Veritas DMP.
36. Enabling the D-bit for DMP is recommended but not required for VxVM 3.1 and higher.
37. C + D + SCL Bits with SUN Cluster 1.x, 2.x.
38. Set IMPL flat A010.

5265 Settings

No.	Operating Environment	Bits to Set
1	AS/400 9337 External Emulation[36], SGI Challenge	Linked Commands (L), Set QERR (Z), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
2	BULL Escala AIX	Disable Queue Reset on Unit Attention (D)[8], Linked Commands (L), SCSI 3 (SC3)[9], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
3	Compaq/DEC Alpha Server Tru64 UNIX 4.0x[1]	Disable Queue Reset on Unit Attention (D)[2], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
4	**Compaq/DEC Alpha Server Tru64 UNIX 5.x**[3]	Common Serial Number (C), Disable Queue Reset on Unit Attention (D)[2], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
5	Compaq/DEC OpenVMS Cluster	Avoid Reset Broadcast (ARB)[33], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
	Data General AViiON 2800, Data General AViiON 3700R, Data General AViiON 4900, Data General AViiON 5500	Disable Queue Reset on Unit Attention (D)[6], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
7	EMC Celerra	Avoid Reset Broadcast (ARB), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
8	EMC GeoSpan for VCS, Veritas Cluster Server (VCS)	Common Serial Number (C)[13], Disable Queue Reset on Unit Attention (D)[13, 14], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
9	FSC RM1000, ICL OpenVME, **Linux**, NEC, SCO UnixWare, SGI Origin	Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
10	FSC RM400C, FSC RM400E, FSC RM600E	Command Reordering (R), Disable Queue Reset on Unit Attention (D), Enable Siemens' RM/400 (S), Environment Reports to Host (E), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)

No.	Operating Environment	Bits to Set
11	HP 9000	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[7], Disable Queue Reset on Unit Attention (D)[18, 19], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
12	HP e3000	Environment Reports to Host (E)[25], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
13	IBM RS6000/SP2	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[7], Disable Queue Reset on Unit Attention (D)[8], Linked Commands (L), SCSI 3 (SC3)[9], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
14	NCR MPRAS[37], NCR Windows NT	Environment Reports to Host (E), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
15	NCR Teradata and Empath	Disable Queue Reset on Unit Attention (D), Environment Reports to Host (E), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
16	Novell Netware[30]	Disable Queue Reset on Unit Attention (D)[31], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
17	Sequent NUMA-Q/Symmetry Dynix 4.4.2[10], Sequent NUMA-Q/Symmetry Dynix 4.4.4[10], Sequent NUMA-Q/Symmetry Dynix 4.4.5[10], Sequent NUMA-Q/Symmetry Dynix 4.4.6[10], Sequent NUMA-Q/Symmetry Dynix 4.4.7[10], Sequent NUMA-Q/Symmetry Dynix 4.4.8[10], Sequent NUMA-Q/Symmetry Dynix 4.4.9[10]	Common Serial Number (C), Environment Reports to Host (E)[11], Linked Commands (L), Sequent Host (SEQ), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
18	Sequent Symmetry Dynix 4.2.1, Sequent Symmetry Dynix 4.2.4	Avoid Force Negotiation (AFN), Linked Commands (L), Pbay Monitor: Sequent (Q)[12], Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
19	Sun Cluster	Common Serial Number (C), Disable Queue Reset on Unit Attention (D), Enable Sunapee (SCL), Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)
20	**SUN Solaris**	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[7], Common Serial Number (C)[13, 40], Disable Queue Reset on Unit Attention (D)[8, 13, 40], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Target Initiated Negotiation (N)[41], Wide Transaction (W)
21	Windows 2000[28], Windows NT	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[7], Common Serial Number (C)[29], Disable Queue Reset on Unit Attention (D)[8], Linked Commands (L), Synchronous Transaction (Y), Tagged Command (T), Wide Transaction (W)

1 Tru64 V4.0F BL13 Patch Kit 2 may introduce problems with KZPBA adapters. Tru64 V4.0F latest qualified Patch Kit-0007 (DUV40FB18AS0007-20020102).
2 D Bit with PowerPath Tru64 UNIX.
3 **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
4 Tru64 V4 0G latest qualified patch kit-0003 (T64V40GAS0003-20010613)
5 Tru64 V5 1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206)
6 D Bit with MPIO
7 A4S bit when sharing AS/400 drives on this port.
8. D Bit with PowerPath.
9. SC3 Bit allows use of LUNS 0-F at 5265 25.17 and AIX 4.3 2 and above
10 Turn the C-bit on for NEW installs only *Do not change it if there is live data on the box *Do not change the Serial Number in the SiteInfo file or change any existing volume numbers, SA numbers or Director Port numbers The System keeps track of the volume serial numbers. No block moves allowed
11 E bit - Optional
12 Q Bit for cluster configurations only
13 C + D Bits with Veritas DMP
14 D Bit is not required for VCS 2.0 or later.
15 Requires OV/K/0041 3
16 EMC supports the following filesystems: ext2 ext3 reiserfs. If there is a customer requirement for a different filesystem please submit an RPQ
17 **Supported with QLogic driver v6.04.02 or v6.05.00.**
18 D Bit with Power Path in non HA environments
19. No D Bit required at PowerPath 1.5+
20 For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the vxchange command

Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.

21. Requires HP-UX 11.0 Extension Pack release May 1999 or equivalent.
22. Symmetrix microcode supported:5266.40.28 or higher, 5566.41.28 or higher, 5267.27.19 or higher, 5567.34.19 or higher.
23. Requires HP-UX 11.0 General Release patch bundle XSWGR1100 B.11.00.47.05 released November 1999 or equivalent.
24. Symmetrix microcode version: 5266.33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher
25. E Bit with MPE/ix 5.5, 6.0, 6.5, 6.5.02.
26. Symmetrix 8000 Series & 66/67 support: HP-UX 10.20,11.0,11.10, 11.0 ACE.11.i.
    Symmetrix 8000 Series 5568 support: HP-UX 10.20, 11.0, 11i.
    Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
    Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
27. Symmetrix 8000 Series & 66/67 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01: Symmetrix 8000 Series 5568 support: MPE/iX 6.0, 6.5, 6.5.02, 7.0, 7.0.01
28. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
29. C Bit required for VERITAS VxVM DMP functionality.
30. Maximum number of NWFS volumes that can be mounted is 64.
31. D Bit with Cluster.
32. Requires NWPA.NLM V.3.07A update from Novell website.
33. ARB Bit only with OpenVMS SCSI Cluster.
34. Open VMS 7.1-2 requires console firmware 5.6 or later and patch VMS712_SCSI-V0300.
35. OpenVMS 7.2-1, 7.2-1H1 FC-SW requires console firmware 5.6 or later and patch VMS721_fibre_SCSI-V0400. Available from http://ftp1.support.compaq.com/public/
36. Subject to IBMs limitations per host model.
37. Limited support available for MPARS 3.01.
38. Open VMS 7.3 FC-SW requires console firmware 5.6 or later and patch VMS73_update-V0100 or patch VMS73_fibre_SCSI-V0200.
39. Open VMS 7.2-2 FC-SW requires console firmware 5.6 or later and patch VMS722_fibre_SCSI-V0100.
40. Enabling the D-bit for DMP is recommended but not required for VxVM 3.1 and higher.
41. N-Bit with PCI SCSI.

Symmetrix DMX Series

Base Connectivity

Do not use a LUN in the CLARiiON DAE2-ATA as a host OS boot device.EMC has qualified the following hosts. No other hosts are supported at this time. Symmetrix models and minimum Enginuity revisions are listed in the footnotes on most tables.EMC supports Symmetrix configured as a boot device for the servers listed below, provided that these requirements are followed. The purpose of these requirements is primarily to ensure the best possible response times for boot/root/swap volumes. For qualified configurations, Where possible, EMC recommends an alternate mirrored boot volume be configured.1. Spindles can be shared on Symm4 or later units only.Do not use a LUN in the CLARiiON DAE2-ATA as a host OS boot device.2. Spindles can be shared if they are larger than 9GB in size.3. For Symmetrix 3000 and 5000 systems, the maximum number of Symmetrix logical volumes per Symmetrix boot port is 32. For Symmetrix 8000 and DMX systems, the following guidelines and recommendations must be adhered to. When using a SAN for boot/swap/page device the operation and performance of the server might be affected by external events that might cause the storage device not to be immediately accessible for periods of time. These events might result in slow response times as observed by the operating system and longer boot times. In some cases it can cause the server to crash (please see comments below for W2K/NT).
EMC recommends designing the distribution and mapping of the boot devices on the SAN in a way that will:
-- Minimize the number of components between the server and the boot storage device.
-- Will not present a load that will exceed the limits of the SAN. Below are some issues that must be considered when designing your SAN. Please refer to EMC Networked Storage Topology Guide ("Networked Storage Design Considerations/Fabric Design Practices" section) for a complete discussion on the topic.
- Sufficient bandwidth on the link between the switch and the storage port
- Sufficient ISLs in case where boot device and server are more than one hop apart
- ISL utilization
Events that could affect the availability of an external storage device:
Fibre Channel and SCSI environments:
-- Lost connection to external storage (pulled or damaged external Fibre/SCSI cable connection).
-- External storage service/upgrade procedures such as in some cases, online microcode upgrades and/or configuration changes.
-- External storage director failures including failed lasers on Fibre Channel directors.
-- External storage power failure.
-- HBA failures.
Fibre Channel environment only:
-- Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
-- Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.4. Boot/root and swap from a single host can be on the same channel.5. The boot disk should be high SCSI priority, e.g. SCSI TID 6 (0-7, 8-15: higher priority TID is 7, lowest is 8).6. A dedicated SA or FA is not required for boot devices.7. The Internal Host Boot Device may be mirrored with the External Symmetrix Boot Device to allow redundant pathing. Does not apply to Microsoft Windows.8. The Boot path must not include a hub in the topology.9. The maximum number of boot devices per port is equal to Fanout values listed in Fibre Channel Connectivity table.Windows NT/Windows 2000/2003 Servers (Fibre Channel/SCSI) Boot CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN. EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.

Amdahl UTS

Amdahl

Amdahl - Amdahl UTS						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Millennium: GS2000A, GS2000C, GS2000E, GS700	Mainframe Bus	Amdahl UTS: 2.1.5, 2.1.7, 4.3.2, 4.3.3, 4.4.0	IBM ESCON	ESCON	N

DG DG/UX

DG

DG - DG DG/UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON: AV1400, AV20000 AV25000, AV35000, AV3704, AV3704R, AV3750, AV3800, AV8900 AV8950	PCI	DG DG/UX R4.20MU07[2, 3]	Emulex LP8000-F1[4, 5, 6]	FC-AL, FC-SW	N	See[1]

1. For more information see http://athena.europe.dg.com
2. Symmetrix 8000 Series: 66/67 support at DG/UX 4.11. 5568 support at DG/UX 4.20
3. The release notice for DG/UX (included with the software release at path: "/usr/release/dgux*.rn) lists supported platforms.
4. FC-AL support requires LP8000 BIOS version DB1.60A7 and firmware version DS3.20x4
5. Only the Brocade FC switch connection is supported. Connectrix FC switch is not supported.
6. DG/UX automatically loads the firmware and BIOS onto the Emulex HBA during boot-up as needed. Current DG/UX R4.20MU06 OS supported firmware is V3.20x1 and BIOS V1.4.

EMC NAS

EMC

EMC - EMC NAS						
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Celerra File Server Control Station CS-507 Series[2]	PCI	EMC NAS 5.1.15, 5.1.9	EMC 201-712-900[1]	FC-SW	N
2	Celerra File Server Data Mover DM7 Series	PCI	EMC NAS 5.1.15, 5.1.9	EMC 250-736-900[1]	FC-SW	N
3	Celerra File Server Data Mover DM 510 Series	PCI	EMC NAS 5.1.15, 5.1.9	EMC. 250-734-902[4], 250-735-900[1, 3]	FC-SW	N

1. Host Adapter Card is not field-replaceable
2. A SCSI-based Control Station cannot be mixed with a Fibre Channel-based Control Station in a Celerra CabinetLA SCSI Control Station-based Celerra cannot be upgraded to a Fibre Channel Control Station-based Celerra
3. This HBA is for connecting to a disk array.
4. This HBA is for connecting to a Tape Library unit

Egenera BladeFrame

Egenera

Egenera - Egenera BladeFrame						
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	BladeFrame cBlade-EP[4]	PCI-X	Egenera BladeFrame 3.0[2, 3]	QLogic QLA2342-E-SP[1]	FC-AL, FC-SW	

1. Supported with v4.47.18e QLogic driver included cBlade OS, BladeFrame 3.0, and BIOS v1.34.
2. pBlades are qualified with RedHat 2.1 Advanced Server v2.4.9-e.12.
3. Maximum of 423 LUNs are supported per BladeFrame.
4. PowerPath is not supported on Egenera. Egenera path failover is supported on Symmetrix 8000 and DMX.

Fujitsu Solaris
Fujitsu

Fujitsu – Fujitsu Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PRIMEPOWER GP7000F: 1000. 200[5], 2000, 400. 600, 800	PCI	Fujitsu Solaris: 7[4]. 8[2], 9 09/02[7]	Fujitsu PW008FC2[3]	FC-AL, FC-SW	N	See[1]
2	**PRIMEPOWER: 250, 450**	**PCI**	Fujitsu Solaris. 8 02/02[2, 6]. 9 04/03[7]	**Fujitsu PW008FC2[3]**	**FC-AL, FC-SW**	**N**	**See[1]**
3	PRIMEPOWER: 650. 850	PCI	Fujitsu Solaris: 8 850/650[2, 6]. 9 12/02[7]	Fujitsu PW008FC2[3]	FC-AL, FC-SW	N	See[1]

1. For use in Asia Pacific/Japan only. Refer to Fujitsu Siemens Base Connectivity information for US/Europe.
2. **EMC required Solaris patches for Fujitsu PCI Bus servers running Solaris 8: 108528-19: SunOS 5.8: Kernel update patch, 108974-27: data,uata,dad,sd and SCSI patch, 109885-09 SunOS 5.8: GLM driver patch, 108901-06 SunOS 5.8: /Kernel/sys/rpcmod and /kernel/strmod/rpcmod(for PowerPath 2.x), 110918-04 SunOS 5.8: openeepr patch. Fujitsu requires all patches for Solaris 8 be obtained through Fujitsu in the form of a Solaris 8 PTF patch CD. The current patch CD is Solaris 8 PTF R03051.**
3. Requires Fujitsu PFCA 2.2.1 and patch 912069-07.
4. **EMC required Solaris patches for Fujitsu PCI Bus servers running Solaris 7 (must be obtained from Fujitsu): 106541-23 SunOS 5.7: kernel update patch, 106925-09 SunOS 5.7: GLM driver patch, Fujitsu requires all patches for Solaris 7 be obtained through Fujitsu in the form of a Solaris 7 PTF patch CD. The current patch CD is Solaris 7 PTF R03051.**
5. Additional Fujitsu Safe Series software qualified in the single host environment, and associated patch requirement (must be obtained from Fujitsu): Fujitsu SafeFile 1.1: 910232-18 Fujitsu SafeFile 1.2: 910738-05 Fujitsu SafeFile 1.3: 910879-04 Fujitsu SafeFile/Global 1.2 910937-06 Fujitsu SafeDisk 1.1: 910315-08, 910432-01. Fujitsu SafeDisk 1.2.1: 910721-06. Fujitsu SafeDisk/Global 2.0: 910920-05. Fujistsu SafeDisk 2.0: 910926-05. Fujistsu SafeLink 2.0: 910743-07, 910766-03.
6. **Symm5 & 66/67 support: Solaris 2.6,7 or 8.**
7. EMC requires Solaris patches for Fujitsu servers running Solaris 9:

   112233-05 SunOS 5.9: kernel update patch,
   113277-08 SunOS 5.9: sd,ssd patch
   112834-02
   Fujitsu requires that all patches for Solaris 9 be obtained through Fujitsu in the form of a Solaris 9 PTF patch CD. The current patch CD is Solaris 9 PTF R03051.

Fujitsu Siemens BS2000/OSD
Fujitsu Siemens

Fujitsu Siemens – Fujitsu Siemens BS2000/OSD						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**S110[2]; S115[2]; S120[2]; S130[2]; S135[2]; S140[2]; S145[2]; S150[2]; S160[2]; S170[2]; S180[2]**	Mainframe Bus	**Fujitsu Siemens BS2000/OSD: V4.0. V5.0**	**Fujitsu Siemens ESCON**	ESCON[1]	**Y**
2	**S145[2]**	Mainframe Bus	**Fujitsu Siemens BS2000/OSD V5.0**	**Fujitsu Siemens GS214FC05**	FC-SW	**Y**
3	**S180[2]**	Mainframe Bus	**Fujitsu Siemens BS2000/OSD V5.0**	**Fujitsu Siemens GS216FC05**	FC-SW	**Y**
4	**S120[2]; S140[2]**	Mainframe Bus	**Fujitsu Siemens BS2000/OSD V5.0**	**Fujitsu Siemens GS8551C05**	FC-SW	**Y**
5	**S170[2]**	Mainframe Bus	**Fujitsu Siemens BS2000/OSD V5.0**	**Fujitsu Siemens GS8951C05**	FC-SW	Y

1. Except DMX800
2. **SHC-OSD (Symmetrix Host Component for BS2000/OSD) is the only external software for TimeFinder/SRDF features. Further restrictions apply. Contact C4 Group or reference http://www.fujitsu-siemens.com/rl/products/bs2000/symmetrix bs2000.html.**

Fujitsu Siemens OSD/XC
Fujitsu Siemens

Fujitsu Siemens – Fujitsu Siemens OSD/XC						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**SX130 (PRIMEPOWER 800)[1]**	Mainframe Bus	**Fujitsu Siemens OSD/XC V1.0**	**Fujitsu Siemens ESCON**	ESCON[2]	**Y**
2	**SX100-A (PRIMEPOWER 650)[1]**	**PCI**	**Fujitsu Siemens OSD/XC V1.0**	**Fujitsu Siemens GP70F-CF30 (Emulex LP9002L-F2)[3, 4, 5]**	**FC-AL, FC-SW**	Y
3	**SX130 (PRIMEPOWER 800)[1]**	PCI	**Fujitsu Siemens OSD/XC V1.0**	**Fujitsu Siemens: GP70F-CF10 (Emulex LP8000-F1)[3, 4, 5]. GP70F-CF30 (Emulex LP9002L-F2)[3, 4, 5]**	FC-AL, FC-SW	Y

1. **SHC-OSD (Symmetrix Host Component for BS2000/OSD) is the only external software for TimeFinder/SRDF features. Further restrictions apply. Contact C4 Group or reference http://www.fujitsu-siemens.com/rl/products/bs2000/symmetrix bs2000.html.**
2. Except DMX800
3. **Requires firmware 3.90.a7 and driver 5.01e. Supports FC-AL and FC-SW.**
4. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
5. **Supports PowerPath 3.0 or greater.**

Fujitsu Siemens Solaris
Fujitsu Siemens

Fujitsu Siemens – Fujitsu Siemens Solaris							
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PRIMEPOWER GP7000F: 1000 200 2000 400. 600, 800	PCI	Fujitsu Siemens Solaris 2 6 May 98	Fujitsu Siemens LP9002-E (LP9002L-E) GP70F-CF30[7, 8]	FC-AL, FC-SW	N	See[4, 5]
2	PRIMEPOWER GP7000F 200. 400 600. 800	PCI	Fujitsu Siemens Solaris 2.6 May 98[2, 12]	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)	FC-AL FC-SW	N	See[4, 5]
3	PRIMEPOWER GP7000F 1000 2000	PCI	Fujitsu Siemens Solaris 2 6 May 98[2, 12]	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[7, 10, 11]	FC-AL FC-SW	N	See[4, 5]
4	PRIMEPOWER GP7000F: 1000. 200. 2000 400. 600. 800	PCI	Fujitsu Siemens Solaris 7 Nov 99[2, 9]	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[7, 10, 11] LP9002-E (LP9002L-E) GP70F-CF30[7, 8]	FC-AL FC-SW	Y[1]	See[4, 5]

Fujitsu Siemens – Fujitsu Siemens Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
5	**PRIMEPOWER GP7000F: 1000, 2000, 400, 600, 800**	PCI	Fujitsu Siemens Solaris 8 02/02[12]	**Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)**	FC-AL, FC-SW	Y[1]	
6	**PRIMEPOWER: 1500, 250, 2500, 450, 900**	PCI	Fujitsu Siemens Solaris 8 02/02[12]	**Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30[7, 8], LP9802-E (GP70F-CF31)[13]**	FC-AL, FC-SW	Y[1]	See[4]
7	**PRIMEPOWER: 1500, 250, 2500, 450, 900, GP7000F 1000, GP7000F 2000, GP7000F 400, GP7000F 600, GP7000F 800**	PCI	Fujitsu Siemens Solaris 9 04/03[2, 3]	**Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)**	FC-AL, FC-SW	Y[1]	See[4, 5, 6]
8	**PRIMEPOWER: 1500, 250, 2500, 450, 900**	PCI	Fujitsu Siemens Solaris 9 04/03[2, 3]	**Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30[7, 8], LP9802-E (GP70F-CF31)[13]**	FC-AL, FC-SW	Y[1]	See[4, 5]
9	**PRIMEPOWER GP7000F 200**	PCI	Fujitsu Siemens Solaris: 8 02/02[12], 9 04/03[2, 3]	**Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X), LP9002-E (LP9002L-E) GP70F-CF30[7, 8], LP9802-E (GP70F-CF31)[13]**	FC-AL, FC-SW	Y[1]	
10	**PRIMEPOWER: 650, 850**	PCI	Fujitsu Siemens Solaris: 8 02/02[12], 9 04/03[2, 3]	**Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X)[7, 10, 11], LP9002-E (LP9002L-E) GP70F-CF30[7, 8], LP9802-E (GP70F-CF31)[13]**	FC-AL, FC-SW	Y[1]	See[4, 5]
11	**PRIMEPOWER GP7000F: 1000, 2000, 400, 600, 800**	PCI	Fujitsu Siemens Solaris: 8 02/02[12], 9 04/03[2, 3]	**Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30[7, 8], LP9802-E (GP70F-CF31)[13]**	FC-AL, FC-SW	Y[1]	

1. Requires Emulex Open Boot Version 1.33a1.
2. Symmetrix 8000 Series: 66/67 support: Reliant UNIX 5.44,5.45 Solaris 2.6, 7, 8 or 9. Symmetrix 8000 Series:5568 support: Solaris 8,9.
3. **FSC requires that all patches for Solaris 9 be obtained through FSC in the form of a Solaris 9 PTF patch CD. The current patch CD is Solaris 9 PTF R03051.**
4. For use in US/Europe only. Refer to Fujitsu Base Connectivity information for Asia Pacific/Japan.
5. Also supports Fujitsu Technology Solutions Inc.
6. Refer to Fujitsu Base Connectivity information fo Asia Pacific/Japan.
7. Requires Emulex driver 5.01e and firmware 3.90a7.
8. The LP9002-E now ships with the LP9002L-E low profile adapter.
9. FSC requires all patches for Solaris 7 be obtained through FSC in the form of a Solaris 7 PTF patch CD. The current patch CD is Solaris 7 PTF R03051.
10. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
11. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
12. FSC requires all patches for Solaris 2.6 be obtained through FSC in the form of a Solaris 2.6 PTF patch CD. The current patch CD is Solaris 2.6 PTF R03051.
13. **Requires Emulex driver 5.01e and firmware 1.00a4.**

HPQ HP-UX

HPQ

HPQ – HPQ HP-UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**HP 9000 D390**	HSC	**HPQ HP-UX 11.0[15, 69, 77]**	**HPQ A6684A[11, 27, 63]**	FC-AL, FC-SW	Y[78, 79, 80, 87]	See[2, 21, 66, 67]
2	**HP 9000: D270, D280, D370, D380**	HSC	**HPQ HP-UX 11.0[15, 77]**	**HPQ A6684A[11, 27]**	FC-AL, FC-SW	N	See[2, 21, 77]
3	**HP 9000 R390**	HSC	**HPQ HP-UX 11.0[15, 77]**	**HPQ A6684A[11, 27, 69, 88]**	FC-AL, FC-SW	Y[88]	See[2, 3, 14, 77]
4	**HP 9000 R380**	HSC	**HPQ HP-UX 11.0[15, 77]**	**HPQ A6684A[11, 88]**	FC-AL, FC-SW	N	See[2, 3, 66, 77]
5	**HP 9000: K220, K250, K420, K450**	HSC	**HPQ HP-UX 11.0[15, 77]**	**HPQ A6685A[11]**	FC-AL, FC-SW	N	See[2, 3, 14, 77]
6	**HP 9000: K260, K360, K460**	HSC	**HPQ HP-UX 11.0[15, 77]**	**HPQ A6685A[11, 27, 70, 88]**	FC-AL, FC-SW	Y[77, 88]	See[2, 3]
7	**HP 9000: K370, K380, K570, K580**	HSC	**HPQ HP-UX 11.0[15, 77]**	**HPQ A6685A[11, 27, 70, 88]**	FC-AL, FC-SW	Y[88, 89]	See[2, 3]
8	HP 9000: K220, K420	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[14, 15]	HPQ A6685A[11, 12, 27]	FC-AL, FC-SW	N	See[2, 3]
9	HP 9000: K260, K360, K460	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[14, 15]	HPQ A6685A[11, 12, 27, 70]	FC-AL, FC-SW	Y[4, 5, 7, 13, 71]	See[2, 3]
10	HP 9000: K370, K380, K570, K580	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[14, 15]	HPQ A6685A[11, 12, 27, 70]	FC-AL, FC-SW	Y[4, 5, 7, 13, 72]	See[2, 3]
11	HP 9000 D390	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[14, 15, 64]	HPQ A6684A[11, 12, 27, 63]	FC-AL FC-SW	Y[4, 5, 7, 13]	See[2, 21, 65, 66, 67, 68]
12	HP 9000: D270, D280, D370, D380	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[14, 15, 64]	HPQ A6684A[11, 12, 27, 63]	FC-AL, FC-SW	N	See[2, 21, 65, 66, 67, 68]
13	HP 9000 R380	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[14, 15, 64]	HPQ A6684A[11, 12, 27, 69]	FC-AL, FC-SW	N	See[2, 3, 65, 66, 67, 68]
14	HP 9000 R390	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[14, 15, 64]	HPQ A6684A[11, 12, 27, 69]	FC-AL, FC-SW	Y[4, 5, 7, 13, 63]	See[2, 3, 65, 66, 67, 68]
15	HP 9000: K250, K450	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[14, 15, 64]	HPQ A6685A[11, 12, 27]	FC-AL, FC-SW	N	See[2, 3]
16	HP 9000 D290[69, 90]	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[15, 64]	HPQ A6684A[12, 27]	FC-AL, FC-SW	N	See[65, 68]
17	HP 9000 D290	HSC	HPQ HP-UX: 11.0[15, 77], 11i v1.0 (HP-UX 11.11)[14, 15]	HPQ A6684A[11, 27, 63]	FC-AL, FC-SW	N	See[2, 21, 66, 67]
18	HP 9000: D-Class, R-Class	HSC	HPQ HP-UX: 11.0[15], 11i v1.0 (HP-UX 11.11)[15]	HPQ A6684A[11, 27, 39, 69, 74, 75]	FC-AL, FC-SW	N	See[2, 3, 73]
19	HP 9000 K-Class	HSC	HPQ HP-UX: 11.0[15], 11i v1.0 (HP-UX 11.11)[15]	HPQ A6684A[8, 11, 70, 74, 75]	FC-AL, FC-SW	N	See[2, 3]
20	HP 9000 rp8400	PCI	HPQ HP-UX 11.0[15]	HPQ A5158A[11, 91, 92]	FC-AL, FC-SW	Y[77, 78, 79, 80]	See[2, 21, 55]
21	HP 9000 rp8400	PCI	HPQ HP-UX 11.0[15]	HPQ A6795A[11, 17, 18, 19, 29]	FC-AL, FC-SW	Y[77, 78, 79]	See[2, 21, 55]
22	**HP 9000 rp7400**	PCI	**HPQ HP-UX 11.0[15, 77]**	**HPQ A5158A[11, 27, 28, 76]**	FC-AL FC-SW	Y[9]	See[2, 21, 49]
23	**HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)**	PCI	**HPQ HP-UX 11.0[15, 77]**	**HPQ A5158A[8, 11, 76]**	FC-AL, FC-SW	Y	See[1, 2, 3]
24	**HP 9000: rp2430, rp2470**	PCI	**HPQ HP-UX 11.0[15, 77]**	**HPQ A5158A[8, 9, 11, 28]**	FC-AL FC-SW	Y[9, 78, 79]	See[2, 21, 62]

HPQ – HPQ HP-UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
25	**HP 9000: V2250, V2500, V2600**	PCI	**HPQ HP-UX 11.0[15, 77]**	**HPQ A5158A[8, 9, 11, 28]**	FC-AL, FC-SW	**Y[78, 79, 86]**	**See[2, 21]**
26	**HP 9000 V2200**	PCI	**HPQ HP-UX 11.0[15, 77]**	**HPQ A5158A[9, 11, 27, 28]**	FC-AL, FC-SW	**Y[9, 78, 79, 86]**	**See[2, 21]**
27	HP 9000 rp5400 (L1000)	PCI	HPQ HP-UX 11.0[15, 77]	HPQ A5158A[9, 11, 27, 28, 76]	FC-AL, FC-SW	Y[78, 79, 80, 81]	See[2, 20, 21, 22]
28	HP 9000 rp5430[25]	PCI	HPQ HP-UX 11.0[15, 77]	HPQ A5158A[9, 11, 27, 28, 76]	FC-AL, FC-SW	Y[78, 79, 80, 82]	See[2, 20, 21, 22]
29	HP 9000 rp5450 (L2000)	PCI	HPQ HP-UX 11.0[15, 77]	HPQ A5158A[9, 11, 27, 28, 76]	FC-AL, FC-SW	Y[78, 79, 80, 83]	See[2, 20, 21, 22]
30	HP 9000 rp5470 (L3000)[35]	PCI	HPQ HP-UX 11.0[15, 77]	HPQ A5158A[9, 11, 27, 28, 76]	FC-AL, FC-SW	Y[78, 79, 80, 84]	See[2, 20, 21, 22]
31	HP 9000 rp5470 (L3000)[35]	PCI	HPQ HP-UX 11.0[15, 77]	HPQ A6795A[11, 17, 18, 19, 29]	FC-AL, FC-SW	Y[78, 79, 82]	See[2, 20, 21, 22]
32	HP 9000 rp7400	PCI	HPQ HP-UX 11.0[15, 77]	HPQ A6795A[11, 17, 18, 19, 29]	FC-AL, FC-SW	Y[78, 79, 85]	See[2, 21, 37, 44, 49]
33	HP 9000: rp5400 (L1000), rp5430[25], rp5450 (L2000)	PCI	HPQ HP-UX 11.0[15, 77]	HPQ A6795A[11, 17, 18, 19, 29]	FC-AL, FC-SW	N	See[2, 20, 21]
34	**HP 9000: rp2430, rp2470**	PCI	**HPQ HP-UX 11.0[15, 77]**	**HPQ A6795A[11, 17, 18, 19, 39]**	FC-AL, FC-SW	Y[62]	See[2, 21, 62, 79]
35	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11.0[15, 77]	HPQ A6795A[11, 17, 19]	FC-AL, FC-SW	Y[62, 78, 79]	See[1, 2, 3]
36	HP 9000 rp5405[25]	PCI	HPQ HP-UX 11.0[15, 77]	HPQ: **A5158A[11, 27, 28, 76]**, A6795A[11, 17, 18, 19, 29]	FC-AL, FC-SW	N	See[2, 20, 21]
37	**HP 9000 rp2405**	PCI	**HPQ HP-UX 11.0[15, 77]**	**HPQ: A5158A[11, 27, 28, 76], A6795A[11, 17, 18, 19, 39]**	FC-AL, FC-SW	N	See[2, 21, 62]
38	HP 9000 N-Class (N4000)	PCI	HPQ HP-UX 11.0[15, 77]	HPQ: A5158A[9, 11, 27, 28, 76], A6795A[11, 17, 18, 19, 29]	FC-AL, FC-SW	N	See[2, 21, 37, 44, 49]
39	**HP 9000 rp7405[36, 45, 46]**	**PCI**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[13, 14, 15]	**HPQ A5158A[11, 27, 28, 39, 40]**	**FC-AL, FC-SW**	N	See[2, 21]
40	**HP 9000 rp7410[36, 46, 48]**	**PCI**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[13, 14, 15]	**HPQ A5158A[11, 27, 28, 39, 40]**	**FC-AL, FC-SW**	Y[47]	See[2, 21]
41	**HP 9000 rp7405[36, 45, 46]**	**PCI**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[13, 14, 15]	**HPQ A6795A[11, 16, 17, 29, 39, 40]**	**FC-AL, FC-SW**	N	See[2, 21, 44]
42	**HP 9000 rp7410[36, 46, 48]**	**PCI**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[13, 14, 15]	**HPQ A6795A[11, 16, 17, 29, 39, 40]**	**FC-AL, FC-SW**	Y[47]	See[2, 21, 44]
43	**HP 9000 rp7400[36, 38]**	**PCI**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[13, 14, 15]	**HPQ A5158A[11, 12, 28, 39]**	**FC-AL, FC-SW**	Y[41, 42]	See[2, 21, 37, 43]
44	**HP 9000 rp8400[36, 53, 54, 55]**	**PCI**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[13, 14, 15]	**HPQ A5158A[11, 28, 39, 40]**	**FC-AL, FC-SW**	Y[52]	See[2, 21]
45	**HP 9000: rp5430[30, 31], rp5470 (L3000)[22, 30, 31, 35, 36]**	**PCI**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[13, 14, 15]	**HPQ A6795A[11, 16, 17, 18, 19, 29]**	**FC-AL, FC-SW**	Y[32, 34]	See[2, 21]
46	**HP 9000 rp8400[36, 53, 54]**	**PCI**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[13, 14, 15]	**HPQ A6795A[11, 16, 17, 29, 40]**	**FC-AL, FC-SW**	Y[52]	See[2, 21]
47	**HP 9000 rp7400[36, 38]**	**PCI**	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[13, 14, 15, 30, 35]	**HPQ A6795A[11, 16, 17, 39, 40]**	**FC-AL, FC-SW**	Y[41, 42]	See[2, 21, 37]
48	HP 9000: rp2430, rp2470	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[13, 14, 15]	HPQ A5158A[9, 11, 12, 27, 28]	FC-AL, FC-SW	Y[62]	See[2, 21, 62]
49	HP 9000: V2200[59], V2250[59]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[13, 14, 15]	HPQ A5158A[9, 11, 12, 27, 28]	FC-AL, FC-SW	Y[4, 5, 7, 58]	See[2, 21]
50	HP 9000: V2500[59, 61], V2600[61]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[13, 14, 15]	HPQ A5158A[9, 11, 12, 27, 28]	FC-AL, FC-SW	Y[4, 5, 7, 60]	See[2, 21]
51	HP 9000: rp2430, rp2470	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[13, 14, 15]	HPQ A6795A[11, 17, 18, 19, 29]	FC-AL, FC-SW	N	See[2, 21, 62]
52	HP 9000 rp8400	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[13, 14, 15]	HPQ: A5158A[11, 12, 91, 92], A6795A[11, 16, 17, 18, 19, 29]	FC-AL, FC-SW	Y[4, 5, 7, 52]	See[2, 21, 55]
53	**HP 9000 SUPERDOME[36, 56]**	PCI	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[13, 14, 15]**	**HPQ: A5158A[11, 28, 39, 40], A6795A[11, 16, 17, 18, 40]**	FC-AL, FC-SW	Y[57]	See[2, 21]
54	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[13, 14, 15]	HPQ: A5158A[8, 9, 10, 11, 12], A6795A[11, 16, 17, 18, 19]	FC-AL, FC-SW	Y[4, 5, 6, 7]	See[1, 2, 3]
55	HP 9000: rp5400 (L1000), rp5450 (L2000)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[13, 14, 15]	HPQ: A5158A[9, 11, 12, 26, 27, 28], A6795A[11, 16, 17, 18, 19, 29]	FC-AL, FC-SW	Y[4, 5, 7, 23, 24, 25]	See[2, 20, 21, 22]
56	HP 9000 N-Class (N4000)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[13, 14, 15]	HPQ: A5158A[9, 11, 12, 27, 28, 42, 51], A6795A[11, 16, 17, 18, 19, 29]	FC-AL, FC-SW	Y[4, 5, 7, 50]	See[2, 21, 37, 44, 49]
57	HP 9000 rp5405[25]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[13, 14, 15]	HPQ: A5158A[9, 11, 12, 27, 28], A6795A[11, 16, 17, 18, 19, 29]	FC-AL, FC-SW	N	See[2, 20, 21, 22]
58	HP 9000 rp2405	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[13, 14, 15]	HPQ: A5158A[9, 11, 12, 27, 28], A6795A[11, 17, 18, 19, 29]	FC-AL, FC-SW	N	See[2, 21, 62]
59	**HP 9000 rp5430[30, 31], rp5470 (L3000)[22, 30, 31, 35, 36]**	PCI	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[13, 14, 15, 25]**	**HPQ A5158A[11, 12, 27, 28]**	FC-AL, FC-SW	Y[32, 33]	See[2, 21, 30]

1. A500/550 requires minimum PDC 40.32 or higher
2. Only PowerPath 3.0.1 is supported for DMX series systems
3. FC-AL supported for direct attach only. No support for hubs or Quickloop at this time
4. The Brocade (Brocade, EMC, or HP models) switch port the HBA involved in a FC-SW topology boot process or FC-SW topology dump process is attached to, is required to be locked as G_port when the boot or dump volume resides on the Symmetrix. This can be accomplished by executing the "portCfgGport port_number,1" command from a telnet session on the Brocade switch. The boot device can not be located more than two hops from the initiator involved in the boot process.
5. For direct attached FC-AL boot or dump from a Symmetrix FA port configured for 2 Gbit speed, the Symmetrix auto-negotiation director flag must also be enabled on the FA port. FC-SW 2-Gbit boot and/or dump using A6795A requires Auto-Negotiation flag to be enabled on the switch port the HBA is attached to.
6. PDC firmware 42.09 or higher. Arbitrated Loop (direct attach) or FC-SW
7. Brocade 12000 and EMC ED-12000B do not support boot at this time
8. FC-AL and FC-SW topologies can co-exist on the same server but not on the same HBA, provided that the different topologies are attached to different HBAs.
9. HP-UX 11.0 switched fabric support is enabled with: fabric device driver version B.11.00.03 and higher, minimum operating system level HP/UX 11.0 0990P with [illegible] bundle and dependency patch PHKL_21381 patches may be superceded or have co-dependencies as defined by HP. Symmetrix microcode versions: 5265.49.31, 5566.20.5566.20 latest Symmetrix microcode versions.
10. HP A5158A FC-SW software requirements: FC-AL and FC-SW requires the HP A5158A Tachlite PCI Fibre Channel Adapter. The A5158A FCSW software fabric driver version "AP0301", for HP-UX 11i is now available for download from HP's software depot site http://www.software.hp.com under "drivers". It is referred to as the "hp pci tachyon tl fibre channel adapter", and requires the installation of dependent patch PHKL_22674 prior to installing the fabric driver, patches may be superceded or have co-dependencies as defined by HP.
11. Minimum driver version for SNIA HBA API support with HP-UX 11.0 is B.11.00.10. Minimum driver version for SNIA HBA API support with HP-UX 11.11 is B.11.

12. HP-UX 11.0 minimum driver revision B.11.00.10. HP-UX 11i driver revision B.11.11.09.
13. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC Symmetrix devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set. No additional patches are required for this option in HP-UX 11.0, HP-UX 11.11 and forward, however in HP-UX 10.x the "N" flag option was introduced with the following patches are required to be installed or patches which supercede or replace these in order to configured the logical volumes residing on Symmetrix devices in this manner: For all HP/UX 10.xx versions install the following Bad Block Reallocation Patch Pair: 10.01: PHKL_11294, PHKL_11890, PHCO_11288 (patches may be superseded or have co-dependencies as defined by HP). 10.10: PHKL_11816, PHCO_11817 (patches may be superseded or have co-dependencies as defined by HP). 10.20: PHKL_11086, PHKL_11903, PHCO_10964 (patches may be superseded or have co-dependencies as defined by HP).
14. Symm 6 is qualified with: HP-UX 11i Support Plus Sept '02 bundle = GOLDAPPS11i June '02, GOLDBASE11i June '02 & HWEnable11i Sept '02.
15. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
16. The A6795A HBA is capable of supporting both 1 and 2 Gb speeds.
17. Auto-sensing capability on the HBA is permanently enabled. There is no option to disable auto-sensing on the HBA.
18. HP-UX driver requirements: HP-UX 11.0 : A6795A HP PCI Tachyon TL/XL2 Fibre Channel driver B.11.00.10 or later release which supports this HBA. HP-UX 11i : A6684A/A6685A/A5158A/A6795A HP Tachyon TL/XL2 Fibre Channel driver B.11.11.09 or later release which supports this HBA.
19. HP-UX required patches: HP-UX 11.0 ACE: PHKL_23939, HP-UX 11i : PHKL_23626
20. L-Class requires minimum PDC firmware 40.26 or higher.
21. FC-AL supported for direct attach only. No support for hubs or Quickloop at this time
22. Virtual Partitions (VPAR) is supported on the L-class/rp5470 server.
    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 41.02 or later.
23. VPARS supported in boot environment with HBA supported defined in Base Connectivity table.
24. PDC firmware 41.39 or higher: Arbitrated Loop (direct attach) or FC-SW
25. rp5405, rp5430, rp5470, rp7400: (PA-8700 processors): Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001.
26. PDC firmware: Arbitrated Loop (direct attach): use 40.19 or higher; Fabric: use 40.26 or higher
27. FC-AL, FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
28. HP A5158A FC-SW software requirement: FC-AL and FC-SW requires the HP A5158A Tachlite PCI Fibre Channel Adapter. The A5158A FC-SW software fabric driver version "AP0301", for HP-UX 11i is now available for download from HP's software depot site, http://www.software.hp.com under "drivers" . It is referred to as the "hp pci tachyon tl fibre channel adapter", and requires the installation of dependent patch PHKL_22874 prior to installing the fabric driver, patches may be superceded or have co-dependencies as defined by HP.
29. The A6795A HBA is capable of supporting both 1 and 2 Gb speeds. QuickLoop is not supported with Brocade 3200/3800/12000 or EMC DS-16B2. ED-12000B.
30. **rp5405, rp5430, rp5470, rp7400: (PA-8700 processors): Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001. Symmetrix microcode supported: 5266.40.28 or higher. 5566.41.28 or higher. 5267.27.19 or higher. 5567.34.19 or higher.**
31. **PA-8700 processors: Supports both 11.00 and HP-UX 11i processor 8700+ only supports HP-UX 11i.**
32. **HP A5158A FC-SW is enabled in the March 2000 HWCR bundle XSWHWCR1100.48. Additional patches may be required for support.**
33. **rp5430/5470 requires minimum PDC firmware 41.36 or higher.**
34. **rp5430/5470 required minimum PDC firmware 41.46 or higher.**
    PA-8700 processors: Initial support with HP-UX 11.0 Sept 2001. HP-UX 11i Sept 2001
36. **Minimum driver revision for HP-UX 11i v1.0 (HP-UX 11.11) is PCI/HSC Fibre Channel Driver B.11.11.09. In a (Vpar) environment.**
37. Requires minimum PDC firmware for N-class 40.25 or higher. The rp7400 (PA-8700) requires minimum PDC firmware 41.36 or higher.
38. **Virtual Partitions (VPAR) is supported on the N-class/rp7400 server with 4.x and 5.x Symmetrix models and DMX series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later.**
39. These qualified HBAs for EMC Symmetrix storage in the HP9000 server model and the HP-UX revision installed may co-exist in that same server or the same hard partition. Other supported HBAs not used to attach to the Symmetrix may also co-exist on the same server unless specified by EMC and/or HP.
40. **Minimum driver revision for HP-UX 11i v1.0 (HP-UX 11.11) is PCI/HSC Fibre Channel Driver B.11.11.09.**
41. **rp7400 requires minimum PDC firmware 41.36 or higher.**
42. N-Class: Arbitrated loop boot with PDC rev 40.04 or higher.Fabric boot with PDC rev 40.25 or higher.
43. **rp7400 (PA-8700), rp5470 (PA-8700): initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001.**
44. For rp7405 and rp7410 required minimum PDC firmware is 15.005
45. **Virtual Partitions (VPAR) is supported on the rp7405 server with 4.x and 5.x Symmetrix models. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.**
46. **Virtual Partitions (VPAR) is supported on the rp7405/7410 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 16.009 or later.**
47. **rp7410 requires minimum PDC firmware 16.009 or higher.**
48. **Virtual Partitions (VPAR) is supported on the rp7405/7410 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.**
49. Virtual Partitions (VPAR) is supported on the N-class/rp7400 server.
    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later.
50. Requires PDC firmware N-Class 41.96
51. Requires PDC firmware rp7400 (PA-8700) requires PDC firmware 41.36.
52. PDC firmware 15.05 or higher: Arbitrated Loop (direct attach) or FC-SW
53. **Virtual Partitions (VPAR) is supported on the rp8400 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.**
54. **Virtual Partitions (VPAR) is supported on the rp8400 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 16.009 or later.**
    rp8400 requires minimum PDC firmware 13.10 or higher.
    Virtual Partitions (VPAR) is supported on the SuperDome server with 4.x and 5.x Symmetrix models and DMX series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 36.1 or later.
57. **Requires minimum PDC firmware 35.4 and PDHC 7.3 or higher**
58. Requires PDC firmware TSSW 5.3
59. Arbitrated loop boot and fabric boot with PDC rev TSSW 5.3 or higher
60. Requires PDC firmware TSSW 3.2 or higher
61. Arbitrated loop boot with PDC rev TSSW 3.1 or higher. Fabric boot with PDC rev TSSW 3.2 or higher
62. Requires minimum PDC firmware 42.03 or higher
63. D390, R390 require minimum PDC firmware 41.35 or higher
64. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC Symmetrix devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
65. FC-AL topology attaches to DMX supported with direct attach only
66. HP-UX 11i v1.0 (HP-UX 11.11) Sept 2002
67. HP-UX 11.0 Sept 2002
68. 512 lun limit per FA port
69. Dx90, Rx90 servers support a maximum of 2 A6684A HBAs. The first must be installed in the turbo slot 10/12 and the second in any HSC slot.
70. The A6685A is not supported in slots 10/0 and 10/8 of the K570 and K580. In the K570 and K580, there are restrictions for the number of A6685A HBA cards supported when graphics cards are installed
71. Requires PDC firmware 41.33 or higher
72. Requires PDC firmware 41.34 or higher
73. Dx90, Rx90 require minimum PDC firmware 41.35 or higher
74. HP-UX 11.00 minimum driver revision B.11.00.06
    HP-UX 11i minimum driver revision B.11.11.06
75. Required dependent FCMS patches are required (patches may be superceded or have co-dependencies as defined by HP): HP-UX 11.0: PHKL_21834 HP-UX 11i: PHKL_24027. These patches must be installed before installing the driver. available at http://us-support2.external.hp.com. HSC Tachlite driver available at http://www.software.hp.com under "drivers" and locate Fibre Channel HSC Tachlite adapter (A6684A or A6685A) For HP-UX 11i, the driver is under "hp tachyon tl fibre channel adapter" which enables support for A6684A/A6685A/A5158A.
76. HP-UX 11.0 switched fabric support is enabled with: fabric device driver version B.11.00.03 and higher; minimum operating system level HP-UX 11.0 990P with March 2000 HW-CR bundle and dependency patch PHKL_21381 patches may be superceded or have co-dependencies as defined by HP.
77. Symm 6 is qualified with: HP-UX 11.00 Support Plus Sept '02 bundle = QPK1100 Sept '02 & HWE1100 Sept '02
78. FCAL on Symm 6 supported by direct attach only
79. Symm6: 512 lun limit per FA port
80. For driver versions refer to Base Connectivity Section

DG – Microsoft Windows 2000						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
14	AViiON AV8950R	PCI	Microsoft Windows 2000 Server: SP3[13, 14], SP4	Emulex: LP9802-E[15], LP9802DC-E[1, 15]	FC-AL, FC-SW	N

1. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
2. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
3. Data General servers that are rack-mountable (designated by Data General with an "R") are supported.
4. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.
5. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
6. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
7. **Qlogic SANSurfer/SANBlade Manager is not supported.**
8. **Qlogic SanBlade Manager is not supported.**
9. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
10. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
11. Data General servers that are rack-mountable (designated with an "R") are supported.
12. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
13. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
14. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
15. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
16. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3 3 VDC or 5.0 VDC signaling interfaces.
17. The LP9002-E now ships with the LP9002L-E low profile adapter
18. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
19. Host must be offline for interfamily Symmetrix microcode upgrade.

Dell

Dell – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
	PowerEdge 1550[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	QLogic QLA2200F-EMC[19]	FC-AL	N	
2	PowerEdge 2600[9]	PCI-X	Microsoft Windows 2000: Advanced Server SP2[5, 6], Server SP2[5, 6], Server SP3[5, 6], Server SP4	QLogic QLA2200F-EMC[19]	FC-AL	N	
3	PowerEdge 8450[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP982-E[7, 8, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
4	PowerEdge: 6300[9], 6350[9]; PowerVault: 770N, 775N	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP982-E[7, 8, 12]	FC-AL, FC-SW	N	
5	PowerVault: 750N, 755N	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[14, 18], LP850-EMC[14], LP9002-E (LP9002L-E)[7, 12, 13, 14], LP9002DC-E[7, 12, 14, 15, 16], LP982-E[7, 8, 12]; QLogic: **QLA2310F-E-SP[12, 17], QLA2340-E-SP[12, 17], QLA2342-E-SP[12, 17]**	FC-AL, FC-SW	N	
6	PowerEdge 8450[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4, Microsoft Windows 2000 Server: SP2[5, 6], SP3[5, 6], SP4	Emulex LP8000-EMC[14, 18]	FC-AL, FC-SW	Y[1, 2, 3]	
7	PowerEdge: 6300[9], 6350[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex LP9002-E (LP9002L-E)[7, 12, 13, 14]; QLogic QLA2200F-EMC[19]	FC-AL, FC-SW	N	
	PowerEdge. 6300[9], 6350	PCI	Microsoft Windows 2000 Advanced Server. SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex LP9002DC-E[7, 12, 14, 15, 16]	FC-AL, FC-SW	N	See[22]
9	PowerEdge 1550[9], 2400[9], 2450[9], 2500[9], 2550[9, 11], 4400[9], 6400[9], 6450[9]	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP8000-EMC[14, 18], LP850-EMC[14, 20], LP9002-E (LP9002L-E)[7, 12, 13, 14], LP9002DC-E[7, 12, 14, 15, 16]; QLogic **QLA2310F-E-SP[12, 17] QLA2340-E-SP[12, 17], QLA2342-E-SP[12, 17]**	FC-AL, FC-SW	Y[1, 2, 3]	
10	PowerEdge: 4300[9], 4350	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6] Server SP3[5, 6], Server SP4	Emulex: LP8000-EMC[14, 18], LP850-EMC[14, 20]; QLogic QLA2200F-EMC[19]	FC-AL, FC-SW	N	
11	PowerEdge. 2300[9], 6100[9], 6300[9], 6350[9]	PCI	Microsoft Windows 2000 Advanced Server. SP2[5, 6], SP3[6], SP4, Microsoft Windows 2000. Datacenter SP4 Server SP2[5, 6], Server SP3[5, 6] Server SP4	Emulex: LP8000-EMC[14, 18] LP850-EMC[14, 20]; QLogic **QLA2310F-E-SP[12, 17] QLA2340-E-SP[12, 17], QLA2342-E-SP[12, 17]**	FC-AL FC-SW	Y[1, 2, 3]	
12	PowerVault: 770N, 775N	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6] SP3[6], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex. LP8000-EMC[14, 18], LP850-EMC[14], LP9002-E (LP9002L-E)[7, 12, 13, 14], LP9002DC-E[7, 12, 14, 15, 16]; QLogic **QLA2310F-E-SP[12, 17], QLA2340-E-SP[12, 17] QLA2342-E-SP[12, 17]**	FC-AL, FC-SW	N	
13	PowerEdge 1650[9]	PCI	Microsoft Windows 2000 Advanced Server SP2[5, 6] SP3[6] SP4 Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6] Server SP4	Emulex LP8000-EMC[14, 18], LP850-EMC[14] QLogic QLA2200F-EMC[19] **QLA2310F-E-SP[12, 17] QLA2342-E-SP[12, 17]**	FC-AL, FC-SW	N	

Dell – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
14	PowerEdge 8450[9]	PCI	Microsoft Windows 2000 Advanced Server. SP2[5, 6], SP3[6], SP4. Microsoft Windows 2000. Datacenter SP4. Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP850-EMC[14, 20], LP9002-E (LP9002L-E)[7, 12, 13, 14], LP9002DC-E[7, 12, 14, 15, 16]. **QLogic: QLA2310F-E-SP[12, 17], QLA2340-E-SP[12, 17], QLA2342-E-SP[12, 17]**	FC-AL, FC-SW	Y[1, 2, 3]	
15	PowerEdge 1650[9]	PCI	Microsoft Windows 2000 Advanced Server. SP2[5, 6], SP3[6], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP9002-E (LP9002L-E)[7, 12, 13, 14], LP9002DC-E[7, 12, 14, 15, 16]	FC-AL, FC-SW	Y[1, 2, 3, 10]	
16	PowerEdge: 2300[9], 6100[9]	PCI	Microsoft Windows 2000 Advanced Server. SP2[5, 6], SP3[6], SP4. Microsoft Windows 2000: Datacenter SP4. Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP9002-E (LP9002L-E)[7, 12, 13, 14], LP9002DC-E[7, 12, 14, 15, 16], LP982-E[8]. QLogic QLA2200F-EMC[19]	FC-AL, FC-SW	N	
17	PowerEdge 1650[9]	PCI	Microsoft Windows 2000 Advanced Server. SP2[5, 6], SP3[6], SP4. Microsoft Windows 2000: Datacenter SP4. Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP9802-E[7, 8], LP9802DC-E[8, 12], LP982-E[7, 8]	FC-AL, FC-SW	Y[1, 2, 3, 4, 10]	
18	PowerEdge: 1550[9], 2400[9], 2450[9], 2500[9], 2550[9, 11], 4400[9], 6400[9], 6450[9]	PCI	Microsoft Windows 2000 Advanced Server. SP2[5, 6], SP3[6], SP4. Microsoft Windows 2000: Datacenter SP4. Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP9802-E[7, 8], LP9802DC-E[8, 12], LP982-E[7, 8]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
19	PowerEdge: 2400[9], 2450[9], 2500[9], 2550[9, 11], 4400[9], 6400[9], 6450[9], 8450[9]	PCI	Microsoft Windows 2000 Advanced Server. SP2[5, 6], SP3[6], SP4. Microsoft Windows 2000: Datacenter SP4. Server SP2[5, 6], Server SP3[5, 6], Server SP4	QLogic QLA2200F-EMC[19]	FC-AL, FC-SW	N	
20	**PowerEdge 1650[9]**	PCI	**Microsoft Windows 2000 Advanced Server. SP2[5, 6], SP3[6], SP4.** **Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4**	**QLogic QLA2340-E-SP[12, 17]**	FC-AL, FC-SW	Y[1, 2, 3]	
21	PowerEdge 8450	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9802-E[7, 8, 12], LP9802DC-E[8, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
22	PowerEdge: 6300, 6350	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9802-E[7, 8, 12], LP9802DC-E[8, 12]	FC-AL, FC-SW	N	
23	PowerVault: 750N, 755N, 770N, 775N	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9802-E[7, 8, 12], LP9802DC-E[8, 12]; QLogic QLA2200F-EMC[19]	FC-AL, FC-SW	N	
24	PowerEdge: 6300[9], 6350	PCI	Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6]; Microsoft Windows 2000 Professional. SP1[5, 6], SP2[5, 6]	Emulex LP9002DC-E[7, 12, 14]	FC-AL, FC-SW	N	See[22]
25	PowerEdge 8450[9]	PCI	Microsoft Windows 2000 Datacenter. SP2[5, 6], SP3[5, 6], SP4	Emulex LP8000-EMC[14, 18]	FC-AL, FC-SW	Y	
26	PowerEdge 8450[9]	PCI	Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4	Emulex: LP850-EMC[14], LP9002-E (LP9002L-E)[7, 12, 13, 14], LP9002DC-E, LP9802-E[8], LP9802DC-E[8, 12], LP982-E[7, 8]. HPQ D8602A (Agilent HHBA-5101B)[6, 21]; QLogic: **QLA2340-E-SP[12, 17]**, QLA2342-E-SP	FC-AL, FC-SW	N	
27	PowerEdge: 6300[9], 6350[9]; PowerVault: 770N, 775N	PCI	Microsoft Windows 2000 Server: SP2[5, 6], SP3[5, 6], SP4	Emulex LP982-E[8]	FC-AL, FC-SW	N	
28	PowerEdge 8450[9]	PCI	Microsoft Windows 2000 Server: SP2[5, 6], SP3[5, 6] SP4	Emulex: LP9802-E[8], LP9802DC-E[8, 12], LP982-E[7, 8]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
29	PowerEdge 2600[9]	PCI-X	Microsoft Windows 2000 Advanced Server SP2[5, 6]	Emulex: LP9802-E[7, 8, 12], LP982-E[7, 8, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
30	PowerEdge 2650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex LP8000-EMC[14, 18]	FC-AL, FC-SW	N	
31	PowerEdge: 6600[9], 6650[9]	PCI-X	Microsoft Windows 2000 Advanced Server. SP2[5, 6], SP3[6], SP4. Microsoft Windows 2000: Datacenter SP4. Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP8000-EMC[14, 18], LP850-EMC[14, 20], LP9002-E (LP9002L-E)[7, 12, 13, 14], LP9002DC-E[7, 12, 14, 15, 16]. QLogic: **QLA2310F-E-SP[12, 17], QLA2340-E-SP[12, 17], QLA2342-E-SP[12, 17]**	FC-AL, FC-SW	Y[1, 2, 3]	
32	PowerEdge 4600[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP8000-EMC[14, 18], LP850-EMC[14], LP9002-E (LP9002L-E)[7, 12, 13, 14], LP9002DC-E[7, 12, 14, 15, 16]. QLogic: **QLA2310F-E-SP[12, 17], QLA2340-E-SP[12, 17], QLA2342-E-SP[12, 17]**	FC-AL, FC-SW	Y[1, 2, 3]	
33	PowerEdge 1750	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP8000-EMC[14, 18], LP850-EMC[14]. QLogic: QLA2200F-EMC[19], **QLA2310F-E-SP[12, 17], QLA2342-E-SP[12, 17]**	FC-AL, FC-SW	N	

Dell – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
34	PowerEdge 1750	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP9002-E (LP9002L-E)[7, 12, 13, 14], LP9002DC-E[7, 12, 14, 15, 16]	FC-AL, FC-SW	Y[1, 2, 3, 10]	
35	PowerEdge 2650[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP9002-E (LP9002L-E)[7, 12, 13, 14], LP9002DC-E[7, 12, 14, 15, 16]; **QLogic: QLA2310F-E-SP[12, 17], QLA2340-E-SP[12, 17], QLA2342-E-SP[12, 17]**	FC-AL, FC-SW	Y[1, 2, 3]	
36	PowerEdge 1750	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP9802-E[7, 8], LP9802DC-E[8, 12], LP982-E[7, 8]	FC-AL, FC-SW	Y[1, 2, 3, 4, 10]	
37	PowerEdge: 2650[9], 4600[9], 6600[9], 6650[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP9802-E[7, 8], LP9802DC-E[8, 12], LP982-E[7, 8]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
38	PowerEdge: 4600[9], 6600[9], 6650[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	QLogic QLA2200F-EMC[19]	FC-AL, FC-SW	N	
39	**PowerEdge 1750**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4**	**QLogic QLA2340-E-SP[12, 17]**	FC-AL, FC-SW	Y[1, 2, 3]	
40	PowerEdge 2600	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9802DC-E[8, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
41	PowerEdge 2650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4	QLogic QLA2200F-EMC[19]	FC-AL, FC-SW	N	
42	PowerEdge 2650[9]	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP850-EMC[14]	FC-AL, FC-SW	N	
43	PowerEdge 2600	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[14, 18], LP850-EMC[14], LP9002-E (LP9002L-E)[7, 13, 14], LP9002DC-E[7, 12, 14, 15, 16]; **QLogic: QLA2310F-E-SP[12, 17], QLA2340-E-SP[12, 17], QLA2342-E-SP[12, 17]**	FC-AL, FC-SW	Y[1, 2, 3]	
44	PowerEdge 2600	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9802-E[7, 8, 12], LP982-E[7, 8, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
45	PowerEdge 2600	PCI-X	Microsoft Windows 2000 Advanced Server: SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic QLA2200F-EMC[19]	FC-AL, FC-SW	N	
46	PowerEdge 2600[9]	PCI-X	Microsoft Windows 2000 Server: SP2[5, 6], SP3[5, 6], SP4	Emulex: LP9802-E[7, 8], LP9802DC-E[8, 12], LP982-E[7, 8]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
47	PowerEdge 2600[9]	PCI-X	Microsoft Windows 2000: Advanced Server SP2[5, 6], Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP8000-EMC[14, 18], LP850-EMC[14, 20], LP9002-E (LP9002L-E)[7, 12, 13, 14], LP9002DC-E[7, 12, 14, 15, 16]; **QLogic: QLA2310F-E-SP[12, 17] QLA2340-E-SP[12, 17], QLA2342-E-SP[12, 17]**	FC-AL, FC-SW	Y[1, 2, 3]	
48	PowerEdge 2650	PCI-X	Microsoft Windows 2000: Advanced Server SP2[6], Server SP2[6], Server SP3[6], Server SP4	Emulex LP850-EMC[14]	FC-AL, FC-SW	N	

1. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported
2. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
3. MSCS cluster configurations are supported. PowerPath 3.0 or greater required
4. CLARiiON CX200 NOTE: Requires 1 00x3 for direct-connect configurations only.
5. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1. SP2 and SP3 5568 support at Windows 2000 SP1. SP2 and SP3
6. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
7. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3 3 VDC bus power The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces
8. Requires driver 2.20a12, firmware 1 00a4 and bios 1 62a1 Supports SNIA HBA API. Drivers available at http://www.emulex.com
9. If using Dell PERC Controller, requires PERC 3 with OpenManager 3 0 and Array Manager 3.1. The afamgt.sys must be version 2 6 0 3486 (or above)
10. When used with the HP NetServer LC2000, 32 device maximum
11. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
12. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII etc.)
13. The LP9002-E now ships with the LP9002L-E low profile adapter
14. Requires driver version 2.20a12 firmware version 3 90a7 and BIOS 1 62a1 Supports SNIA HBA API. Available at http://www.emulex.com.
15. Host must be offline for interfamily Symmetrix microcode upgrade
16. Requires driver 2.20a12, firmware 3 90a7 and BIOS 1 62a1 Emulex drivers are available at http://www emulex com. For Unisys servers use driver 2 11a2 and firmware 3 90a7 available at http://www support unisys.com Supports SNIA HBA API.
    NOTE LP8000/850 HBAs without -EMC label must have minimum rev dragonfly 2 0 of the Emulex ASIC.
17. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
18. The LP8000-EMC HBA has a permanent GBIC and does not have copper cable support
19. Requires driver 8.1.5.20 and bios 1 79 Available at http://www qlogic com Supports SNIA HBA API
20. Not supported with the HP NetServer LC-2000
21. (HHBA-5101BK-01)
22. AHA-2944W is no longer available in distribution channels

Fuji Serv (ICL)

Fuji Serv (ICL) – Microsoft Windows 2000						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Trimetra Nova	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[1, 2], LP850-EMC[1], LP9002-E (LP9002L-E)[1, 6, 7, 8], LP9002DC-E[1, 7, 8, 9, 10], LP982-E[5]	FC-AL, FC-SW	N
2	Trimetra P2000	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[1, 2], LP850-EMC[1], LP9002-E (LP9002L-E)[1, 6, 7, 8], LP9002DC-E[1, 7, 8, 9, 10], LP982-E[5]; QLogic QLA2200F-EMC	FC-AL, FC-SW	N

1. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
5. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
6. The LP9002-E now ships with the LP9002L-E low profile adapter.
7. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
8. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
9. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
   NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
10. Host must be offline for interfamily Symmetrix microcode upgrade.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2000						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Primergy: B210, C200, E200, F200, H200, H400, K400, L200, N200, N400, N800, P200, P250, R450, RX100, T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP850-EMC[7]	FC-AL, FC-SW	N
2	Primergy: B210, C200, E200, F200, H200, H400, K400, L200, N200, N400, N800, P200, P250, R450, RX100, T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[7, 15], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 5, 7, 13, 14]	FC-AL, FC-SW	Y[1, 2, 3]
3	Primergy: B210, C200, E200, N200	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9802-E[11], LP9802DC-E[11], LP982-E[11]	FC-AL, FC-SW	Y[1, 2, 3, 10]
4	Primergy: F200, H200, H400, K400, L200, N400, N800, P200, P250, R450, RX100, T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9802-E[5, 11], LP9802DC-E[4, 11], LP982-E[5, 11]	FC-AL, FC-SW	Y[1, 2, 3, 10]
5	Primergy T850	PCI	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4, Microsoft Windows 2000 Datacenter SP4	QLogic: QLA2200F-EMC[18], QLA2310F-E-SP[4, 16], QLA2340-E-SP[4, 16], QLA2342-E-SP[4, 16]	FC-AL, FC-SW	N
6	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9], SP4; Microsoft Windows 2000 Server: SP2[8, 9], SP3[8, 9], SP4	Emulex: LP8000-EMC[7, 15], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9802DC-E[4, 11]	FC-AL, FC-SW	N
7	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000 Datacenter: SP3[8, 9], SP4; Microsoft Windows 2000 Server: SP2[8, 9], SP3[8, 9], SP4	Emulex LP9802-E[5, 11]	FC-AL, FC-SW	N
8	Primergy: F250[12], H250[12], H450, R450, T850	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP850-EMC[7]	FC-AL FC-SW	N
9	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP982-E[5, 11]	FC-AL, FC-SW	N
10	Primergy: F250[12], H250[12], H450, R450, T850	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[7, 15], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 5, 7, 13, 14]	FC-AL, FC-SW	Y[1, 2, 3]
11	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP850-EMC[7], LP9002DC-E[4, 5, 7, 13, 14]	FC-AL, FC-SW	Y[1, 2, 3]

Fujitsu Siemens – Microsoft Windows 2000						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
12	Primergy: F250[12], H250[12], H450, R450, T850	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9802-E[5, 11], LP9802DC-E[4, 11], LP982-E[5, 11]	FC-AL, FC-SW	Y[1, 2, 3, 10]
13	Primergy: F250[12], H450	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic: QLA2200F-EMC[18], **QLA2310F-E-SP[4, 16], QLA2340-E-SP[4, 16], QLA2342-E-SP[4, 16]**	FC-AL, FC-SW	N
14	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9], SP4; Microsoft Windows 2000 Server: SP2[9], SP3[9], SP4	Emulex LP850-EMC[7]	FC-AL, FC-SW	N
15	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[9], Server SP3[9], Server SP4	Emulex: LP8000-EMC[7, 15], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 5, 7, 13, 14]	FC-AL, FC-SW	Y[1, 2, 3]
16	Primergy N800	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[9], Server SP3[9], Server SP4	Emulex: LP9802-E[5, 11], LP9802DC-E[4, 11], LP982-E[5, 11]	FC-AL, FC-SW	Y[1, 2, 3, 10]
17	Primergy: N800, RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Datacenter SP2[8, 9]	Emulex: LP9002DC-E, LP9802-E[11]	FC-AL, FC-SW	N
18	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9]	Emulex LP982-E[11]	FC-AL, FC-SW	N
19	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9], SP4	Emulex LP850-EMC[7]; HPQ D8602A (Agilent HHBA-5101B)[9, 17]; **QLogic: QLA2340-E-SP[4, 16], QLA2342-E-SP[4, 16]**	FC-AL, FC-SW	N
20	Primergy N800	PCI-X	Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9], SP4	Emulex: LP8000-EMC[7, 15], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9802DC-E[4, 11], LP982-E[11]; HPQ D8602A (Agilent HHBA-5101B)[9, 17]; **QLogic: QLA2340-E-SP[4, 16], QLA2342-E-SP[4, 16]**	FC-AL, FC-SW	N
21	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows 2000 Datacenter: SP3[8, 9], SP4	Emulex LP9002DC-E[4, 5, 7, 13, 14]	FC-AL, FC-SW	N
22	Primergy N800	PCI-X	Microsoft Windows 2000 Datacenter: SP3[8, 9], SP4	Emulex: LP9002DC-E[4, 5, 7, 13, 14], LP9802-E[5, 11]	FC-AL, FC-SW	N

1. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
2. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
3. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
4. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
5. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
6. The LP9002-E now ships with the LP9002L-E low profile adapter.
7. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
8. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
9. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
10. CLARiiON CX200 NOTE. Requires 1.00x3 for direct-connect configurations only
11. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
12. Must use standard PCI 32bit/33MHz slot for SCSI
13. Host must be offline for interfamily Symmetrix microcode upgrade.
14. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
15. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
16. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
17. (HHBA-5101BK-01)
18. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.

HPQ

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Proliant 6500[10, 11]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9802DC-E[7, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
2	Proliant DL380(G3)	PCI	**Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4,** **Microsoft Windows 2000 Datacenter SP2[8, 9] SP3[8, 9] SP4,** **Microsoft Windows 2000 Server: SP2[8, 9] SP3[8, 9] SP4**	Emulex: LP8000-EMC[4, 12], LP850-EMC[4]	FC-AL, FC-SW	N	

HPQ – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
3	Proliant 8500[10]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000 Server: SP2[8, 9], SP3[8, 9], SP4	Emulex LP8000-EMC[4, 12]	FC-AL, FC-SW	Y[1, 2, 3]	
4	Netserver LX PRO	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP8000-EMC[4, 12]	FC-AL, FC-SW	Y[1, 2, 3, 22]	
5	Netserver LC 2000 U3	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP8000-EMC[4, 12, 22]	FC-AL, FC-SW	Y[1, 2, 3]	See[17]
6	Netserver LH III	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP8000-EMC[4, 12, 22]	FC-AL, FC-SW	Y[1, 2, 3]	
7	Netserver: LH 4, LP 2000r, LT 6000R, LXR 8000, LXR 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP8000-EMC[4, 12, 22], **QLogic: QLA2310F-E-SP[7, 18, 22], QLA2340-E-SP[7, 18, 22], QLA2342-E-SP[7, 18, 22]**	FC-AL, FC-SW	Y[1, 2, 3]	
8	Netserver LX PRO	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP850-EMC[4]	FC-AL, FC-SW	Y[1, 2, 3, 23]	
9	Netserver LC 2000 U3	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP850-EMC[4, 24]	FC-AL, FC-SW	Y[1, 2, 3, 23]	See[17]
10	Netserver LH, 4, III, Netserver LP 2000r, LT 6000R, LXR 8000, LXR 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP850-EMC[4, 24]	FC-AL, FC-SW	Y[1, 2, 3, 23]	
11	Proliant 8500[10]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP850-EMC[4, 24]	FC-AL, FC-SW	Y[1, 2, 3]	
12	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9] SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4**	**Emulex LP850-EMC[4, 24]** **QLogic QLA2200F-EMC[21]**	FC-AL, FC-SW	N	
13	Netserver LH 3	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12, 22], LP850-EMC[4, 24]; HPQ: D8602A (Agilent HHBA-5101B)[9, 26, 27, 29], D8602B (Agilent HHBA-5101C)[9, 25, 26, 27, 28], QLogic: QLA2200F-EMC[22], **QLA2310F-E-SP[7, 18, 22]** QLA2340-E-SP[7, 18, 22] QLA2342-E-SP[7, 18, 22]	FC-AL, FC-SW	N	

HPQ – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
14	Netserver LPR	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12, 22], LP850-EMC[4, 24], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20]; HPQ: D8602A (Agilent HHBA-5101B)[9, 26, 27, 29], D8602B (Agilent HHBA-5101C)[9, 25, 26, 27, 28]; QLogic: QLA2200F-EMC[22], **QLA2310F-E-SP[7, 18, 22]**, **QLA2340-E-SP[7, 18, 22]**, **QLA2342-E-SP[7, 18, 22]**	FC-AL, FC-SW	N	
15	Netserver LH, 3000, 6000	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12, 22], LP850-EMC[4, 24], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20], LP9802-E[6, 14], LP9802DC-E[7, 14], LP982-E[6, 14]; HPQ: D8602A (Agilent HHBA-5101B)[9, 26, 27, 29], D8602B (Agilent HHBA-5101C)[9, 25, 26, 27, 28]; QLogic: QLA2200F-EMC[22], **QLA2310F-E-SP[7, 18, 22]**, **QLA2340-E-SP[7, 18, 22]**, **QLA2342-E-SP[7, 18, 22]**	FC-AL, FC-SW	N	
16	Proliant: 7000[10, 11], 850[10]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4, 24]	FC-AL, FC-SW	Y[1, 2, 3]	
17	Proliant: 2500[10], 6400R[10], 6500[10, 11], DL320[10], DL360[10] DL360(G2)[10], **DL380[10]**, **DL380(G2)[10]**, DL580[10], ML350[10, 15] ML350(G2)[10, 15], ML370[10], ML530[10], ML530(G2)[10], ML570[10], ML750[16]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4, 24], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20]; **QLogic: QLA2310F-E-SP[7, 18]**, **QLA2340-E-SP[7, 18]**, **QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	Y[1, 2, 3]	
18	Proliant: 1600[10, 30], 1850[10], 3000[10], 5000[10], 5500[10, 11], 6000[10, 11], 8000[10, 11]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4, 24]; **QLogic: QLA2310F-E-SP[7, 18]**, **QLA2340-E-SP[7, 18]**, **QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	Y[1, 2, 3]	
19	Netserver: LH II, LXR PRO8	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000, Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4]; HPQ: D8602A (Agilent HHBA-5101B)[9, 26, 27, 29], D8602B (Agilent HHBA-5101C)[9, 25, 26, 27, 28]	FC-AL, FC-SW	N	
20	Proliant 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20], LP9802-E[6, 14], LP9802DC-E[7, 14], LP982-E[6, 14]; **QLogic: QLA2310F-E-SP[7, 18]**, **QLA2340-E-SP[7, 18]**, **QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	N	
21	Proliant 850R	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000 Datacenter SP4 Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20], LP982-E[14]; QLogic: QLA2200F-EMC, **QLA2310F-E-SP[7, 18]**, **QLA2340-E-SP[7, 18]**, **QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	N	
22	Proliant: 6400R Pro, 8000 Pro, 8000 Xeon, 8500 8-way Xeon 550[10]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4, Microsoft Windows 2000, Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20], LP982-E[14]; **QLogic: QLA2310F-E-SP[7, 18]**, **QLA2340-E-SP[7, 18]**, **QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	N	
23	Proliant DL580(G2)[10]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4, Microsoft Windows 2000, Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20]; **QLogic: QLA2310F-E-SP[7, 18]**, **QLA2340-E-SP[7, 18]**, **QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	Y[1, 2, 3]	
24	Proliant: ML370(G2), ML370(G3)	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4, Microsoft Windows 2000, Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20]; **QLogic: QLA2310F-E-SP[7, 18]**, **QLA2340-E-SP[7, 18]**, **QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	Y[1, 2, 3, 19]	

HPQ – Microsoft Windows 2000							
No.	Hos. System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
25	Netserver LC 2000 U3	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20]	FC-AL, FC-SW	Y[1, 2, 3, 22]	See[17]
26	Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20]	FC-AL, FC-SW	Y[1, 2, 3, 22]	
27	Proliant: 1600[10, 30], 1850[10]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20], LP982-E[14]; QLogic QLA2200F-EMC[21]	FC-AL, FC-SW	N	
28	Proliant 850[10]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20], LP982-E[14]; QLogic: QLA2200F-EMC[21], **QLA2310F-E-SP[7, 18]**, **QLA2340-E-SP[7, 18]**, **QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	N	
29	Proliant 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20]; **QLogic: QLA2310F-E-SP[7, 18], QLA2340-E-SP[7, 18], QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	Y[1, 2, 3, 10]	
30	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4**	**Emulex: LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20];** **QLogic: QLA2310F-E-SP[7, 18], QLA2340-E-SP[7, 18], QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	Y[1, 2, 3]	
31	Proliant 6400R[10]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9802-E[14], LP9802DC-E[14], LP982-E[14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
32	Proliant 6500[10, 11]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9802-E[14], LP982-E[14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
33	Netserver LC 2000 U3	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9802-E[6, 14], LP9802DC-E[7, 14], LP982-E[6, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	See[17]
34	Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 2500[10], DL320[10], DL360[10], DL360(G2)[10], **DL380[10], DL380(G2)[10], DL380(G3)**, DL580[10], DL580(G2)[10], ML350[10, 15], ML350(G2)[10, 15], ML530[10], ML530(G2)[10], ML570[10], ML750[16]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4 Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9802-E[6, 14], LP9802DC-E[7, 14], LP982-E[6, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
35	Netserver LC 2000 U3, 2000r Netserver: LH 4, LP 2000r, LT 6000R, LXR 8000, LXR 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4, Microsoft Windows 2000: Datacenter SP4 Server SP2[8, 9], Server SP3[8, 9], Server SP4	HPQ: D8602A (Agilent HHBA-5101B)[9, 26, 27, 29], D8602B (Agilent HHBA-5101C)[9, 25, 26, 27, 28]; QLogic QLA2200F-EMC[22]	FC-AL, FC-SW	N	

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
36	Netserver LH III	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	HPQ: D8602A (Agilent HHBA-5101B)[9, 26, 27, 29], D8602B (Agilent HHBA-5101C)[9, 25, 26, 27, 28]; QLogic: QLA2200F-EMC[22], **QLA2310F-E-SP[7, 18, 22]**, **QLA2340-E-SP[7, 18, 22]**, **QLA2342-E-SP[7, 18, 22]**	FC-AL, FC-SW	N	
37	Proliant: 2500[10], 3000[10], 5000[10], 5500[10, 11], 6000[10, 11], 6400R[10], 6500[10, 11], 7000[10, 11], 8000[10, 11], 8500[10], DL320[10], DL360[10], DL360(G2)[10], **DL380[10]**, **DL380(G2)[10]**, DL580[10], DL580(G2)[10], ML350[10], ML350(G2)[10], ML370[10], ML370(G2), ML370(G3), ML530[10], ML530(G2)[10], ML570[10], ML750[16]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	QLogic QLA2200F-EMC[21]	FC-AL, FC-SW	N	
38	**Netserver LC: 2000 U3, 2000r**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4**	**QLogic: QLA2310F-E-SP[7, 18, 22], QLA2340-E-SP[7, 18, 22], QLA2342-E-SP[7, 18, 22]**	FC-AL, FC-SW	Y[1, 2, 3]	
39	Proliant ML370[10]	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[9], Server SP4	Emulex: LP9802-E[14], LP9802DC-E[7, 14], LP982-E[14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
40	Proliant: ML370(G2), ML370(G3)	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[9], Server SP4	Emulex: LP9802-E[14], LP9802DC-E[7, 14], LP982-E[14]	FC-AL, FC-SW	Y[1, 2, 3, 10, 13]	
41	**Proliant 7000[10, 11]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[9], Server SP4**	**QLogic: QLA2310F-E-SP[7, 18], QLA2340-E-SP[7, 18], QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	Y[1, 2, 3]	
42	Netserver LPR	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[9], Server SP3[9], Server SP4	Emulex: LP9802-E[6, 14], LP9802DC-E[7, 14], LP982-E[6, 14]	FC-AL, FC-SW	N	
43	Proliant 8000 Pro	PCI	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic QLA2200F-EMC[21]	FC-AL, FC-SW	N	
44	Netserver LC 2000r	PCI	Microsoft Windows 2000 Advanced Server: SP3[9], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP8000-EMC[4, 12, 22]	FC-AL, FC-SW	Y[1, 2, 3]	
45	Netserver LC 2000r	PCI	Microsoft Windows 2000 Advanced Server: SP3[9], SP4, Microsoft Windows 2000 Datacenter SP4	Emulex LP850-EMC[4, 24]	FC-AL, FC-SW	Y[1, 2, 3, 23]	
46	Netserver LC 2000r	PCI	Microsoft Windows 2000 Advanced Server: SP3[9], SP4 Microsoft Windows 2000 Datacenter SP4	Emulex: LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20]	FC-AL, FC-SW	Y[1, 2, 3, 22]	
47	Netserver LC 2000r	PCI	Microsoft Windows 2000 Advanced Server: SP3[9], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP9802-E[6, 14], LP9802DC-E[7, 14], LP982-E[6, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
48	Proliant 8500	PCI	Microsoft Windows 2000 Advanced Server: SP3[9], SP4, Microsoft Windows 2000 Datacenter SP4 Server SP3[8, 9], Server SP4	Emulex: LP9802-E[6, 14], LP9802DC-E[7, 14], LP982-E[6, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
49	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Datacenter SP2[8, 9]**	**Emulex: LP9002DC-E, LP9802-E[14]**	FC-AL, FC-SW	N	
50	Netserver LXR 8500; Proliant 8500	PCI	Microsoft Windows 2000 Datacenter SP2[8, 9]	Emulex: LP9802-E[14], LP9802DC-E[7, 14]	FC-AL, FC-SW	N	
51	Netserver LXR 8500	PCI	Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9]	HPQ: D8602A (Agilent HHBA-5101B)[9, 29], D8602B (Agilent HHBA-5101C)[9, 28]	FC-AL, FC-SW	N	
52	Proliant 8500	PCI	Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9], SP4	Emulex LP8000-EMC[4, 12]	FC-AL, FC-SW	Y	
53	Netserver LXR 8500	PCI	Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9], SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E, LP982-E[14]; QLogic: **QLA2340-E-SP[7, 18, 22]**, QLA2342-E-SP	FC-AL, FC-SW	N	
54	Proliant 8500	PCI	Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9], SP4	Emulex: LP850-EMC[4], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E, LP982-E[14]; HPQ D8602A (Agilent HHBA-5101B)[9, 29]; QLogic: **QLA2340-E-SP[7, 18]**, QLA2342-E-SP	FC-AL, FC-SW	N	
55	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9], SP4**	**Emulex: LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9802DC-E[7, 14], LP982-E[14];** **QLogic: QLA2310F-E-SP, QLA2340-E-SP[7, 18], QLA2342-E-SP**	FC-AL, FC-SW	N	
56	**Proliant DL380(G3)**	PCI	**Microsoft Windows 2000 Datacenter: SP3[8, 9], SP4**	**Emulex: LP9002DC-E[4, 6, 7, 19, 20], LP9802-E[6, 14]**	FC-AL, FC-SW	N	
57	Proliant 6500[10, 11]	PCI	Microsoft Windows 2000 Server: SP2[8, 9], SP3[8, 9], SP4	Emulex LP9802DC-E[14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
58	Proliant 8500[10]	PCI	Microsoft Windows 2000: Advanced Server SP2[8, 9], Server SP2[8, 9]	Emulex: LP9802-E[6, 14], LP9802DC-E[7, 14], LP982-E[6, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
59	Netserver LC 2000r	PCI	Microsoft Windows 2000: Advanced Server SP2[8, 9], Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP8000-EMC[4, 12, 22]	FC-AL, FC-SW	Y[1, 2, 3]	See[17]
60	Netserver LC 2000r	PCI	Microsoft Windows 2000: Advanced Server SP2[8, 9], Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP850-EMC[4, 24]	FC-AL, FC-SW	Y[1, 2, 3, 23]	See[17]
61	Netserver LC 2000r	PCI	Microsoft Windows 2000: Advanced Server SP2[8, 9], Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20]	FC-AL, FC-SW	Y[1, 2, 3, 22]	See[17]
62	Netserver LC 2000r	PCI	Microsoft Windows 2000: Advanced Server SP2[8, 9], Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9802-E[6, 14], LP9802DC-E[7, 14], LP982-E[6, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	See[17]
63	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9], SP4; Microsoft Windows 2000 Server: SP2[8, 9], SP3[8, 9], SP4	Emulex LP9802DC-E[7, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
64	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9], SP4 Microsoft Windows 2000 Server: SP2[8, 9], SP3[8, 9], SP4	Emulex LP8000-EMC[4, 12] LP850-EMC[4], LP9002-E (LP9002L-E)[4, 5, 6, 7]; **QLogic QLA2340-E-SP[7, 18]**	FC-AL FC-SW	Y[1, 2, 3]	
65	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000 Datacenter SP3[8, 9], SP4; Microsoft Windows 2000 Server: SP2[8, 9], SP3[8, 9], SP4	Emulex LP9002DC-E[4, 6, 7, 19, 20]	FC-AL, FC-SW	Y[1, 2, 3]	

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
66	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000 Datacenter: SP3[8, 9], SP4; Microsoft Windows 2000 Server: SP2[8, 9], SP3[8, 9], SP4	Emulex LP9802-E[6, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
67	**Proliant: DL740, DL760[10], DL760 (G2)**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4;** **Microsoft Windows 2000 Server: SP2[8, 9], SP3[8, 9], SP4**	**QLogic: QLA2310F-E-SP[7, 18], QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	Y[1, 2, 3]	
68	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP982-E[6, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
69	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4, 24], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20]; **QLogic: QLA2310F-E-SP[7, 18], QLA2340-E-SP[7, 18], QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	Y[1, 2, 3]	
70	Proliant BL40p	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20]; **QLogic: QLA2310F-E-SP[7, 18], QLA2340-E-SP[7, 18], QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	Y[1, 2, 3]	
71	Proliant: BL40p, DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9802-E[6, 14], LP9802DC-E[7, 14], LP982-E[6, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
72	Proliant: BL40p, DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[10], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	QLogic QLA2200F-EMC[21]	FC-AL, FC-SW	N	
73	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter SP2[8, 9]	Emulex LP9002DC-E	FC-AL, FC-SW	Y[1, 2, 3]	
74	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter SP2[8, 9]	Emulex LP9802-E[14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
75	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter: SP2[8, 9], SP3[8, 9]	Emulex LP982-E[14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
76	Proliant: DL760[10], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter: SP2[8, 9] SP3[8, 9], SP4	HPQ D8602A (Agilent HHBA-5101B)[9, 29]	FC-AL, FC-SW	N	
77	Proliant: DL740, DL760[10], DL760 (G2)	PCI-X	Microsoft Windows 2000 Datacenter SP2[8, 9], SP3[8, 9], SP4	QLogic: QLA2310F-E-SP QLA2342-E-SP	FC-AL, FC-SW	Y[1, 2, 3]	
78	Proliant BL20p (G2)[33, 34]	PCI-X[35]	Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4; Microsoft Windows 2000 Datacenter: SP2[9], SP3[9], SP4; Microsoft Windows 2000 Server: SP2[9], SP3[9], SP4	HPQ Dual-port mezzanine controller card[31, 32]	FC-AL, FC-SW	Y[1, 2, 3, 36]	
79	Proliant DL580(G2)[10]	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex LP9802DC-E[7, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	

HPQ – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
80	Proliant: DL580(G2)[10], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[4, 12], LP850-EMC[4, 24], LP9002-E (LP9002L-E)[4, 5, 6, 7], LP9002DC-E[4, 6, 7, 19, 20]; **QLogic: QLA2310F-E-SP[7, 18], QLA2340-E-SP[7, 18] QLA2342-E-SP[7, 18]**	FC-AL, FC-SW	Y[1, 2, 3]	
81	**Proliant DL580(G3)**	**PCI, PCI-X**	**Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4**	**Emulex: LP9802-E[6, 14], LP9802DC-E[7, 14], LP982-E[6, 14]**	**FC-AL, FC-SW**	**Y[1, 2, 3, 13]**	
82	Proliant: DL580(G2)[10], **DL580(G3)**	PCI PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	QLogic QLA2200F-EMC[21]	FC-AL, FC-SW	N	
83	Proliant DL580(G2)[10]	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[9], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[9], Server SP4	Emulex: LP9802-E[6, 14], LP982-E[6, 14]	FC-AL, FC-SW	Y[1, 2, 3, 13]	
84	**Proliant 8500**	**PCI**	**Microsoft Windows 2000 Advanced Server: SP2[9], SP3[9], SP4;** **Microsoft Windows 2000 Server: SP2[9], SP3[9], SP4**	**HPQ: FCA2354 (LP9002)[4, 6, 7, 19], FCA2355 (LP9002DC)[4, 6, 7, 19]**	**FC-SW**	**N, Y**	

1. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.
2. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
3. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
4. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
5. The LP9002-E now ships with the LP9002L-E low profile adapter.
6. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
7. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
8. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
9. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
10. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
11. Includes both Pentium PRO and XEON models
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
13. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
14. Requires driver 2.20a12, firmware 1.00a4. and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
15. HPQ Proliant ML350 (1GHz) : D04,F04 (11/13/2000) , HPQ Proliant ML350(600,733,800,866,933 MHz) : D02, F04 (11/13/2000).
16. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
17. Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B
18. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
19. Requires driver 2.20a12, firmware 3.90a7. and BIOS 1.62a1 Emulex drivers are available at http://www emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
20. Host must be offline for interfamily Symmetrix microcode upgrade
21. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
22. When used with the HP NetServer LC2000: 32 device maximum.
23. Not supported with the HP LC2000.
24. Not supported with the HP NetServer LC-2000
25. Requires manual intervention on bootup to clear "new hardware found" message box at boot time.
26. Does not support Connectrix DS-16M, DS-32M, or McData ED-5000
27. Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper_rnotes/bsdmatrix/matrix213991.html
28. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP
29. (HHBA-5101BK-01)
30. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
31. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
32. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
33. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
34. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
35. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.
36. BIOS for the BL20p mezzanine card must be obtained from HP. Cannot use BIOS from Qlogic web site. EMC NVRAM settings must be configured manually. Refer to page 2-6 of the Readme document "EMC Fibre Channel with QLogic Host Bus Adapters in the Windows NT/Windows 2000 Environment" found at http://www.qlogic.com for the settings.

IBM

IBM – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4] SP4; Microsoft Windows 2000 Datacenter SP4	QLogic QLA2200F-EMC[11]	FC-AL	N	

IBM – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
2	Netfinity 8500R; **xSeries x255**[5]	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic QLA2200F-EMC[11]	FC-AL	N	
3	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server SP2[4]	IBM 19K1246(QLA2310)[1, 10]	FC-AL, FC-SW	N	
4	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: **SP2**[3, 4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19, 23], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21], LP9802-E[14, 15, 17], LP9802DC-E[15, 17]; IBM 00N6881 (QLA2200)[11, 12, 22]	FC-AL, FC-SW	N	See[16]
5	Netfinity 8500	PCI	Microsoft Windows 2000 Advanced Server: **SP2**[3, 4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19, 23], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21], LP9802-E[14, 15, 17], LP9802DC-E[15, 17], LP982-E[14, 15, 17]; IBM 00N6881 (QLA2200)[11, 12, 22]	FC-AL, FC-SW	N	See[16]
6	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	HPQ: D8602A (Agilent HHBA-5101B)[4, 27, 30, 31], D8602B (Agilent HHBA-5101C)[4, 27, 28, 29, 30]; IBM 24P0960(QLA2340)[6, 10]; NEC: N8103-200[21], N8503-200[21]; **QLogic: QLA2340-E-SP**[2, 17], **QLA2342-E-SP**[2, 17]	FC-AL, FC-SW	N	
7	Netfinity 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	HPQ: D8602A (Agilent HHBA-5101B)[4, 27, 30, 31], D8602B (Agilent HHBA-5101C)[4, 27, 28, 29, 30]; NEC: N8103-200[21], N8503-200[21]; QLogic QLA2200F-EMC[11]	FC-AL, FC-SW	N	
8	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: **SP2**[3, 4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4	IBM 00N6881 (QLA2200)[11, 12, 22]	FC-AL, FC-SW	Y[7, 8, 9]	See[16]
9	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4	IBM 24P0960(QLA2340)[6, 10]	FC-AL, FC-SW	Y[7, 8, 9]	
10	xSeries x370[5]	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4	IBM: 00N6881 (QLA2200)[11, 12, 22], 24P0960(QLA2340)[6, 10]	FC-AL, FC-SW	Y[7, 8, 9]	
11	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[18], 7100	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19, 23]; IBM: 00N6881 (QLA2200)[11, 12, 22], 24P0960(QLA2340)[6, 10]; **QLogic: QLA2310F-E-SP**[2, 17], **QLA2340-E-SP**[2, 17], **QLA2342-E-SP**[2, 17]	FC-AL, FC-SW	Y[7, 8, 9]	
12	**xSeries x255**[5]	PCI	**Microsoft Windows 2000 Advanced Server: SP2**[3, 4] **SP3**[4], **SP4**; **Microsoft Windows 2000: Datacenter SP4, Server SP2**[3, 4], **Server SP3**[3, 4], **Server SP4**	**Emulex: LP8000-EMC**[19, 24], **LP850-EMC**[19, 23], **LP9002-E (LP9002L-E)**[14, 17, 19, 20], **LP9002DC-E**[10, 14, 17, 19, 21]; **IBM 00N6881 (QLA2200)**[11, 12, 22]	FC-AL, FC-SW	Y[7, 8, 9]	**See**[16]
13	xSeries X342[5]	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19, 23], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21]; IBM: 00N6881 (QLA2200)[11, 12, 22], 24P0960(QLA2340)[6, 10]; QLogic: **QLA2310F-E-SP**[2, 17], **QLA2340-E-SP**[2, 17, 25, 26], **QLA2342-E-SP**[2, 17, 25, 26]	FC-AL, FC-SW	Y[7, 8, 9]	
14	Netfinity: 5600, 7600, xSeries: X330[5], X335, X340 (4500R)[5], x230, x232[5], x240[5], x250[5], x350 (6000R)[5]	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19, 23], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21]; IBM 00N6881 (QLA2200)[11, 12, 22], 24P0960(QLA2340)[6, 10]; QLogic: **QLA2310F-E-SP**[2, 17], **QLA2340-E-SP**[2, 17], **QLA2342-E-SP**[2, 17]	FC-AL, FC-SW	Y[7, 8, 9]	
15	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: **SP2**[3, 4] SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19, 23], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21]; QLogic QLA2310F-E-SP[2, 17]	FC-AL, FC-SW	Y[7, 8, 9]	See[16]
16	xSeries x370[5]	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19, 23], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21]; QLogic: QLA2310F-E-SP[2, 17], QLA2340-E-SP[2, 17], QLA2342-E-SP[2, 17]	FC-AL, FC-SW	Y[7, 8, 9]	
17	xSeries x345[5]	PCI	**Microsoft Windows 2000 Advanced Server: SP2**[3, 4] **SP3**[4], **SP4** **Microsoft Windows 2000 Datacenter SP4, Server SP2**[3, 4], **Server SP3**[3, 4], **Server SP4**	Emulex: LP850-EMC[19], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21]; IBM 00N6881 (QLA2200)[11, 12]	FC-AL, FC-SW	Y[7, 8, 9]	

IBM – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
18	Netfinity: 5000, 5500, 5500 M10 5500 M20, 7000, 7000 M10[18], 7100	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4] SP3[4], SP4. Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4] Server SP3[3, 4], Server SP4	Emulex: LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21], LP982-E[15]. QLogic QLA2200F-EMC	FC-AL, FC-SW	N	
19	Netfinity 8500R	PCI	Microsoft Windows 2000 Advanced Server: **SP2[3, 4]**, SP3[4] SP4. Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9802-E[14, 15, 17], LP982-E[14, 15, 17]	FC-AL, FC-SW	Y[7, 8, 9, 13]	See[16]
20	Netfinity: 5600, 7600; xSeries: X330[5], X335, X340 (4500R)[5], X342[5], x230, x232[5] x240[5], x250[5], **x345[5]**, x350 (6000R)[5], x370[5]	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4] SP3[4], SP4 Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9802-E[14, 15], LP9802DC-E[15, 17], LP982-E[14, 15]	FC-AL, FC-SW	Y[7, 8, 9, 13]	
21	Netfinity 8500R; **xSeries x255[5]**	PCI	Microsoft Windows 2000 Advanced Server, SP2[3, 4], SP3[4], SP4. Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	HPQ: D8602A (Agilent HHBA-5101B)[4, 27, 30, 31], D8602B (Agilent HHBA-5101C)[4, 27, 28, 29, 30]; NEC: N8103-200[21], N8503-200[21]; QLogic QLA2200F-EMC[11]	FC-AL, FC-SW	N	
22	Netfinity 8500	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4] SP4. Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	IBM 24P0960(QLA2340)[6, 10]. **QLogic: QLA2340-E-SP[2, 17], QLA2342-E-SP[2, 17]**	FC-AL, FC-SW	N	
23	Netfinity: 5600, 7600; xSeries: X330[5], X335, X340 (4500R)[5], X342[5], x230, x232[5] x240[5], x250[5], x350 (6000R)[5] x370[5]	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4. Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic QLA2200F-EMC	FC-AL, FC-SW	N	
24	**xSeries x255[5]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4**	**QLogic: QLA2310F-E-SP[2, 17], QLA2340-E-SP[2, 17], QLA2342-E-SP[2, 17]**	FC-AL, FC-SW	Y[7, 8, 9]	
25	**Netfinity 8500R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4**	**QLogic: QLA2340-E-SP[2, 17], QLA2342-E-SP[2, 17]**	FC-AL, FC-SW	Y[7, 8, 9]	
26	Netfinity 8500R; **xSeries x255[5]**	PCI	Microsoft Windows 2000 Advanced Server: **SP2[3, 4]**, SP3[4], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[4], Server SP4	Emulex LP9802DC-E[15, 17]	FC-AL, FC-SW	Y[7, 8, 9, 13]	See[16]
27	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP982-E[14, 15, 17]; **QLogic QLA2310F-E-SP[2, 17]**	FC-AL, FC-SW	N	See[16]
28	Netfinity 6000R	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic QLA2200F-EMC[11]	FC-AL, FC-SW	N	
29	**Netfinity 8500**	PCI	**Microsoft Windows 2000 Advanced Server, SP2[4] SP3[4], SP4.** **Microsoft Windows 2000 Datacenter SP4**	QLogic QLA2310F-E-SP[2, 17]	FC-AL, FC-SW	N	See[16]
30	xSeries x370[5]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4] SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4	IBM 19K1246(QLA2310)[1]	FC-AL, FC-SW	Y[7, 9]	
31	**xSeries x345[5]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4] SP4,** **Microsoft Windows 2000** Datacenter SP4, Server SP2[4] Server SP3[3, 4], Server SP4	**Emulex LP8000-EMC[19, 24]**	FC-AL, FC-SW	Y[7, 8, 9]	
32	xSeries x255[5]	PCI	Microsoft Windows 2000 Advanced Server SP2[4] SP3[4], SP4 Microsoft Windows 2000 Datacenter SP4, Server SP2[4] Server SP3[3, 4], Server SP4	Emulex LP9802-E[14, 15, 17] LP982-E[14, 15, 17]	FC-AL, FC-SW	Y[7, 8, 9, 13]	See[16]

IBM – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
33	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[18], 7100, 7600; xSeries: X330[5], X335, X340 (4500R)[5], X342[5], x230, x232[5], x240[5], x250[5], x350 (6000R)[5]	PCI	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	IBM 19K1246(QLA2310)[1]	FC-AL, FC-SW	Y[7, 9]	
34	**xSeries x345[5]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4**	**IBM 24P0960(QLA2340)[6]**	FC-AL, FC-SW	Y[7, 8, 9]	
35	**xSeries x255[5]**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4**	**IBM 24P0960(QLA2340)[6, 10]**	FC-AL, FC-SW	Y[7, 8, 9]	
36	**Netfinity 8500R**	PCI	**Microsoft Windows 2000 Advanced Server: SP3[4], SP4**	**IBM 19K1246(QLA2310)[1, 2, 10]**	FC-AL, FC-SW	Y[7, 9]	
37	**xSeries x345[5]**	PCI	**Microsoft Windows 2000 Advanced Server: SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4**	**IBM 19K1246(QLA2310)[1, 2]**	FC-AL, FC-SW	Y[7, 9]	
38	**Netfinity 6000R, 8500**	PCI	**Microsoft Windows 2000 Advanced Server: SP3[4], SP4, Microsoft Windows 2000 Datacenter SP4**	**IBM 19K1246(QLA2310)[1, 2, 10]**	FC-AL, FC-SW	N	
39	**xSeries x255[5]**	PCI	**Microsoft Windows 2000 Advanced Server: SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4**	**IBM 19K1246(QLA2310)[1, 2, 10]**	FC-AL, FC-SW	Y[7, 9]	
40	Netfinity 8500R; **xSeries x255[5]**	PCI	Microsoft Windows 2000 Datacenter SP2[3, 4]	Emulex: LP9002DC-E, LP9802-E[15]	FC-AL, FC-SW	N	
41	xSeries x370[5]	PCI	Microsoft Windows 2000 Datacenter SP2[3, 4]	Emulex: LP9802-E[15], LP9802DC-E[15, 17]	FC-AL, FC-SW	N	
42	Netfinity 8500R	PCI	Microsoft Windows 2000 Datacenter SP4	IBM 00N6881 (QLA2200)[11, 12, 22]	FC-AL, FC-SW	Y	See[16]
43	xSeries x370[5]	PCI	Microsoft Windows 2000 Datacenter SP4	IBM 00N6881 (QLA2200)[11, 12, 22]	FC-AL, FC-SW	Y	
44	**Netfinity 8500R**	PCI	**Microsoft Windows 2000 Datacenter SP4**	**IBM 19K1246(QLA2310)[1, 2, 10]**	FC-AL, FC-SW	Y	
45	Netfinity 8500R; **xSeries x255[5]**	PCI	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4]	HPQ: D8602A (Agilent HHBA-5101B)[4, 31], D8602B (Agilent HHBA-5101C)[4, 29]	FC-AL, FC-SW	N	
46	xSeries x370[5]	PCI	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4]	IBM 00N6881 (QLA2200)[11, 12]	FC-AL, FC-SW	Y	
47	Netfinity 8500R	PCI	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4]	IBM: 00N6881 (QLA2200)[11, 12], **19K1246(QLA2310)[1, 2]**	FC-AL, FC-SW	Y	
48	xSeries x370[5]	PCI	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E, LP982-E[15]; HPQ D8602A (Agilent HHBA-5101B)[4, 31]; QLogic: **QLA2340-E-SP[2, 17]**, QLA2342-E-SP	FC-AL, FC-SW	N	
49	Netfinity 8500R	PCI	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9802DC-E[15, 17], LP982-E[14, 15]; QLogic: **QLA2310F-E-SP[2]**, **QLA2340-E-SP[2, 17]**, QLA2342-E-SP	FC-AL, FC-SW	N	
50	**xSeries x255[5]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4**	**Emulex: LP8000-EMC[19, 24], LP850-EMC[19], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9802DC-E[15, 17], LP982-E[15]; IBM: 00N6881 (QLA2200)[11, 12], 19K1246(QLA2310)[1, 2]; QLogic: QLA2310F-E-SP, QLA2340-E-SP[2, 17], QLA2342-E-SP**	FC-AL, FC-SW	N	
51	Netfinity 8500R; **xSeries x370[5]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4**	**IBM 24P0960(QLA2340)[2, 6, 10]**	FC-AL, FC-SW	Y	
52	**xSeries x345[5]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4**	**IBM 24P0960(QLA2340)[6]**	FC-AL, FC-SW	N	
53	**xSeries X342**	PCI	**Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4**	**QLogic: QLA2310F-E-SP[2], QLA2340-E-SP[2, 17, 25, 26] QLA2342-E-SP[2, 17, 25, 26]**	FC-AL, FC-SW	N	
54	**xSeries x370[5]**	PCI	**Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4**	**IBM 19K1246(QLA2310)[1, 2, 10]**	FC-AL, FC-SW	Y	
55	Netfinity 8500R; **xSeries x255[5]**	PCI	Microsoft Windows 2000 Datacenter: SP3[3, 4], SP4	Emulex: LP9002DC-E[10, 14, 17, 19, 21], LP9802-E[14, 15]	FC-AL, FC-SW	N	
56	Netfinity 8500	PCI	Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19, 23], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21] LP9802-E[14, 15], LP9802DC-E[15, 17], LP982-E[14, 15]; IBM 00N6881 (QLA2200)[11, 12, 22] QLogic QLA2200F-EMC	FC-AL, FC-SW	N	
57	Netfinity 8500	PCI	Microsoft Windows 2000 Advanced Server SP2[3, 4], Server SP2[3, 4], Server SP3[3, 4], Server SP4	IBM 19K1246(QLA2310)[1, 10]	FC-AL, FC-SW	N	

IBM – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
58	**xSeries x345[5]**	PCI	**Microsoft Windows 2000: Advanced Server SP2[3, 4], Server SP2[3, 4], Server SP3[3, 4], Server SP4**	**QLogic: QLA2310F-E-SP[2, 17], QLA2340-E-SP[2, 17], QLA2342-E-SP[2, 17]**	FC-AL, FC-SW	Y[7, 8, 9]	
59	**xSeries x345[5]**	PCI	**Microsoft Windows 2000: Advanced Server SP2[4], Server SP2[4], Server SP3[4], Server SP4**	**IBM 19K1246(QLA2310)[1]**	FC-AL, FC-SW	Y[7, 9]	
60	Netfinity 8500R: **xSeries x255[5]**	PCI	Microsoft Windows 2000: Advanced Server SP2[4], Server SP2[4], Server SP3[4], Server SP4	IBM 19K1246(QLA2310)[1, 10]	FC-AL, FC-SW	Y[7, 9]	
61	xSeries x440[5]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4	IBM 00N6881 (QLA2200)[11, 12]	FC-AL, FC-SW	Y[7, 8, 9]	
62	xSeries x235[5]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21]; IBM 00N6881 (QLA2200)[11, 12]	FC-AL, FC-SW	Y[7, 8, 9]	
63	xSeries x440[5]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP850-EMC[19], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21]; QLogic: QLA2310F-E-SP[2, 17], QLA2340-E-SP[2, 17], QLA2342-E-SP[2, 17]	FC-AL, FC-SW	Y[7, 8, 9]	
64	**xSeries x360[5]**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4**	**Emulex: LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21]**	FC-AL, FC-SW	Y[7, 8, 9]	
65	xSeries x235[5]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9802-E[14, 15], LP9802DC-E[15, 17], LP982-E[14, 15]	FC-AL, FC-SW	Y[7, 8, 9, 13]	
66	**xSeries x360**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4**	**QLogic: QLA2310F-E-SP[2], QLA2340-E-SP[2, 17, 25, 26], QLA2342-E-SP[2, 17, 25, 26]**	FC-AL, FC-SW	Y[7, 8, 9]	
67	**xSeries x360[5]**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[4], Server SP4**	**Emulex LP850-EMC[19]**	FC-AL, FC-SW	Y[7, 8, 9]	
68	**xSeries x360[5]**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[3, 4], Server SP4**	**IBM 00N6881 (QLA2200)[11, 12]**	FC-AL, FC-SW	Y[7, 8, 9]	
69	xSeries x440	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP850-EMC[19]	FC-AL, FC-SW	Y[7, 8, 9]	
70	xSeries x235, **x360**, x440	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4] SP4, Microsoft Windows 2000 Datacenter SP4	QLogic QLA2200F-EMC[11]	FC-AL, FC-SW	N	
71	xSeries x440[5]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4] SP4; Microsoft Windows 2000 Datacenter: SP2[4] SP3[4], SP4. Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4	IBM 24P0960(QLA2340)[6]	FC-AL, FC-SW	Y[7, 8, 9]	
72	**xSeries x360[5]**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[4] SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4 Server SP2[4], Server SP3[3, 4] Server SP4**	**Emulex LP8000-EMC[19, 24]**	FC-AL, FC-SW	Y[7, 8, 9]	
73	xSeries **x360[5]** x440[5]	PCI-X	Microsoft Windows 2000 Advanced Server SP2[4] SP3[4] SP4 Microsoft Windows 2000 Datacenter SP4 Server SP2[4] Server SP3[3, 4] Server SP4	Emulex LP9802-E[14, 15], LP9802DC-E[15, 17] LP982-E[14, 15]	FC-AL, FC-SW	Y[7, 8, 9, 13]	

IBM – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
74	xSeries x440[5]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	Emulex LP8000-EMC[19, 24]	FC-AL, FC-SW	Y[7, 8, 9]	
75	xSeries: **x360[5]**, x440[5]	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	IBM 19K1246(QLA2310)[1]	FC-AL, FC-SW	Y[7, 9]	
76	xSeries: x235[5], **x360[5]**	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	IBM 24P0960(QLA2340)[6]	FC-AL, FC-SW	Y[7, 8, 9]	
77	**xSeries x235[5]**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP3[4], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**IBM 19K1246(QLA2310)[1, 2]**	FC-AL, FC-SW	Y[7, 9]	
78	**xSeries x235**	PCI-X	**Microsoft Windows 2000 Advanced Server: SP3[4], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**QLogic: QLA2310F-E-SP[2, 17], QLA2340-E-SP[2, 17], QLA2342-E-SP[2, 17]**	FC-AL, FC-SW	Y[7, 8, 9]	
79	xSeries x440[5]	PCI-X	Microsoft Windows 2000 Datacenter SP2[3, 4]	Emulex: LP9002DC-E, LP9802-E[15]	FC-AL, FC-SW	N	
80	xSeries x440[5]	PCI-X	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9802DC-E[15, 17], LP982-E[15]; HPQ D8602A (Agilent HHBA-5101B)[4, 31]; IBM: 00N6881 (QLA2200)[11, 12], **19K1246(QLA2310)[1, 2]**; QLogic: QLA2310F-E-SP, **QLA2340-E-SP[2, 17]**, QLA2342-E-SP	FC-AL, FC-SW	N	
81	xSeries x235[5]	PCI-X	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4	IBM 24P0960(QLA2340)[6]	FC-AL, FC-SW	N	
82	**xSeries x360**	PCI-X	**Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4**	**QLogic: QLA2310F-E-SP[2], QLA2340-E-SP[2, 17, 25, 26], QLA2342-E-SP[2, 17, 25, 26]**	FC-AL, FC-SW	N	
83	xSeries x440[5]	PCI-X	Microsoft Windows 2000 Datacenter: SP3[3, 4], SP4	Emulex: LP9002DC-E[10, 14, 17, 19, 21], LP9802-E[14, 15]	FC-AL, FC-SW	N	
84	**xSeries x235[5]**	PCI-X	**Microsoft Windows 2000: Advanced Server SP2[3, 4], Server SP2[3, 4], Server SP3[3, 4], Server SP4**	**QLogic: QLA2310F-E-SP[2, 17], QLA2340-E-SP[2, 17], QLA2342-E-SP[2, 17]**	FC-AL, FC-SW	Y[7, 8, 9]	
85	xSeries x235[5]	PCI-X	Microsoft Windows 2000: Advanced Server SP2[4], Server SP2[4], Server SP3[4], Server SP4	IBM 19K1246(QLA2310)[1]	FC-AL, FC-SW	Y[7, 9]	
86	**xSeries x445**	**PCI, PCI-X**	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4;** **Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4;** **Microsoft Windows 2000 Server: SP2[3, 4], SP3[3, 4], SP4**	**IBM 00N6881 (QLA2200)[11, 12]**	**FC-AL, FC-SW**	Y[7, 8, 9]	
87	**xSeries x360[5]**	PCI, PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4,** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4**	**Emulex: LP8000-EMC[19, 24], LP850-EMC[19], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21];** **IBM 00N6881 (QLA2200)[11, 12];** **QLogic: QLA2310F-E-SP[2, 17], QLA2340-E-SP[2, 17], QLA2342-E-SP[2, 17]**	FC-AL, FC-SW	Y[7, 8, 9]	
88	**xSeries x445**	PCI PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4.** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4**	**Emulex: LP850-EMC[19], LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9002DC-E[10, 14, 17, 19, 21];** **QLogic: QLA2310F-E-SP[2, 17], QLA2340-E-SP[2, 17], QLA2342-E-SP[2, 17]**	**FC-AL, FC-SW**	Y[7, 8, 9]	
89	**xSeries x360[5]**	PCI, PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4**	**Emulex: LP9802-E[14, 15], LP9802DC-E[15, 17], LP982-E[14, 15]**	FC-AL, FC-SW	Y[7, 8, 9, 13]	
90	**xSeries** x345, x445	PCI, PCI-X	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**QLogic QLA2200F-EMC[11]**	FC-AL, FC-SW	N	
91	xSeries x445	PCI PCI-X	Microsoft Windows 2000 Advanced Server SP2[4] SP3[4] SP4 Microsoft Windows 2000 Datacenter SP2[4] SP3[4] SP4 Microsoft Windows 2000 Server SP2[4] SP3[4] SP4	IBM 24P0960(QLA2340)[6]	FC-AL, FC-SW	Y[7, 8, 9]	

IBM – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
92	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[3, 4], Server SP4	Emulex: LP9802-E[14, 15], LP9802DC-E[15, 17], LP982-E[14, 15]	FC-AL, FC-SW	Y[7, 8, 9, 13]	
93	xSeries x445	PCI PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	Emulex LP8000-EMC[19, 24]	FC-AL, FC-SW	Y[7, 8, 9]	
94	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[4], Server SP3[4], Server SP4	IBM 19K1246(QLA2310)[1]	FC-AL, FC-SW	Y[7, 9]	
95	xSeries x345[5]	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP9002DC-E[14, 17, 19]	FC-AL, FC-SW	Y[7, 8, 9]	
96	xSeries x345	PCI, PCI-X	Microsoft Windows 2000 Advanced Server: SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic: QLA2310F-E-SP[2, 17], QLA2340-E-SP[2, 17], QLA2342-E-SP[2, 17]	FC-AL, FC-SW	Y[7, 8, 9]	
97	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Datacenter SP2[3, 4]	Emulex: LP9002DC-E, LP9802-E[15]	FC-AL, FC-SW	N	
98	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Datacenter: SP2[3, 4], SP3[3, 4], SP4	Emulex: LP8000-EMC[19, 24], LP850-EMC[19] LP9002-E (LP9002L-E)[14, 17, 19, 20], LP9802DC-E[15, 17], LP982-E[15]; HPQ D8602A (Agilent HHBA-5101B)[4, 31]; IBM: 00N6881 (QLA2200)[11, 12], 19K1246(QLA2310)[1, 2]; QLogic: QLA2310F-E-SP, QLA2340-E-SP[2, 17], QLA2342-E-SP	FC-AL, FC-SW	N	
99	xSeries x445	PCI, PCI-X	Microsoft Windows 2000 Datacenter: SP3[3, 4], SP4	Emulex: LP9002DC-E[10, 14, 17, 19, 21], LP9802-E[14, 15]	FC-AL, FC-SW	N	
100	Netfinity 8500R; xSeries x255[5]	PCI	Microsoft Windows 2000 Advanced Server SP2[3, 4]	QLogic QLA2310F-E-SP[2, 25, 26]	FC-AL[32]	Y[7, 8, 9]	
101	Netfinity: 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server SP2[3, 4]	QLogic QLA2310F-E-SP[2, 25, 26]	FC-AL[32]	N	
102	Netfinity 8500R; xSeries x255[5]	PCI	Microsoft Windows 2000 Advanced Server: SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic QLA2310F-E-SP[2, 26]	FC-AL[32]	Y[7, 8, 9]	
103	Netfinity: 6000R, 8500	PCI	Microsoft Windows 2000 Advanced Server: SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic QLA2310F-E-SP[2, 26]	FC-AL[32]	N	
104	eServer BladeCenter HS20 (Model 8678)[37]	PCI-X[34]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4	IBM HS20 FC Expansion card 48P7061[33, 34, 35, 36]	FC-SW	Y	

1 This HBA is equivalent to the qLogic QLA2310
2. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
3. Symmetrix 8000 Series. 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1. SP2 and SP3.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5 For IBM xSeries Servers running Windows NT and Windows 2000 with IBM ServerRaid controller 4M, the ServerRaid Driver must be 6.00 or above for use with EMC PowerPath 3.0 and above. IBM driver can be downloaded at: http://www-3.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-39723
6 This HBA is equivalent to the qLogic QLA2340.
7 Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported
8 Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
9. MSCS cluster configurations are supported. PowerPath 3.0 or greater required
10. Host must be offline for interfamily Symmetrix microcode upgrade.
11 Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com Supports SNIA HBA API.
12. (QLA2200) For IBM xSeries and Netfinity servers only.
13. CLARiiON CX200 NOTE. Requires 1 00x3 for direct-connect configurations only.
14 The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3 3 VDC bus power The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces
15 Requires driver 2.20a12, firmware 1.00a4, and bios 1 62a1 Supports SNIA HBA API Drivers available at http://www.emulex.com
16 Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B
17 QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.)
18. This server only supports 5 Volt HBAs qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000 and Emulex LP850 (if applicable)
19 Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1 62a1. Supports SNIA HBA API Available at http://www.emulex.com
20 The LP9002-E now ships with the LP9002L-E low profile adapter.
21 Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com Supports SNIA HBA API
NOTE. LP8000/850 HBAs without -EMC label must have minimum rev dragonfly 2 0 of the Emulex ASIC.
22 For IBM Netfinity and xSeries Intel servers only
23 Not supported with the HP NetServer LC-2000
24 The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
25 **Qlogic SanBlade Manager is not supported.**
26 **Qlogic SANSurfer/SANBlade Manager is not supported.**
27. Does not support Connectrix DS-16M DS-32M or McData ED-5000
28 Requires manual intervention on bootup to clear "new hardware found" message box at boot time
29 The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A must be ordered separately from HP.
30 Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper/notes/bsdmatrix/matrix213991.html
31 (HHBA-5101BK-01)

32. Supported by direct attach only
33. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"**

    This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.
34. **This server has a built-in FC-SW and must be direct-attached to the external storage.**
35. **Due to the HS20's embedded FC-SW design, EMC Volume Logix is required to assign LUNS to each individual blade server.**
36. **IBM BIOS 1.34, EMC Approved Qlogic Driver Version 8.2.2.25. Available at http://www.qlogic.com.**
37. **EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.**
38. **IBM HS20 Fibre Channel Expansion Card (48P7061)**

NCR

NCR – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	QLogic QLA2200F-EMC	FC-AL	N
2	Worldmark 4455	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[6, 7], LP850-EMC[7], LP9002-E (LP9002L-E)[4, 7, 11, 12], LP9002DC-E[4, 7, 12, 13, 14], LP9802-E[4, 10], LP9802DC-E[4, 10], LP982-E[10]	FC-AL, FC-SW	N
3	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP8000-EMC[6, 7], LP850-EMC[7]; **QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]
4	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows 2000 Advanced Server: SP2[8, 9], SP3[8], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[8, 9], Server SP3[8, 9], Server SP4	Emulex: LP9002-E (LP9002L-E)[4, 7, 11, 12], LP9002DC-E[4, 7, 12, 13, 14], LP9802-E[4, 10], LP9802DC-E[4, 10], LP982-E[10]	FC-AL, FC-SW	N

1. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.
2. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
3. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
4. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
5. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
8. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
9. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
10. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
11. The LP9002-E now ships with the LP9002L-E low profile adapter.
12. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
13. Host must be offline for interfamily Symmetrix microcode upgrade.
14. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

NEC

NEC – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Express 5800: 140Ma, 180Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	QLogic QLA2200F-EMC[19]	FC-AL	N	
2	**Express 5800: 320La[6], 320La-R[6], 320Lb[6], 320Lb-R[6], 330Ma-R[6], 330Mb-R[6], 340Ha-R[6]**	**PCI**	**Microsoft Windows 2000 Advanced Server SP3[4]**	**NEC N8190-105[21]**	**FC-AL, FC-SW**	**Y**	
3	**Express 5800, 320La[6], 320La-R[6], 320Lb[6] 320Lb-R[6], 330Ma-R[6], 330Mb-R[6] 340Ha-R[6]**	**PCI**	**Microsoft Windows 2000 Advanced Server SP3[4]**	**NEC N8803-031 (QLA2310F)[2, 14, 15, 22]**	**FC-AL, FC-SW**	**N**	**See[23, 24]**
4	Express 5800, 120Ra-2, 140Ha, 180Ha	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4] SP3[4], SP4; Microsoft Windows 2000, Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[16, 17], LP850-EMC[16], LP9002-E (LP9002L-E)[9, 15, 16, 18], LP9002DC-E[7, 9, 15, 16, 20], LP9802-E[8, 9], LP9802DC-E[8, 15], LP982-E[8, 9]; NEC: N8190-105[9, 15, 21], N8503-200[7]; QLogic: QLA2200F-EMC, **QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15], QLA2342-E-SP[14, 15]**	FC-AL, FC-SW	N	
5	Express 5800: 140Ma, 180Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[16, 17], LP850-EMC[16], LP9002-E (LP9002L-E)[9, 15, 16, 18], LP9002DC-E[7, 9, 15, 16, 20], LP9802-E[8, 9], LP9802DC-E[8, 15], LP982-E[8, 9]; NEC: N8190-105[9, 15, 21], N8503-200[7]; **QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15], QLA2342-E-SP[14, 15]**	FC-AL, FC-SW	N	
6	Express 5800, 120Rd-1, 120Rd-2, 120Rf-2, 140Hd, 140Rb-4, 140Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[16, 17], LP850-EMC[16], LP9002-E (LP9002L-E)[9, 15, 16, 18], LP9002DC-E[7, 9, 15, 16, 20], LP982-E[8]; NEC: N8103-200[7], N8190-105[9, 15, 21], N8503-200[7]; QLogic: QLA2200F-EMC	FC-AL, FC-SW	N	

NEC – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
7	Express 5800 180Rb-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4] SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[16, 17], LP850-EMC[16], LP9002-E (LP9002L-E)[9, 15, 16, 18], LP9002DC-E[7, 9, 15, 16, 20], LP982-E[8]; NEC: N8190-105[9, 15, 21], N8503-200[7]; QLogic QLA2200F-EMC	FC-AL, FC-SW	N	
8	Express 5800: 120Md, 120Rc-2, 140Hb, 140Ra-4, 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4 Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP8000-EMC[16, 17], LP850-EMC[16], LP9002-E (LP9002L-E)[9, 15, 16, 18], LP9002DC-E[7, 9, 15, 16, 20]; NEC N8190-105[9, 15, 21]; **QLogic: QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15], QLA2342-E-SP[14, 15]**	FC-AL, FC-SW	Y[10, 11, 12]	
9	Express 5800: 120Md, 120Rc-2, 140Hb, 140Ra-4, 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4 Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	Emulex: LP9802-E[8, 9], LP9802DC-E[8, 15], LP982-E[8, 9]	FC-AL, FC-SW	Y[10, 11, 12, 13]	
10	Express 5800: 120Rc-2, 140Hb, 140Ra-7	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4. Microsoft Windows 2000 Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	NEC N8503-200[7]; QLogic QLA2200F-EMC	FC-AL, FC-SW	N	
11	Express 5800 120Md	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	NEC N8503-200[7]; QLogic QLA2200F-EMC[19]	FC-AL, FC-SW	N	
12	Express 5800 140Ra-4	PCI	Microsoft Windows 2000 Advanced Server: SP2[3, 4], SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[3, 4], Server SP3[3, 4], Server SP4	NEC: N8103-200, N8503-200[7]; QLogic QLA2200F-EMC	FC-AL, FC-SW	N	
13	**Express 5800: 120Ra-2, 120Rd-1, 120Rd-2, 120Rf-2, 140Ha, 140Hd, 140Ma 140Rb-4, 140Rc-4, 180Ha, 180Rb-7, 180Rc-4**	**PCI**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4**	**Emulex LP850-EMC; NEC: N8190-105[21], N8503-200**	**FC-AL, FC-SW**	Y	
14	**Express 5800: 120Md, 120Rc-2, 140Hb, 140Ra-4, 140Ra-7**	**PCI**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4**	**NEC N8503-200**	**FC-AL, FC-SW**	Y	
15	Express 5800 180Rc-4	PCI	Microsoft Windows 2000 Advanced Server: SP3[4], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP3[3, 4], Server SP4	NEC N8103-200[7]; QLogic QLA2200F-EMC	FC-AL, FC-SW	N	
16	Express 5800 180Rc-4	PCI	Microsoft Windows 2000: Advanced Server SP2[3, 4], Server SP2[3, 4]	NEC N8103-200; QLogic QLA2200F-EMC[19]	FC-AL, FC-SW	N	
17	**Express 5800 180Rc-4**	PCI	**Microsoft Windows 2000 Advanced Server SP2[3, 4]**	**QLogic QLA2310F-E-SP[2, 14, 22]**	FC-AL[5]	N	
18	**Express 5800 180Rc-4**	PCI	**Microsoft Windows 2000 Advanced Server: SP3[4], SP4, Microsoft Windows 2000 Datacenter SP4**	**QLogic QLA2310F-E-SP[2, 14]**	FC-AL[5]	N	
19	**Express 5800: 320La[6], 320La-R[6], 320Lb[6], 320Lb-R[6], 330Ma-R[6], 330Mb-R[6], 340Ha-R[6]**	PCI	**Microsoft Windows 2000 Advanced Server SP2[3, 4]**	**QLogic QLA2310F-E-SP[1, 2]**	FC-AL[5], FC-SW	N	
20	**Express 5800: 320La[6], 320La-R[6], 320Lb[6], 320Lb-R[6], 330Ma-R[6], 330Mb-R[6], 340Ha-R[6]**	PCI	**Microsoft Windows 2000 Advanced Server SP3[4]**	**QLogic QLA2310F-E-SP[1, 2, 14]**	FC-AL[5], FC-SW	N	**See[23, 24]**

1. **Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**
2. **Qlogic SANSurfer/SANBlade Manager is not supported.**
3. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Supported by direct attach only
6. **Bus Enumeration Issue Causes Problems using SYMCLI SCSI bus enumeration of disks will change depending on cold boot or warm boot. This causes symcli commands to fail because the path is changed and SYMCLI can no longer communicate with the Symmetrix.**

   By "shutdown" and booting system, internal disks are assigned first, followed by Symmetrix disks.
   By "restart" the system, Symmetrix disks are assigned first, followed by internal disks. Drive letter are not changed in both cases.
   The workaround is to perform "symcfg discover" after rebooting.
7. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
   NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
8. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com
9. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
10. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.
11. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
12. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
13. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
14. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
15. QLogic 23xx, and Emulex LP2xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.)
16. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com
17. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
18. The LP9002-E now ships with the LP9002L-E low profile adapter.
19. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
20. Host must be offline for interfamily Symmetrix microcode upgrade.
21. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.
22. **Qlogic SanBlade Manager is not supported.**

23. Windows 2000 Professional is supported as the management workstation
24. CX200 available through selected channels.

SUPERMICRO

SUPERMICRO – Microsoft Windows 2000						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Super P3TDL3[8]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Emulex LP982-E[11, 16]	FC-AL, FC-SW	Y[1, 2, 3, 17]
2	Super P3TDL3[8]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	QLogic QLA2200F-EMC[14]	FC-AL, FC-SW	N
3	Super: P3TDL3[8], S2DL3[8]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP8000-EMC[10, 15], LP850-EMC[10], LP9002-E (LP9002L-E)[5, 9, 10, 11], LP9002DC-E[5, 10, 11, 12, 13]; **QLogic: QLA2310F-E-SP[4, 5], QLA2340-E-SP[4, 5], QLA2342-E-SP[4, 5]**	FC-AL, FC-SW	Y[1, 2, 3]
4	Super P3TDL3[8]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex: LP9802-E[16], LP9802DC-E[5, 16]	FC-AL, FC-SW	Y[1, 2, 3, 17]
5	Super S2DL3[8]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	Emulex. LP9802-E[16], LP9802DC-E[5, 16], LP982-E[11, 16]	FC-AL, FC-SW	Y[1, 2, 3, 17]
6	Super S2DL3[8]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6, 7], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6, 7], Server SP3[6, 7], Server SP4	QLogic QLA2200F-EMC[14]	FC-AL, FC-SW	N
7	Super P3TDL3[8]	PCI	Microsoft Windows 2000 Server: SP2[6, 7], SP3[6, 7], SP4	Emulex LP982-E[11]	FC-AL, FC-SW	Y[1, 2, 3, 16, 17]

1. Booting Windows 2000 systems through ISLs (inter-switch links) in heterogenous fabrics is not currently supported.
2. Booting Windows 2000 systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
3. MSCS cluster configurations are supported. PowerPath 3.0 or greater required.
4. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
5. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
6. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
7. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
8. 64-bit slots for 3.3v HBAs only.
9. The LP9002-E now ships with the LP9002L-E low profile adapter.
10. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
11. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
12. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
    NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
13. Host must be offline for interfamily Symmetrix microcode upgrade.
14. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
15. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
16. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API Drivers available at http://www.emulex.com.
17. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.

Stratus

Stratus – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	ftServer: 3210[6], 3220[6], 3300[6], 5200[6]	PCI	Microsoft Windows 2000 Advanced Server SP2[4, 5]	QLogic QLA2310F-E-SP[1, 2, 3]	FC-AL, FC-SW	N	
2	ftServer: 3210[6], 3220[6], 3300[6], 5200[6], 5240[6], 6500[6]	PCI	Microsoft Windows 2000 Advanced Server SP3[4, 5, 8, 9]	QLogic QLA2310F-E-SP[1, 2, 3]	FC-AL, FC-SW	N	See[7]

Qlogic SANSurfer/SANBlade Manager is not supported.

2. **Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**
3. **FC-AL supported for direct attach only. No support for hubs or Quickloop at this time.**
4. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
5. **Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.**
6. **Bus Enumeration Issue Causes Problems using SYMCLI SCSI bus enumeration of disks will change depending on cold boot or warm boot. This causes symcli commands to fail because the path is changed and SYMCLI can no longer communicate with the Symmetrix.**

   By "shutdown" and booting system, internal disks are assigned first, followed by Symmetrix disks.
   By "restart" the system, Symmetrix disks are assigned first, followed by internal disks. Drive letter are not changed in both cases.
   The workaround is to perform "symcfg discover" after rebooting.
7. **Windows 2000 Professional is supported as the management workstation.**
8. **Refer to the Stratus, Bull or NEC documentation for hardware, software and non-storage related setup and configuration.**
9. **Requires Stratus ftServer 1.2.2.x.**
   Requires Microsoft HotFix Q327477. available from Microsoft customer support.
   Requires VxVM 2.7 HotFix 5A. available from http://support.veritas.com/index.htm choose support downloads, choose Volume Manager, choose Volume Manager for Windows 2000. Choose VM2K27HF05aENU 248733.exe Patch - VERITAS Volume Manager 2.7 for Windows 2000 HotFix05a. English Version Size: 5892Kb
   Requires PowerPath 3.0.0 or higher.

Unisys

Unisys – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	ES2023; ES2024; ES2043; ES2044; ES2045; ES2085; ES5024; ES5043; ES5044; ES5045; ES5085	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)[9]	FC-AL	Y[13]	
2	ES7000/200	PCI	Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4	Unisys PCI 1120-FC (QLA2100-EMC, QLA2100F)	FC-AL	Y	
3	**Libra Model 185**	**Mainframe Bus, PCI**	**Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4;** **Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4;** **Microsoft Windows 2000 Server: SP2[5, 6], SP3[5, 6], SP4**	**Emulex: LP8000-EMC[2, 10], LP850-EMC[2], LP9002-E (LP9002L-E)[1, 2, 3, 4], LP982-E[14]**	**FC-AL, FC-SW**	**N**	
4	**Libra Model 185**	**Mainframe Bus, PCI**	**Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4;** **Microsoft Windows 2000 Datacenter: SP3[5, 6], SP4;** **Microsoft Windows 2000 Server: SP2[5, 6], SP3[5, 6], SP4**	**Emulex LP9002DC-E[1, 2, 3, 9, 15]**	**FC-AL, FC-SW**	**N**	
5	**Libra Model 180[7, 8]**	Mainframe Bus, PCI	**Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4**	**Emulex LP9002DC-E[1, 2, 3, 9, 15]**	FC-AL, FC-SW	N	
6	**Libra Model 180[7, 8]**	Mainframe Bus, PCI	**Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4;** **Microsoft Windows 2000 Datacenter: SP2[6], SP3[6], SP4**	**Emulex: LP8000-EMC[2, 10], LP850-EMC[2], LP9002-E (LP9002L-E)[1, 2, 3, 4], LP982-E[14];** **Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)**	FC-AL, FC-SW	N	
7	**Libra Model 185**	**Mainframe Bus, PCI**	**Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4;** **Microsoft Windows 2000 Datacenter: SP2[6], SP3[6], SP4**	**Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)**	**FC-AL, FC-SW**	**N**	
8	**Libra Model 185**	**Mainframe Bus, PCI**	**Microsoft Windows 2000 Datacenter SP2[5, 6]**	**Emulex: LP9002DC-E, LP9802-E[14]**	**FC-AL, FC-SW**	**N**	
9	**Libra Model 180[7, 8]**	Mainframe Bus, PCI	**Microsoft Windows 2000 Datacenter SP2[6]**	**Emulex: LP9802-E[14], LP9802DC-E[1, 14]**	FC-AL, FC-SW	N	
10	**Libra Model 185**	**Mainframe Bus, PCI**	**Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4**	**Emulex LP9802DC-E[1, 14];** **HPQ D8602A (Agilent HHBA-5101B)[6, 17];** **QLogic QLA2340-E-SP[1, 16]**	**FC-AL, FC-SW**	**N**	
11	**Libra Model 180[7, 8]**	Mainframe Bus, PCI	**Microsoft Windows 2000 Datacenter: SP2[6], SP3[6], SP4**	**Emulex LP9002DC-E;** **HPQ D8602A (Agilent HHBA-5101B)[6, 17];** **QLogic QLA2340-E-SP[1, 16]**	FC-AL, FC-SW	N	
12	**Libra Model 185**	**Mainframe Bus, PCI**	**Microsoft Windows 2000 Datacenter: SP3[5, 6], SP4**	**Emulex LP9802-E[3, 14]**	**FC-AL, FC-SW**	**N**	
13	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4, Microsoft Windows 2000 Server: SP2[5, 6], SP3[5, 6], SP4	Emulex: LP850-EMC[9], LP9002-E (LP9002L-E)[1, 3, 4, 9], LP9002DC-E[1, 2, 3, 9, 15], LP982-E[14]; Unisys FCH732213-P64 (LP9002L-F2)[9]	FC-AL, FC-SW	N	
14	ES7000/100	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4; Microsoft Windows 2000 Server: SP2[5, 6], SP3[5, 6], SP4	Emulex LP8000-EMC[10]	FC-AL, FC-SW	N	
15	ES2023; ES2024; ES2043; ES2044; ES2045; ES2085; ES5024; ES5043; ES5044; ES5045; ES5085; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6], SP3[6], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex LP8000-EMC[10]	FC-AL, FC-SW	N	
16	ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4	Unisys FCH732213-P64 (LP9002L-F2)[9]	FC-AL, FC-SW	N	
17	ES2025	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6] SP4; Microsoft Windows 2000 Datacenter SP4	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC LP8000-F1)[9]	FC-AL, FC-SW	N	
18	ES7000/230	PCI	Microsoft Windows 2000 Advanced Server: SP2[6] SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)[9]	FC-AL, FC-SW	Y[12, 13]	
19	ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter SP4	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)[9]	FC-AL, FC-SW	Y[13]	
20	ES7000/230	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4	Unisys FCH732213-P64 (LP9002L-F2)[9]	FC-AL, FC-SW	N	
21	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4, Microsoft Windows 2000 Datacenter: SP2[5, 6] SP3[5, 6] SP4; Microsoft Windows 2000 Server: SP2[6], SP3[6] SP4	Emulex: LP850-EMC[9], LP9002-E (LP9002L-E)[1, 3, 4, 9] LP9002DC-E[1, 2, 3, 9, 15], LP9802DC-E[1, 14]	FC-AL, FC-SW	N	
22	CS7101[7]	PCI	Microsoft Windows 2000 Advanced Server: SP2[6] SP3[6] SP4, Microsoft Windows 2000 Datacenter: SP2[6], SP3[6], SP4 Microsoft Windows 2000 Server: SP2[6], SP3[6] SP4	Emulex: LP8000-EMC[10], LP850-EMC LP9002-E (LP9002L-E), LP9002DC-E, LP982-E; QLogic QLA2340-E-SP	FC-AL, FC-SW	N	
23	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[6] SP3[6] SP4, Microsoft Windows 2000 Server: SP2[6], SP3[6] SP4	Emulex LP9802-E[1]	FC-AL, FC-SW		

Unisys – Microsoft Windows 2000

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
24	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4	Emulex: LP8000-EMC[10], LP982-E[1, 3, 14]	FC-AL, FC-SW	N	
25	ES7000/520; ES7000/530; ES7000/540	PCI	Microsoft Windows 2000 Advanced Server: SP2[6], SP3[6], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[6], Server SP3[6], Server SP4	Unisys FCH732213-P64 (LP9002L-F2)[9]	FC-AL, FC-SW	N	
26	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter SP2[5, 6]	Emulex LP9802-E[14]	FC-AL, FC-SW	N	
27	CS7201[7], **CS7211**; **Libra Model 180**[7, 8]	PCI	Microsoft Windows 2000 Datacenter SP2[5, 6]	Emulex: LP9002DC-E, LP9802-E[14]	FC-AL, FC-SW	N	
28	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter SP3[5, 6]	Emulex LP9802-E[3, 14]	FC-AL, FC-SW	N	
29	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter SP4	Emulex LP9802-E[1, 3, 14]	FC-AL, FC-SW	N	
30	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6]	Emulex LP982-E[14]	FC-AL, FC-SW	N	
31	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4	Emulex LP8000-EMC[9, 10]	FC-AL, FC-SW	Y	
32	ES7000/200	PCI	Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4	Emulex LP8000-EMC[9, 10]; QLogic QLA2204F[19]	FC-AL, FC-SW	Y	
33	CS7201[7]; **CS7211**; **Libra Model 180**[7, 8]	PCI	Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4	Emulex LP9802DC-E[1, 14]; HPQ D8602A (Agilent HHBA-5101B)[6, 17]; **QLogic QLA2340-E-SP**[1, 16]	FC-AL, FC-SW	N	
34	ES7000/200	PCI	Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4	Emulex LP9802DC-E[1, 14]; HPQ D8602A (Agilent HHBA-5101B)[6, 17]; QLogic: **QLA2340-E-SP**[1, 16]; QLA2342-E-SP	FC-AL, FC-SW	N	
35	ES7000/100	PCI	Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4	Emulex: LP8000-EMC[9, 10], LP9802DC-E[1, 14]; HPQ D8602A (Agilent HHBA-5101B)[6, 17]; QLogic: **QLA2340-E-SP**[1, 16]; QLA2342-E-SP	FC-AL, FC-SW	N	
36	ES7000/230; ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[5, 6], SP3[5, 6], SP4	HPQ D8602A (Agilent HHBA-5101B)[6, 17]; QLogic: **QLA2340-E-SP**[1, 16]; QLA2342-E-SP	FC-AL, FC-SW	N	
37	ES7000/500	PCI	Microsoft Windows 2000 Datacenter: SP2[6], SP3[6], SP4; Microsoft Windows 2000 Server: SP2[6], SP3[6], SP4	Unisys FCH732213-P64 (LP9002L-F2)[9]	FC-AL, FC-SW	N	See[18]
38	CS7201[7]; **CS7211**; ES7000/100; ES7000/200; **Libra Model 180**[7, 8]	PCI	Microsoft Windows 2000 Datacenter: SP3[5, 6], SP4	Emulex LP9802-E[3, 14]	FC-AL, FC-SW	N	
39	ES7000/230	PCI	Microsoft Windows 2000 Server: SP2[6], SP3[6], SP4	Unisys FCH732213-P64 (LP9002L-F2)[9]	FC-AL, FC-SW	N	See[18]
40	ES7000/230	PCI	Microsoft Windows 2000 Server: SP2[6], SP3[6], SP4	Unisys: FCH20111-P64 (LP8000-D1)[9], FCH20113-P64 (LP8000-EMC, LP8000-F1)[9]	FC-AL, FC-SW	Y[12, 13]	See[18]
41	ES7000/500	PCI	Microsoft Windows 2000 Server: SP2[6], SP3[6], SP4	Unisys: FCH20111-P64 (LP8000-D1)[9], FCH20113-P64 (LP8000-EMC, LP8000-F1)[9]	FC-AL, FC-SW	Y[13]	See[18]
42	CS7201[7]; **CS7211**; **Libra Model 180**[7, 8]	PCI	Microsoft Windows 2000: Advanced Server SP2[5, 6], Datacenter SP2[5, 6], Datacenter SP3[5, 6], Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex: LP8000-EMC[2, 10], LP850-EMC[2], LP9002-E (LP9002L-E)[1, 2, 3, 4], LP982-E[14]	FC-AL, FC-SW	N	
43	CS7201[7]; **CS7211**; **Libra Model 180**[7, 8]	PCI	Microsoft Windows 2000: Advanced Server SP2[5, 6], Datacenter SP3[5, 6], Datacenter SP4, Server SP2[5, 6], Server SP3[5, 6], Server SP4	Emulex LP9002DC-E[1, 2, 3, 9, 15]	FC-AL, FC-SW	N	
44	ES7000/100; ES7000/200	PCI	Microsoft Windows 2000 Advanced Server: SP2[5, 6] SP3[6], SP4, Microsoft Windows 2000 Datacenter SP4, Server SP2[5, 6] Server SP3[5, 6], Server SP4	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)[9]	FC-AL[11], FC-SW	Y[12, 13]	

1. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
2. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
3. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
4. The LP9002-E now ships with the LP9002L-E low profile adapter
5. Symmetrix 8000 Series' 66/67 support at Windows 2000 SP1, SP2 and SP3. 5568 support at Windows 2000 SP1, SP2 and SP3
6. EMC strongly recommends that HBAs of different vendors not be used in the same host server
7. Hardware and adapters similar to Unisys ES7000-100, ES7000-200
8. **The Libra 18x includes native MCP,and Virtual Machine for MCP (Windows MCPvm) partitions**
9. Requires driver 2.20a12, firmware 3.90a7 and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API
   NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. Supported by direct attach only
12. The boot path should be zoned so that the boot device on a FA port should only be visible to one HBA
13. MSCS cluster configurations are supported. PowerPath 3.0 or greater required
14. Requires driver 2.20a12, firmware 1.00a4 and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com
15. Host must be offline for interfamily Symmetrix microcode upgrade
16. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
17. (HHBA-5101BK-01)
18. Cables to be ordered from Fujitsu Services (ICL)
19. Requires driver 8.1.5.20 and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API

Microsoft Windows 2003

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Dell

Dell – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	PowerEdge: 6400, 6450, 6450	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	PowerEdge: 2600, 2650, 4600, 6600, 6650	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[6], LP9802DC-E[6], LP982-E[6], QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. PowerPath is not supported.
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Primergy: B210, C200, E200, F200, H200, H400, K400, L200, N200, N400, P200, P250, R450, RX100, T850	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	Primergy: F250[8], H250[8], H450, N800, RX200, RX300	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. PowerPath is not supported
5. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
8. Must use standard PCI 32bit/33MHz slot for SCSI

HPQ

HPQ – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Proliant **8500**, DL320[3], DL360[3], DL360(G2)[3], **DL380**[3], **DL380(G2)**[3], **DL380(G3)**, DL580[3], ML350[3], ML350(G2)[3], ML370[3], ML370(G2), ML370(G3), ML530[3], ML530(G2)[3], ML570[3], ML750[3]	PCI	Microsoft Windows 2003: DataCenter[4, 5, 6], Enterprise Edition (Advanced Server)[4, 5, 6], Standard Edition (Server)[4, 5, 6]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N
2	Proliant: BL40p, DL360(G3), DL560 **DL560 (G2)**, DL740, DL760[3], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows 2003: DataCenter[4, 5, 6], Enterprise Edition (Advanced Server)[4, 5, 6], Standard Edition (Server)[4, 5, 6]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	N
3	Proliant BL20p (G2)[10, 11]	PCI-X[12]	Microsoft Windows 2003: DataCenter[4, 5, 6], Enterprise Edition (Advanced Server)[4, 5, 6], Standard Edition (Server)[4, 5, 6]	HPQ Dual-port mezzanine controller card[8, 9]	FC-AL, FC-SW	N
4	Proliant DL580(G2)[3] **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2003: DataCenter[4, 5, 6], Enterprise Edition (Advanced Server)[4, 5, 6], Standard Edition (Server)[4, 5, 6]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[7], LP9802DC-E[7], LP982-E[7]; QLogic: QLA2310F-E-SP[8], QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL FC-SW	N

HPQ – Microsoft Windows 2003

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
5	Proliant: **8500**, DL320[3], DL360[3], DL360(G2)[3], **DL380**[3], **DL380(G2)**[3], **DL380(G3)**, DL580[3], ML350[3], ML350(G2)[3], ML370[3], ML370(G2), ML370(G3), ML530[3], ML530(G2)[3], ML570[3], ML750[3]	PCI	Microsoft Windows 2003: DataCenter[4, 5, 6], Enterprise Edition (Advanced Server)[4, 5, 6], Standard Edition (Server)[4, 5, 6]	HPQ: FCA2354 (LP9002)[2], FCA2355 (LP9002DC)[2]	FC-SW	N
6	Proliant: BL40p, DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[3], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows 2003: DataCenter[4, 5, 6], Enterprise Edition (Advanced Server)[4, 5, 6], Standard Edition (Server)[4, 5, 6]	HPQ: FCA2354 (LP9002)[2], FCA2355 (LP9002DC)[2]	FC-SW	N
7	Proliant: DL580(G2)[3], **DL580(G3)**	PCI, PCI-X	Microsoft Windows 2003: DataCenter[4, 5, 6], Enterprise Edition (Advanced Server)[4, 5, 6], Standard Edition (Server)[4, 5, 6]	HPQ: FCA2354 (LP9002)[2], FCA2355 (LP9002DC)[2]	FC-SW	N

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN]:817789
3. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
6. PowerPath is not supported.
7. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN]:817789
8. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN]:817789
9. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
10. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
11. BIOS must be obtained from HP at http://h18000 www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
12. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.

IBM

IBM – Microsoft Windows 2003

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x350 (6000R), x370	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; IBM: 19K1246(QLA2310)[7, 9], 24P0960(QLA2340)[7, 8]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	xSeries: x235, **x255**, **x360**, x440	PCI-X	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; IBM: 19K1246(QLA2310)[7, 9], 24P0960(QLA2340)[7, 8]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
3	**xSeries: x345, x445**	PCI, PCI-X	**Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]**	**Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[6], LP9802DC-E[6], LP982-E[6];** **IBM: 19K1246(QLA2310)[7, 9], 24P0960(QLA2340)[7, 8];** **QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]**	FC-AL, FC-SW	N
4	**eServer BladeCenter HS20 (Model 8678)[14]**	**PCI-X[15]**	**Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]**	**IBM HS20 FC Expansion card 48P7061[10, 11, 12, 13]**	**FC-SW**	Y

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN]:817789
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. PowerPath is not supported.
5. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN]:817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb:[LN]:817789
8. This HBA is equivalent to the qLogic QLA2340
9. This HBA is equivalent to the qLogic QLA2310
10. **Due to the HS20's embedded FC-SW design, EMC Volume Logix is required to assign LUNS to each individual blade server.**
11. **This server has a built-in FC-SW and must be direct-attached to the external storage.**
12. **IBM BIOS 1.34, EMC Approved Qlogic STORPort Driver Version 8.2.2.20. Available at http://www.qlogic.com.**
13. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"**

    This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.
14. **EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.**
15. **IBM HS20 Fibre Channel Expansion Card (48P7061)**

NCR

NCR – Microsoft Windows 2003

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Worldmark 45xx	MCA	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6] QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N

NCR – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
2	Worldmark: 4500, 4700, 47XX, 4850, 48XX, 4900, 4950, 5100 Series, 5150, 5250, 52XX 5300, 5350, 8550, S50	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N

1. Requires STORPort driver version 1.00a15 and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. The LP8000-EMC HBA has a permanent GBIC and does not have copper cable support.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. PowerPath is not supported
6. Requires STORPort driver version 1.00a15 and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20 and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

NEC

NEC – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Express 5800: 120Rd-1, 120Rf-2, 140Hd 140Rc-4, 180Rc-4	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[1], LP9002DC-E[1], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	N
2	**Express 5800: 320La[12], 320La-R[12], 320Lb[12], 320Lb-R[12], 330Ma-R[12], 330Mb-R[12], 340Ha-R[12]**	PCI	**Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]**	**NEC N8803-031 (QLA2310F)**	**FC-AL, FC-SW**	**Y**
3	**Express 5800: 320La[12], 320La-R[12], 320Lb[12], 320Lb-R[12], 330Ma-R[12], 330Mb-R[12], 340Ha-R[12]**	PCI	**Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]**	**NEC N8803-031 (QLA2310F)[8, 9, 10, 11]**	**FC-AL, FC-SW**	**N**

1. Requires STORPort driver version 1.00a15 and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
5. PowerPath is not supported
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
8. **Qlogic SANSurfer/SANBlade Manager is not supported.**
9. **QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).**
10. **Qlogic SanBlade Manager is not supported.**
11. **Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.**
12. **Bus Enumeration Issue Causes Problems using SYMCLI SCSI bus enumeration of disks will change depending on cold boot or warm boot. This causes symcli commands to fail because the path is changed and SYMCLI can no longer communicate with the Symmetrix.**

By "shutdown" and booting system, internal disks are assigned first, followed by Symmetrix disks.
By "restart" the system, Symmetrix disks are assigned first, followed by internal disks. Drive letter are not changed in both cases.
The workaround is to perform "symcfg discover" after rebooting.

Unisys

Unisys – Microsoft Windows 2003						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows 2003: DataCenter[3, 4, 5], Enterprise Edition (Advanced Server)[3, 4, 5], Standard Edition (Server)[3, 4, 5]	Emulex: LP8000-EMC[1, 2], LP9002-E (LP9002L-E)[2], LP9002DC-E[2], LP9802-E[6], LP9802DC-E[6], LP982-E[6]; QLogic: QLA2310F-E-SP[7], QLA2340-E-SP[7], QLA2342-E-SP[7]; Unisys: FCH20111-P64 (LP8000-D1)[2], FCH20113-P64 (LP8000-EMC, LP8000-F1)[2], FCH732213-P64 (LP9002L-F2)[2]	FC-AL, FC-SW	N

1. The LP8000-EMC HBA has a permanent GBIC and does not have copper cable support.
2. Requires STORPort driver version 1.00a15, and firmware 3.90a7. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server
5. PowerPath is not supported
6. Requires STORPort driver version 1.00a15, and firmware 1.00a4. Available at http://www.emulex.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
7. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789

Microsoft Windows NT

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.NOTE: Windows NT installation will fail immediately after installing Network Services for hosts that use an Intel Network Interface Card (NIC).

Bull

Bull – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Express 5800: 140Hb, 140Ra4, HV8600. HX4600. MH4500	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[3], LP850-EMC, LP9002-E (LP9002L-E)[5, 7, 8], LP982-E[6]; QLogic QLA2340-E-SP[4, 5]	FC-AL, FC-SW	N

1. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A. 5568 support at Windows NT 4.0 SP6A
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
4. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
5. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
6. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
7. The LP9002-E now ships with the LP9002L-E low profile adapter.
8. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.

DG

DG – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON AV8950[13]	PCI	Microsoft Windows NT 4.0 SP6A[4]	QLogic QLA2200F-EMC[10]	FC-AL	N	
2	AViiON AV8950	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[11, 12]	FC-AL, FC-SW	Y[1, 2, 3]	See[17]
3	AViiON: AV1400, AV2300, AV2700, AV2800, AV3600 AV3700, AV3704R, AV3800, AV8700, AV8900, AV8950	PCI	Microsoft Windows NT 4.0 SP6A[4]	Emulex LP8000-EMC[11, 12]	FC-AL, FC-SW	N	
4	AViiON AV3704	PCI	Microsoft Windows NT 4.0 SP6A[4]	QLogic QLA2310F-E-SP[6, 7]	FC-AL, FC-SW	N	
5	AViiON AV8950[13]	PCI	Microsoft Windows NT 4.0 SP6A[4]	QLogic QLA2310F-E-SP[7]	FC-AL, FC-SW	Y[1, 2, 3]	
6	AViiON: AV2300[13], AV2700[13], AV3600[13], AV3700[13], AV8700[13]	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex LP8000-EMC[11]; QLogic QLA2340-E-SP[6, 7, 8, 9]	FC-AL, FC-SW	Y[1, 2, 3]	
7	AViiON AV3704	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex LP850-EMC	FC-AL, FC-SW	N	
8	AViiON: AV2300, AV2700, AV3600, AV3700, AV8700	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex LP850-EMC; QLogic: QLA2310F-E-SP[7], QLA2342-E-SP[6, 7, 8, 9]	FC-AL, FC-SW	Y[1, 2, 3]	
9	AViiON AV8950[13]	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex LP850-EMC[12]	FC-AL, FC-SW	Y[1, 2, 3]	
10	AViiON AV8950R	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex: LP8000-EMC[11, 12], LP850-EMC, LP9002-E (LP9002L-E)[6, 15, 16], LP982-E[14]; QLogic: QLA2200F-EMC[10], QLA2310F-E-SP[6, 7], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]	FC-AL, FC-SW	N	
11	AViiON AV3704[13]	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex: LP8000-EMC[11, 12], LP9002-E (LP9002L-E)[6, 15, 16], LP982-E[14]; QLogic: QLA2200F-EMC[10], QLA2340-E-SP[6, 7]	FC-AL, FC-SW	N	
12	AViiON AV8600	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex: LP8000-EMC[11], LP850-EMC, QLogic: QLA2310F-E-SP[6, 7], QLA2340-E-SP[6, 7, 8, 9], QLA2342-E-SP[6, 7, 8, 9]	FC-AL, FC-SW	Y[1, 2, 3]	
13	AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex: LP8000-EMC[11], LP850-EMC: QLogic: QLA2310F-E-SP[6, 7], QLA2340-E-SP[6, 7], QLA2342-E-SP[6, 7]	FC-AL, FC-SW	Y[1, 2, 3]	
14	AViiON: AV1400, AV2300[13], AV2700[13], AV2800, AV3600[13], AV3700[13], AV3704R, AV3800, AV8600, AV8700[13], AV8900	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex: LP9002-E (LP9002L-E)[6, 15, 16], LP982-E[14]; QLogic QLA2200F-EMC[10]	FC-AL, FC-SW	N	
15	AViiON AV8950	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	QLogic: QLA2340-E-SP[6, 7, 8, 9], QLA2342-E-SP[6, 7, 8, 9]	FC-AL, FC-SW	Y[1, 2, 3]	

1. Data General servers that are rack-mountable (designated by Data General with an "R") are supported
2. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
3. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
5. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A. 5568 support at Windows NT 4.0 SP6A.
6. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
7. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
8. Qlogic SanBlade Manager is not supported
9. Qlogic SANSurfer/SANBlade Manager is not supported.
10. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com Supports SNIA HBA API.
11. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
12. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API Available at http://www.emulex.com
13. Data General servers that are rack-mountable (designated with an "R") are supported.
14. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
15. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces
16. The LP9002-E now ships with the LP9002L-E low profile adapter
17. AHA-2944W is no longer available in distribution channels.

Dell

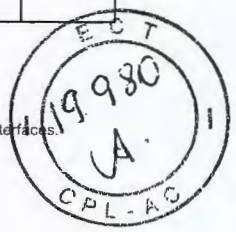
Dell – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	PowerEdge 2450, 2550[7, 9] 4400	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[5, 12]	FC-AL, FC-SW	N
2	PowerEdge 1550, 2300, 2400, 2500, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[5, 12]; HPQ A5246A (Agilent HHBA-5000A)[2, 17] D8602A (Agilent HHBA-5101B)[2, 18, 19] D8602B (Agilent HHBA-5101C)[2, 19, 20, 21]	FC-AL, FC-SW	N

Dell – Microsoft Windows NT

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
3	PowerEdge: 1650, 2550[7]	PCI	Microsoft Windows NT 4.0 SP6A[2]	HPQ: A5246A (Agilent HHBA-5000A)[2, 17], D8602A (Agilent HHBA-5101B)[2, 18, 19], D8602B (Agilent HHBA-5101C)[2, 19, 20, 21]	FC-AL, FC-SW	N	
4	PowerEdge: 2300[8], 6100[8], 6300[8], 6350[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP8000-EMC[12]	FC-AL, FC-SW	Y[10, 11]	See[1]
5	PowerEdge 4300[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP8000-EMC[5, 12]. QLogic: QLA2200F-EMC[13], QLA2310F-E-SP[4, 14], QLA2340-E-SP[4, 14], QLA2342-E-SP[4, 14]	FC-AL, FC-SW	N	
6	PowerEdge 4300	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP850-EMC	FC-AL, FC-SW	N	
7	PowerEdge: 1550, 2500	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP850-EMC	FC-AL, FC-SW	Y[10, 11]	
8	PowerEdge: 2300, 2400, 2450, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP850-EMC	FC-AL, FC-SW	Y[10, 11]	See[1]
9	PowerEdge: 2300[8], 6350[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP9002-E (LP9002L-E)[4, 6, 15]	FC-AL, FC-SW	N	See[1]
10	PowerEdge: 2300, 2400, 2450, 2550[7, 8, 9], 4400[8], 6350, 6400[8], 6450[8], 8450[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP9002DC-E[4, 5, 6]	FC-AL, FC-SW	N	See[1]
11	PowerEdge: 4600[8], 6600[8], 6650[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP9002DC-E[4, 5, 6]	FC-AL, FC-SW	N	
12	PowerEdge: 1550[8], 2500[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP9002DC-E[4, 5, 6]. QLogic QLA2200F-EMC[13]	FC-AL, FC-SW	N	
13	PowerEdge: 2300[8], 6100[8], 6300[8], 6350[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP982-E[16]. QLogic QLA2200F-EMC[13]	FC-AL, FC-SW	N	
14	PowerEdge 2550[7, 8, 9]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP8000-EMC[12], LP850-EMC, LP9002-E (LP9002L-E)[4, 6, 15]	FC-AL, FC-SW	Y[10, 11]	See[1]
15	PowerEdge: 2600[8], 4600[8], 6600[8], 6650[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP8000-EMC[12], LP850-EMC, LP9002-E (LP9002L-E)[4, 6, 15], LP9802-E[6, 16], LP9802DC-E[6, 16], LP982-E[6, 16]. QLogic QLA2340-E-SP[4, 14]	FC-AL, FC-SW	Y[10, 11]	
16	PowerEdge: 2400[8], 2450[8], 4400[8], 6400[8], 6450[8], 8450[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP8000-EMC[12], LP9002-E (LP9002L-E)[4, 6, 15]	FC-AL, FC-SW	Y[10, 11]	See[1]
17	PowerEdge: 1550[8], 2500[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP8000-EMC[12], LP9002-E (LP9002L-E)[4, 6, 15], LP9802-E[6, 16], LP9802DC-E[6, 16], LP982-E[6, 16]. QLogic: QLA2310F-E-SP[4, 14], QLA2340-E-SP[4, 14], QLA2342-E-SP[4, 14]	FC-AL, FC-SW	Y[10, 11]	
18	PowerEdge 2650[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP8000-EMC[5, 12], LP850-EMC, LP9002DC-E[4, 5, 6]	FC-AL, FC-SW	N	
19	PowerEdge: 1650[8], 4350	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP8000-EMC[5, 12], LP850-EMC; QLogic: QLA2200F-EMC[13], QLA2310F-E-SP[4, 14], QLA2340-E-SP[4, 14], QLA2342-E-SP[4, 14]	FC-AL, FC-SW	N	
20	PowerEdge: 6100[8], 6300[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP9002-E (LP9002L-E)[4, 6, 15], LP9002DC-E[4, 5, 6]	FC-AL, FC-SW	N	See[1]
21	PowerEdge 1650[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP9002-E (LP9002L-E)[4, 6, 15], LP9802-E[6, 16], LP9802DC-E[6, 16], LP982-E[6, 16]	FC-AL, FC-SW	Y[10, 11]	
22	PowerEdge 2650[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP9002-E (LP9002L-E)[4, 6, 15], LP9802-E[6, 16], LP9802DC-E[6, 16], LP982-E[6, 16]; QLogic QLA2340-E-SP[4, 14]	FC-AL, FC-SW	Y[10, 11]	
23	PowerEdge: 2400[8], 2450[8], 2550[7, 8, 9], 4400[8], 6400[8], 6450[8], 8450[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP9802-E[6, 16], LP9802DC-E[6, 16], LP982-E[6, 16]; QLogic: QLA2310F-E-SP[4, 14], QLA2340-E-SP[4, 14], QLA2342-E-SP[4, 14]	FC-AL, FC-SW	Y[10, 11]	
24	PowerEdge: 2400[8], 2450[8], 2550[7, 8, 9], 4400[8], 6400[8], 6450[8], 8450[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	QLogic QLA2200F-EMC[13]	FC-AL, FC-SW	N	
25	PowerEdge: 2300[8], 6100[8], 6300[8], 6350[8]	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	QLogic: QLA2310F-E-SP[4, 14], QLA2340-E-SP[4, 14], QLA2342-E-SP[4, 14]	FC-AL, FC-SW	Y[10, 11]	
26	PowerEdge 4600	PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[5, 12]	FC-AL, FC-SW	N	
27	PowerEdge: 2600, 2650, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[2]	Emulex LP8000-EMC[5, 12]. HPQ: A5246A (Agilent HHBA-5000A)[2, 17], D8602A (Agilent HHBA-5101B)[2, 18, 19], D8602B (Agilent HHBA-5101C)[2, 19, 20, 21]	FC-AL, FC-SW	N	
28	PowerEdge 1750	PCI-X	Microsoft Windows NT 4.0 SP6A[2]	HPQ: A5246A (Agilent HHBA-5000A)[2, 17], D8602A (Agilent HHBA-5101B)[2, 18, 19], D8602B (Agilent HHBA-5101C)[2, 19, 20, 21]	FC-AL, FC-SW	N	
29	PowerEdge 2600[8]	PCI-X	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP9002DC-E[4, 5, 6]	FC-AL, FC-SW	Y	
30	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP9002DC-E[4, 5, 6]	FC-AL, FC-SW	N	See[1]
31	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP8000-EMC[12], LP850-EMC, LP9002-E (LP9002L-E)[4, 6, 15], LP982-E[16]	FC-AL, FC-SW	Y[10, 11]	See[1]
32	PowerEdge 1750	PCI-X	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP8000-EMC[5, 12], LP850-EMC, QLogic: QLA2200F-EMC[13], QLA2310F-E-SP[4, 14], QLA2340-E-SP[4, 14], QLA2342-E-SP[4, 14]	FC-AL, FC-SW	N	
33	PowerEdge 1750	PCI-X	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP9002-E (LP9002L-E)[4, 6, 15], LP9802-E[6, 16], LP9802DC-E[6, 16], LP982-E[6, 16]	FC-AL, FC-SW	Y[10, 11]	
34	PowerEdge: 4600, 6600, 6650	PCI-X	Microsoft Windows NT 4.0 SP6A[2, 3]	QLogic QLA2340-E-SP[4, 14]	FC-AL, FC-SW	Y[10, 11]	
35	PowerEdge: 4600[8], 6600[8], 6650[8]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex LP9002DC-E[4, 5, 6]. QLogic QLA2200F-EMC[13]	FC-AL, FC-SW	N	
36	PowerEdge: 2600[8], 4600[8], 6600[8], 6650[8]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP8000-EMC[12], LP850-EMC, LP9002-E (LP9002L-E)[4, 6, 15], LP982-E[16]. QLogic: QLA2310F-E-SP[4, 14], QLA2340-E-SP[4, 14], QLA2342-E-SP[4, 14]	FC-AL, FC-SW	[illegible]	
37	PowerEdge 2650[8]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP8000-EMC[5, 12], LP850-EMC, LP9002DC-E[4, 5, 6]. QLogic QLA2200F-EMC[13]	FC-AL, FC-SW	N	

Dell – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
38	PowerEdge 2650[8]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP9002-E (LP9002L-E)[4, 6, 15], LP982-E[16]; QLogic: QLA2310F-E-SP[4, 14], QLA2340-E-SP[4, 14], QLA2342-E-SP[4, 14]	FC-AL, FC-SW	Y[10, 11]	
39	PowerEdge 2600[8]	PCI PCI-X	Microsoft Windows NT 4.0 SP6A[2, 3]	QLogic QLA2200F-EMC[13]	FC-AL, FC-SW	N	

1. AHA-2944W is no longer available in distribution channels.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A. 5568 support at Windows NT 4.0 SP6A.
4. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
5. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
6. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
7. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
8. If using Dell PERC Controller, requires PERC 3 with OpenManager 3.0 and Array Manager 3.1. The afamgt.sys must be version 2.6.0.3486 (or above)..
9. Dell PowerEdge supports a maximum of 2 Emulex HBAs at one time and the total power cannot exceed 20 Watts.
10. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
11. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
12. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
13. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
14. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
15. The LP9002-E now ships with the LP9002L-E low profile adapter.
16. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
17. Requires HBA driver revision 2.09D.
18. (HHBA-5101BK-01)
19. Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper_notes/bsdmatrix/matrix213991.html
20. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
21. Requires manual intervention on bootup to clear "new hardware found" message box at boot time.



Fuji Serv (ICL)

Fuji Serv (ICL) – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	DL; P2000	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[7, 9, 10], LP982-E[8]; QLogic QLA2340-E-SP[6, 7]	FC-AL, FC-SW	N	See[1]
2	Tnmetra Nova	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	Emulex: LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[7, 9, 10], LP982-E[8]; QLogic QLA2340-E-SP[6, 7]	FC-AL, FC-SW	N	
3	P2000	PCI	Microsoft Windows NT 4.0 SP6A[2, 3]	QLogic QLA2200F-EMC[4]	FC-SW	N	See[1]

1. Cables to be ordered from Fujitsu Services (ICL).
2. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A. 5568 support at Windows NT 4.0 SP6A.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
6. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
7. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
8. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
9. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
10. The LP9002-E now ships with the LP9002L-E low profile adapter.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Primergy: B210, E200, N200	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP8000-EMC[10]	FC-AL, FC-SW	Y[1, 2]
2	Primergy RX100	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP850-EMC	FC-AL, FC-SW	N
3	Primergy: C200, F200, H200, H400, K400 L200, N400, P200, P250, R450	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP850-EMC, QLogic QLA2340-E-SP[8, 11]	FC-AL, FC-SW	N
4	Primergy: F200, H200, H400, K400, L200, N400, P200, P250, R450, RX100	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E)[5, 8, 9], LP9802-E[5, 6], LP9802DC-E[5, 6], LP982-E[5, 6]	FC-AL, FC-SW	Y[1, 2]
5	Primergy C200	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E)[5, 8, 9], LP9802-E[6], LP9802DC-E[6], LP982-E[6]	FC-AL, FC-SW	Y[1, 2]
6	Primergy: B210, E200, N200	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP850-EMC, LP9002-E (LP9002L-E)[5, 8, 9], LP982-E[6]; QLogic QLA2340-E-SP[8, 11]	FC-AL, FC-SW	N
7	Primergy: F250[7], H250[7] H450, N800	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP850-EMC; QLogic QLA2340-E-SP[8, 11]	FC-AL, FC-SW	N
8	Primergy: F250[7], H250[7] H450, N800	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E)[5, 8, 9], LP9802-E[5, 6], LP9802DC-E[5, 6], LP982-E[5, 6]	FC-AL, FC-SW	Y[1, 2]
9	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E)[5, 8, 9], LP9802-E[5, 6], LP9802DC-E[5, 6], LP982-E[5, 6]; QLogic QLA2340-E-SP[8, 11]	FC-AL, FC-SW	N
10	Primergy: RX200, RX300, TX200, TX300	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP850-EMC, LP9002DC-E[5, 8, 12]	FC-AL, FC-SW	Y[1, 2]
11	Primergy R450	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP850-EMC, QLogic QLA2340-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2]
12	Primergy R450	PCI PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E)[5, 8, 9], LP982-E[6]	FC-AL, FC-SW	Y[1, 2]

1. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported
2. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server
4. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A. 5568 support at Windows NT 4.0 SP6A
5. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces
6. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com

7. Must use standard PCI 32bit/33MHz slot for SCSI
8. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
9. The LP9002-E now ships with the LP9002L-E low profile adapter.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
12. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.

HPQ

HPQ – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Proliant: 1600[4, 23], 3000[4], 5000[4], 5500[4, 22], 6000[4, 22], 6500[4, 22], 7000[4, 22], 850R[4]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	HPQ 223180-B21[21]	FC-AL	N
2	Netserver LH: 4, PRO, III, Netserver: LT 6000R, LXR 8000, LXR 8500: Proliant 8000: Pro, Xeon: Proliant: DL360(G2)[4, 26], ML350(G2)[4], ML750[24]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[3, 5]	FC-AL, FC-SW	N
3	Proliant 1600[4, 23]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[3, 5]; HPQ A5246A (Agilent HHBA-5000A)[1, 16]	FC-AL, FC-SW	N
4	Proliant: 2500[4], 3000[4], 5000[4], 5500[4, 22], 6000[4, 22], 6400R[4], 6500[4, 22], 7000[4, 22], 8000[4, 22], 8500, DL320[4], DL360[4], **DL380[4]**, **DL380(G2)[4]**, DL580[4], ML350[4], ML370[4], ML370(G2) ML530[4], ML530(G2)[4], ML570[4]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[3, 5]; HPQ: A5246A (Agilent HHBA-5000A)[1, 16], D8602A (Agilent HHBA-5101B)[1, 19, 20], D8602B (Agilent HHBA-5101C)[1, 17, 18, 19]	FC-AL, FC-SW	N
5	Proliant 850[4]	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[3, 5]; HPQ. A5246A (Agilent HHBA-5000A)[1, 16], D8602A (Agilent HHBA-5101B)[1, 19, 20], D8602B (Agilent HHBA-5101C)[1, 17, 18, 19]; QLogic QLA2310F-E-SP[9, 10]	FC-AL, FC-SW	N
6	Netserver: LH II, LX PRO, LXR PRO, LXR PRO8	PCI	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[3, 5]; QLogic QLA2310F-E-SP[9, 10]	FC-AL, FC-SW	N
7	Proliant: 1850[4], DL360(G2)[4], **ML370(G3)**, ML750[4]	PCI	Microsoft Windows NT 4.0 SP6A[1]	HPQ: A5246A (Agilent HHBA-5000A)[1, 16], D8602A (Agilent HHBA-5101B)[1, 19, 20], D8602B (Agilent HHBA-5101C)[1, 17, 18, 19]	FC-AL, FC-SW	N
8	Netserver LH (LH Pro)	PCI	Microsoft Windows NT 4.0 SP6A[1]	QLogic QLA2310F-E-SP[9, 10]	FC-AL, FC-SW	N
9	Proliant 1850[4]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex LP8000-EMC[3, 5]	FC-AL, FC-SW	Y[11, 12, 25]
10	Proliant 1850[4]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex LP850-EMC; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	Y[11, 12]
11	Netserver LH III	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[3, 5], LP850-EMC	FC-AL, FC-SW	Y[11, 12]
12	Netserver LH 3	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[3, 5], LP850-EMC; HPQ. A5246A (Agilent HHBA-5000A)[1, 16], D8602A (Agilent HHBA-5101B)[1, 19, 20], D8602B (Agilent HHBA-5101C)[1, 17, 18, 19]; QLogic: QLA2200F-EMC[6], QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	N
13	Proliant ML370(G3)	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex. LP8000-EMC[3, 5], LP850-EMC, LP9002-E (LP9002L-E)[10, 13, 15], LP9802-E[13, 14], LP9802DC-E[13, 14], LP982-E[13, 14]; HPQ: 176479-B21[3], KGPSA-CB[3], KGPSA-CY[3]; QLogic: QLA2200F-EMC[6], QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	N
14	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000, Netserver LPR	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[3, 5], LP850-EMC, LP9002-E (LP9002L-E)[10, 13, 15], LP9802-E[13, 14], LP9802DC-E[13, 14], LP982-E[13, 14]; HPQ: A5246A (Agilent HHBA-5000A)[1, 16], D8602A (Agilent HHBA-5101B)[1, 19, 20], D8602B (Agilent HHBA-5101C)[1, 17, 18, 19]; QLogic: QLA2200F-EMC[6], QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	N
15	Netserver LH: (LH Pro), II, Netserver LXR, PRO, PRO8 Proliant 850[4], 8500[4]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[5], LP850-EMC	FC-AL, FC-SW	Y[11, 12]
16	**Proliant DL380(G3)**	PCI	**Microsoft Windows NT 4.0 SP6A[1, 2]**	**Emulex: LP8000-EMC[5], LP850-EMC;** **HPQ: 176479-B21[3] KGPSA-CB[3] KGPSA-CY[3];** **QLogic QLA2200F-EMC[6]**	FC-AL FC-SW	N
17	Netserver LP 2000r	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[10, 13, 15], LP9802-E[13, 14], LP9802DC-E[13, 14], LP982-E[13, 14]; HPQ. A5246A (Agilent HHBA-5000A)[1, 16], D8602A (Agilent HHBA-5101B)[1, 19, 20], D8602B (Agilent HHBA-5101C)[1, 17, 18, 19]; QLogic: QLA2200F-EMC[6], QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	N

HPQ – Microsoft Windows NT

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
18	Netserver: LT 6000R, LXR 8000, LXR 8500; Proliant: 2500[4], 6400R[4], DL320[4], DL360[4], DL360(G2)[4], **DL380[4]**, **DL380(G2)[4]**, DL580[4], DL580(G2)[4], ML350[4], ML350(G2)[4], ML370[4], ML530[4], ML530(G2)[4], ML570[4], ML750[24]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[10, 13, 15], LP9802-E[13, 14], LP9802DC-E[13, 14], LP982-E[13, 14]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	Y[11, 12]
19	Proliant: ML370(G2), **ML370(G3)**	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[10, 13, 15], LP9802-E[13, 14], LP9802DC-E[13, 14], LP982-E[13, 14]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	Y[4, 11, 12]
20	Proliant 850R[4]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[10, 13, 15], LP982-E[14]; QLogic QLA2340-E-SP[9, 10]	FC-AL, FC-SW	N
21	Netserver LH 4; Proliant: 1600[4, 23], 3000[4], 5000[4], 5500[4, 22], 6000[4, 22], 6500[4, 22], 7000[4, 22], 8000[4, 22]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[5], LP850-EMC; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	Y[11, 12]
22	Netserver LX PRO	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[5], LP850-EMC[3]	FC-AL, FC-SW	Y[11, 12]
23	Proliant 8500	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP9002-E (LP9002L-E)[10, 13, 15], LP9802-E[13, 14], LP9802DC-E[13, 14], LP982-E[13, 14]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	Y[4, 11, 12]
24	**Proliant DL380(G3)**	PCI	**Microsoft Windows NT 4.0 SP6A[1, 2]**	**Emulex: LP9002-E (LP9002L-E)[10, 13, 15], LP9802-E[13, 14], LP9802DC-E[13, 14], LP982-E[13, 14];** **QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]**	FC-AL, FC-SW	Y[11, 12]
25	Proliant: 1600[4, 23], 1850[4], 6500[4, 22]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP9002-E (LP9002L-E)[10, 13, 15], LP982-E[14]; HPQ: 176479-B21[3], KGPSA-CB[3], KGPSA-CY[3]; QLogic QLA2200F-EMC[6]	FC-AL, FC-SW	N
26	Proliant 850[4]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP9002-E (LP9002L-E)[10, 13, 15], LP982-E[14]; HPQ: 176479-B21[3], KGPSA-CB[3], KGPSA-CY[3]; QLogic: QLA2200F-EMC[6], QLA2340-E-SP[9, 10]	FC-AL, FC-SW	N
27	Proliant: 2500[4], 3000[4], 5000[4], 5500[4, 22], 6000[4, 22], 6400R[4], 7000[4, 22], 8000[4, 22], 8500[4], DL320[4], DL360[4], DL360(G2)[4], **DL380[4]**, **DL380(G2)[4]**, DL580[4], DL580(G2)[4], ML350[4], ML350(G2)[4], ML370[4], ML370(G2), ML530[4], ML530(G2)[4], ML570[4], ML750[24]	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	HPQ: 176479-B21[3], KGPSA-CB[3], KGPSA-CY[3]; QLogic QLA2200F-EMC[6]	FC-AL, FC-SW	N
28	Netserver, LH 4, LT 6000R, LXR 8000, LXR 8500	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	HPQ: A5246A (Agilent HHBA-5000A)[1, 16], D8602A (Agilent HHBA-5101B)[1, 19, 20], D8602B (Agilent HHBA-5101C)[1, 17, 18, 19]; QLogic QLA2200F-EMC[6]	FC-AL, FC-SW	N
29	Netserver LH III	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	HPQ: A5246A (Agilent HHBA-5000A)[1, 16], D8602A (Agilent HHBA-5101B)[1, 19, 20], D8602B (Agilent HHBA-5101C)[1, 17, 18, 19]; QLogic: QLA2200F-EMC[6], QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	N
30	Netserver LH (LH Pro), II, Netserver: LX PRO, LXR PRO, LXR PRO8	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	HPQ: A5246A (Agilent HHBA-5000A)[1, 16], D8602A (Agilent HHBA-5101B)[1, 19, 20], D8602B (Agilent HHBA-5101C)[1, 17, 18, 19]; QLogic: QLA2200F-EMC[6], QLA2340-E-SP[9, 10]	FC-AL, FC-SW	N
31	Proliant: DL560, **DL560 (G2)**, DL740	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[3, 5]	FC-AL, FC-SW	N
32	Proliant: DL360(G3), DL760[4], DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[3, 5]; HPQ: A5246A (Agilent HHBA-5000A)[1, 16], D8602A (Agilent HHBA-5101B)[1, 19, 20], D8602B (Agilent HHBA-5101C)[1, 17, 18, 19]	FC-AL, FC-SW	N
33	Proliant DL760[4]	PCI-X	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[10, 13, 15], LP9802-E[13, 14], LP9802DC-E[13, 14], LP982-E[13, 14]; QLogic QLA2340-E-SP[9, 10]	FC-AL, FC-SW	Y[11, 12]
34	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[10, 13, 15], LP9802-E[13, 14], LP9802DC-E[13, 14], LP982-E[13, 14]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	Y[11, 12]
35	Proliant: DL360(G3), DL760 (G2), ML570(G2)	PCI-X	Microsoft Windows NT 4.0 SP6A[1, 2]	HPQ: 176479-B21[3], KGPSA-CB[3], KGPSA-CY[3]; QLogic QLA2200F-EMC[6]	FC-AL, FC-SW	N
36	Proliant: DL560, **DL560 (G2)**, DL740	PCI-X	Microsoft Windows NT 4.0 SP6A[1, 2]	QLogic QLA2200F-EMC[6]	FC-AL, FC-SW	N

HPQ – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
37	Proliant: DL580(G2)[4], DL580(G3)	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[3, 5]; HPQ: A5246A (Agilent HHBA-5000A)[1, 16], D8602A (Agilent HHBA-5101B)[1, 19, 20], D8602B (Agilent HHBA-5101C)[1, 17, 18, 19]	FC-AL, FC-SW	N
38	Proliant: DL580(G2)[4], DL580(G3)	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[10, 13, 15], LP9802-E[13, 14], LP9802DC-E[13, 14], LP982-E[13, 14]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	Y[11, 12]
39	Proliant DL760[4]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000-EMC[5], LP850-EMC, LP9002-E (LP9002L-E)[10, 13, 15], LP982-E[14]; QLogic: QLA2310F-E-SP[9, 10], QLA2340-E-SP[9, 10], QLA2342-E-SP[9, 10]	FC-AL, FC-SW	Y[11, 12]
40	Proliant: DL580(G2)[4], DL580(G3)	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[1, 2]	HPQ: 176479-B21[3], KGPSA-CB[3], KGPSA-CY[3]; IBM 00N6881 (QLA2200)[6, 7, 8], QLogic QLA2200F-EMC[6]	FC-AL, FC-SW	N
41	Proliant DL760[4]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[1, 2]	HPQ: 176479-B21[3], KGPSA-CB[3], KGPSA-CY[3]; QLogic QLA2200F-EMC[6]	FC-AL, FC-SW	N

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A. 5568 support at Windows NT 4.0 SP6A.
3. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
4. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
6. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
7. For IBM Netfinity and xSeries Intel servers only
8. (QLA2200) For IBM xSeries and Netfinity servers only.
9. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
10. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
11. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
12. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
13. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
14. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
15. The LP9002-E now ships with the LP9002L-E low profile adapter.
16. Requires HBA driver revision 2.09D.
17. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
18. Requires manual intervention on bootup to clear "new hardware found" message box at boot time.
19. Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper rnotes/bsdmatrix/matrix213991.html
20. (HHBA-5101BK-01)
21. Requires Driver revision 4.04
22. Includes both Pentium PRO and XEON models
23. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
24. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported
25. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
26. Requires BIOS v4.01 rev A (5/17/2002) for use with Emulex HBAs.

IBM

IBM – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R; xSeries: X330[8], X335, X340 (4500R)[8], X342[8] x230, x232[8], x240[8], x250[8], **x255[8]**, x350 (6000R)[8], x370[8]	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP8000-EMC[14, 24]	FC-AL, FC-SW	N	
2	Netfinity 6000R	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP9002-E (LP9002L-E)[16, 17, 18]; QLogic QLA2310F-E-SP[5, 18]	FC-AL, FC-SW	N	
3	Netfinity 8500	PCI	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP9002-E (LP9002L-E)[16, 17], IBM: 19K1246(QLA2310)[5, 7, 18], 24P0960(QLA2340)[5, 9, 18]; QLogic QLA2310F-E-SP[5, 18]	FC-AL, FC-SW	N	
4	Netfinity 8500	PCI	Microsoft Windows NT 4.0 SP6A[3]	IBM 00N6881 (QLA2200)[11, 12, 13]	FC-AL, FC-SW	N	See[30]
5	**xSeries x255[8]**	PCI	**Microsoft Windows NT 4.0 SP6A[3, 4]**	**Emulex LP8000-EMC[14]**	FC-AL, FC-SW	Y[1, 2]	**See[20]**
6	Netfinity 8500R **xSeries x255[8]**	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex LP9002DC-E[16, 18, 24]	FC-AL, FC-SW	N	See[19]
7	Netfinity 6000R	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[14, 24], LP850-EMC, LP9802-E[15, 16], LP9802DC-E[15, 16], LP982-E[15, 16]; IBM: 00N6881 (QLA2200)[11, 12, 13], 19K1246(QLA2310)[5, 6, 7], 24P0960(QLA2340)[5, 6, 9]; QLogic: QLA2200F-EMC[13], QLA2340-E-SP[5, 18], QLA2342-E-SP[5, 18]	FC-AL, FC-SW	N	
8	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[10], 7100	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[14], LP850-EMC, IBM: 00N6881 (QLA2200)[11, 12, 13], 19K1246(QLA2310)[5, 6, 7], 24P0960(QLA2340)[5, 6, 9]; QLogic: QLA2310F-E-SP[5, 18], QLA2340-E-SP[5, 18], QLA2342-E-SP[5, 18]	FC-AL, FC-SW	Y[1, 2]	

IBM – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
9	Netfinity 8500R	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[14], LP850-EMC, LP9002-E (LP9002L-E)[16, 17, 18]; IBM 00N6881 (QLA2200)[11, 12, 13]; QLogic QLA2310F-E-SP[5, 18]	FC-AL, FC-SW	Y[1, 2]	See[20]
10	**xSeries x345[8, 21]**	PCI	**Microsoft Windows NT 4.0 SP6A[3, 4]**	**Emulex: LP8000-EMC[14], LP850-EMC, LP9002-E (LP9002L-E)[16, 17, 18], LP9802-E[15, 16], LP9802DC-E[15, 16], LP982-E[15, 16];** **IBM 00N6881 (QLA2200)[11, 12, 13];** **QLogic: QLA2310F-E-SP[5, 18], QLA2340-E-SP[5, 18], QLA2342-E-SP[5, 18]**	FC-AL, FC-SW	Y[1, 2]	
11	xSeries X342[8]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[14], LP850-EMC, LP9002-E (LP9002L-E)[16, 17, 18], LP9802-E[15, 16], LP9802DC-E[15, 16], LP982-E[15, 16]; IBM: 00N6881 (QLA2200)[11, 12, 13], 19K1246(QLA2310)[5, 6, 7], 24P0960(QLA2340)[5, 6, 9]; QLogic: QLA2310F-E-SP[5, 18], QLA2340-E-SP[5, 18, 22, 23], QLA2342-E-SP[5, 18, 22, 23]	FC-AL, FC-SW	Y[1, 2]	
12	Netfinity: 5600, 7600; xSeries: X330[8], X335, X340 (4500R)[8], x230, x232[8], x240[8], x250[8], x350 (6000R)[8], x370[8]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[14], LP850-EMC, LP9002-E (LP9002L-E)[16, 17, 18], LP9802-E[15, 16], LP9802DC-E[15, 16], LP982-E[15, 16]; IBM: 00N6881 (QLA2200)[11, 12, 13], 19K1246(QLA2310)[5, 6, 7], 24P0960(QLA2340)[5, 6, 9]; QLogic: QLA2310F-E-SP[5, 18], QLA2340-E-SP[5, 18], QLA2342-E-SP[5, 18]	FC-AL, FC-SW	Y[1, 2]	
13	**xSeries x360[8]**	PCI	**Microsoft Windows NT 4.0 SP6A[3, 4]**	**Emulex: LP8000-EMC[14], LP850-EMC[24], LP9002-E (LP9002L-E)[16, 17, 18], LP982-E[15];** **IBM: 00N6881 (QLA2200)[11, 12, 13], 19K1246(QLA2310)[5, 6, 7], 24P0960(QLA2340)[5, 6, 9];** **QLogic: QLA2310F-E-SP[5], QLA2340-E-SP[5, 18]**	FC-AL, FC-SW	Y[1, 2]	
14	**xSeries x255[8]**	PCI	**Microsoft Windows NT 4.0 SP6A[3, 4]**	**Emulex: LP850-EMC, LP9002-E (LP9002L-E)[16, 17, 18];** **IBM 00N6881 (QLA2200)[11, 12, 13]**	FC-AL, FC-SW	Y[1, 2]	See[19]
15	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[10], 7100	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP9002-E (LP9002L-E)[16, 17, 18], LP982-E[15]; QLogic QLA2200F-EMC[13]	FC-AL, FC-SW	N	
16	**xSeries x255[8]**	PCI	**Microsoft Windows NT 4.0 SP6A[3, 4]**	**Emulex: LP9802-E[15, 16], LP9802DC-E[15, 16], LP982-E[15, 16];** **IBM: 19K1246(QLA2310)[5, 6, 7], 24P0960(QLA2340)[5, 6, 9];** **QLogic: QLA2310F-E-SP[5, 18], QLA2340-E-SP[5, 18], QLA2342-E-SP[5, 18]**	FC-AL, FC-SW	Y[1, 2]	
17	Netfinity 8500R	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP9802-E[15, 16], LP9802DC-E[15, 16], LP982-E[15, 16]; IBM: 19K1246(QLA2310)[5, 6, 7], 24P0960(QLA2340)[5, 6, 9]; QLogic: QLA2340-E-SP[5, 18], QLA2342-E-SP[5, 18]	FC-AL, FC-SW	Y[1, 2]	
18	Netfinity 8500R **xSeries x255[8]**	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	HPQ: A5246A (Agilent HHBA-5000A)[3, 25], D8602A (Agilent HHBA-5101B)[3, 27, 29], D8602B (Agilent HHBA-5101C)[3, 26, 27, 28]; QLogic QLA2200F-EMC[13]	FC-AL, FC-SW	N	
19	Netfinity: 5600, 7600; xSeries: X330[8], X335, X340 (4500R)[8], X342[8], x230, x232[8], x240[8], x250[8], **x345[8, 21]**, x350 (6000R)[8], **x360[8]**, x370[8]	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2200F-EMC[13]	FC-AL, FC-SW	N	
20	xSeries: x235[8], **x360[8]**, x440[8]	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	Emulex LP8000-EMC[14, 24]	FC-AL, FC-SW	N	
21	xSeries x235[8]	PCI-X	Microsoft Windows NT 4.0 SP6A[3]	IBM 24P0960(QLA2340)[5, 9]	FC-AL, FC-SW	Y[1, 2]	
22	xSeries x235[8]	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[14], LP850-EMC, LP9002-E (LP9002L-E)[16, 17, 18], LP9802-E[15, 16], LP9802DC-E[15, 16], LP982-E[15, 16]; IBM 00N6881 (QLA2200)[11, 12, 13] 19K1246(QLA2310)[5, 6, 7] QLogic: QLA2310F-E-SP[5, 18], QLA2340-E-SP[5, 18], QLA2342-E-SP[5, 18]	FC-AL, FC-SW	Y[1, 2]	
23	**xSeries x360[8]**	PCI-X	**Microsoft Windows NT 4.0 SP6A[3, 4]**	**Emulex: LP8000-EMC[14], LP850-EMC[24], LP9002-E (LP9002L-E)[16, 17, 18], LP9802-E[15, 16], LP9802DC-E[15, 16], LP982-E[15, 16];** **IBM 00N6881 (QLA2200)[11, 13];** **QLogic: QLA2310F-E-SP[5, 18], QLA2340-E-SP[5, 18, 22, 23], QLA2342-E-SP[5, 18, 22, 23]**	FC-AL, FC-SW	Y[1, 2]	
24	xSeries x440[8]	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[14], LP850-EMC[24], LP9002-E (LP9002L-E)[16, 17, 18], LP9802-E[15, 16], LP9802DC-E[15, 16], LP982-E[15, 16]; IBM 00N6881 (QLA2200)[11, 13]; QLogic: QLA2310F-E-SP[5, 18], QLA2340-E-SP[5, 18] QLA2342-E-SP[5, 18]	FC-AL, FC-SW	Y[1, 2]	
25	xSeries x235[8]	PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2200F-EMC[13]	FC-AL, FC-SW	N	
26	**xSeries x345[8] x445**	PCI PCI-X	**Microsoft Windows NT 4.0 SP6A[3]**	**Emulex LP8000-EMC[14, 24]**	FC-AL FC-SW	N	
27	**xSeries x345[8]**	PCI PCI-X	**Microsoft Windows NT 4.0 SP6A[3]**	**IBM 24P0960(QLA2340)[5, 9]**	FC-AL FC-SW		

IBM – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
28	**xSeries x445**	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A[3, 4]**	Emulex: LP8000-EMC[14], LP850-EMC[24], LP9002-E (LP9002L-E)[16, 17, 18], LP9802-E[15, 16], LP9802DC-E[15, 16], LP982-E[15, 16]; IBM: 00N6881 (QLA2200)[11, 12, 13], 19K1246(QLA2310)[5, 6, 7], 24P0960(QLA2340)[5, 6, 9]; QLogic: QLA2310F-E-SP[5, 18], QLA2340-E-SP[5, 18], QLA2342-E-SP[5, 18]	FC-AL, FC-SW	Y[1, 2]	
29	xSeries x440[8]	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[14], LP850-EMC[24], LP9002-E (LP9002L-E)[16, 17, 18], LP982-E[15]; IBM: 00N6881 (QLA2200)[11, 12, 13], 19K1246(QLA2310)[5, 6, 7], 24P0960(QLA2340)[5, 6, 9]; QLogic QLA2340-E-SP[5, 18]	FC-AL, FC-SW	Y[1, 2]	
30	**xSeries x345[8]**	PCI, PCI-X	**Microsoft Windows NT 4.0 SP6A[3, 4]**	**IBM 19K1246(QLA2310)[5, 6, 7]**	FC-AL, FC-SW	Y[1, 2]	
31	xSeries: x440[8], **x445**	PCI, PCI-X	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2200F-EMC[13]	FC-AL, FC-SW	N	
32	Netfinity 8500R; **xSeries x255[8]**	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	QLogic QLA2200F-EMC[13]	FC-SW	N	See[20]

1. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
2. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A, 5568 support at Windows NT 4.0 SP6A.
5. Requires driver 8.1.5.21. and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
6. Host must be offline for interfamily Symmetrix microcode upgrade.
7. This HBA is equivalent to the qLogic QLA2310.
8. For IBM xSeries Servers running Windows NT and Windows 2000 with IBM ServerRaid controller 4M, the ServerRaid Driver must be 6.00 or above for use with EMC PowerPath 3.0 and above. IBM driver can be downloaded at: http://www-3.ibm.com/pc/support/site.wss/document.do?lndocid=MIGR-39723
9. This HBA is equivalent to the qLogic QLA2340.
10. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
11. (QLA2200) For IBM xSeries and Netfinity servers only.
12. For IBM Netfinity and xSeries Intel servers only.
13. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
14. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
15. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
16. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
17. The LP9002-E now ships with the LP9002L-E low profile adapter.
18. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
19. AHA-2944W is no longer available in distribution channels.
20. Cables to be ordered from Fujitsu Services (ICL).
21. It is recommended that the QLogic QLA2340 is not installed in Slot 1.
22. Qlogic SANSurfer/SANBlade Manager is not supported.
23. Qlogic SanBlade Manager is not supported.
24. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
25. Requires HBA driver revision 2.09D.
26. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
27. Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper_rnotes/bsdmatrix/matrix213991.html
28. Requires manual intervention on bootup to clear "new hardware found" message box at boot time.
29. (HHBA-5101BK-01)
30. Adaptec AHA2944UW is OEMed by HP as A5252A and A5252B.

NCR

NCR – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Worldmark: 4300, 4380, 4400	PCI	Microsoft Windows NT 4.0 SP6A[3]	HPQ: A5246A (Agilent HHBA-5000A)[3, 12], D8602A (Agilent HHBA-5101B)[3, 13, 14], D8602B (Agilent HHBA-5101C)[3, 14, 15, 16]	FC-AL, FC-SW	N
2	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP8000-EMC[8], LP850-EMC; QLogic: QLA2310F-E-SP[5, 6], QLA2340-E-SP[5, 6], QLA2342-E-SP[5, 6]	FC-AL, FC-SW	Y[1, 2]
3	Worldmark: 4300, 4380, 4400, 47XX, 48XX, 52XX, S50	PCI	Microsoft Windows NT 4.0 SP6A[3, 4]	Emulex: LP9002-E (LP9002L-E)[5, 10, 11], LP9802-E[9], LP9802DC-E[9, 10], LP982-E[9]; QLogic QLA2200F-EMC[7]	FC-AL, FC-SW	N

1. Booting Windows NT systems through ISLs (inter-switch links) in heterogeneous fabrics is not currently supported.
2. Booting Windows NT systems through ISLs (inter-switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A, 5568 support at Windows NT 4.0 SP6A.
5. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.)
6. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
7. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
8. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
9. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
10. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
11. The LP9002-E now ships with the LP9002L-E low profile adapter.
12. Requires HBA driver revision 2.09D.
13. (HHBA-5101BK-01)
14. Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper_rnotes/bsdmatrix/matrix213991.html
15. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
16. Requires manual intervention on bootup to clear "new hardware found" message box at boot time.

NEC

NEC – Microsoft Windows NT						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Express 5800: 120Rd–1, 120Rf–2, 140Ha, 140Hb, 140Hd, 140Ma, 140Ra–4, 140Rc–4, 180Ha	PCI	Microsoft Windows NT 4.0 SP6A[1, 2]	Emulex: LP8000–EMC[9], LP850–EMC, LP9002–E (LP9002L–E)[3, 5, 6], LP9802–E[3, 4], LP9802DC–E[3, 4], LP982–E[3, 4]; NEC N8190–105[3, 6, 10]; QLogic: QLA2200F–EMC[8], QLA2310F–E–SP[6, 7], QLA2340–E–SP[6, 7], QLA2342–E–SP[6, 7]	FC–AL, FC–SW	N
2	**Express 5800: 120Md, 120Ra–2, 120Rc–2, 120Rd–1, 120Rd–2, 120Rf–2, 140Ha, 140Hb, 140Hd, 140Ma, 140Ra–4, 140Ra–7, 140Rb–4, 140Rc–4, 180Ha, 180Rb–7, 180Rc–4**	**PCI**	**Microsoft Windows NT 4.0 SP6A[2]**	**Emulex LP850–EMC, NEC: N8190–105[10], N8503–200**	**FC–AL, FC–SW**	**Y**
3	Express 5800: 120Rd–1, 120Rf–2, 140Hb, 140Hd, 140Ra–4, 140Rc–4	PCI	Microsoft Windows NT 4.0 SP6A[2]	NEC N8503–200	FC–AL, FC–SW	N

1. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A, 5568 support at Windows NT 4.0 SP6A.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
4. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
5. The LP9002–E now ships with the LP9002L–E low profile adapter.
6. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
7. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
8. Requires driver 8.1.5.20, and bios 1.79. Available at http://www.qlogic.com. Supports SNIA HBA API.
9. The LP8000–EMC HBA has a permanent GBIC, and does not have copper cable support.
10. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.

Unisys

Unisys – Microsoft Windows NT							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	ES5043	PCI	Microsoft Windows NT 4.0 SP6A[4]	Unisys: FCH20111–P64 (LP8000–D1)[6], FCH20113–P64 (LP8000–EMC, LP8000–F1)	FC–AL, FC–SW	N	
2	ES2023; ES2024; ES2025; ES2043; ES2045; ES2085; ES5024; ES5044; ES5045; ES5085	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex LP8000–EMC[7]	FC–AL, FC–SW	N	See[1]
3	ES7000/100; ES7000/200; ES7000/230; ES7000/500	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex: LP8000–EMC[7], LP850–EMC[6], LP9002–E (LP9002L–E)[8, 11, 12], LP982–E[10]; QLogic QLA2340–E–SP[8, 9]	FC–AL, FC–SW	N	See[1]
4	DR/2; DS/2; QR/2; QS/2	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Emulex: LP8000–EMC[7], LP850–EMC[6], LP9002–E (LP9002L–E)[8, 11, 12], LP982–E[10]; QLogic QLA2340–E–SP[8, 9]; Unisys PCI: 1100–FC (QLA2100), 1120–FC (QLA2100–EMC, QLA2100F)	FC–AL, FC–SW	N	See[1]
5	DR/2; DS/2; ES2023; ES2024; ES2025; ES2043; ES2045; ES2085; ES5024; ES5044; ES5045; ES5085; ES7000/100; ES7000/200; ES7000/230; ES7000/500; QR/2; QS/2	PCI	Microsoft Windows NT 4.0 SP6A[4, 5]	Unisys: FCH20111–P64 (LP8000–D1)[6], FCH20113–P64 (LP8000–EMC, LP8000–F1)	FC–AL, FC–SW	Y[2, 3]	See[1]

1. Cables to be ordered from Fujitsu Services (ICL)
2. Booting Windows NT systems through ISLs (inter–switch links) in heterogeneous fabrics is not currently supported.
3. Booting Windows NT systems through ISLs (inter–switch links) via homogeneous fabrics is supported with a maximum of 2 hops.
4. EMC strongly recommends that HBAs of different vendors not be used in the same host server
5. Symmetrix 8000 Series: 66/67 support at Windows NT 4.0 SP6A, 5568 support at Windows NT 4.0 SP6A
6. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API
   NOTE: LP8000/850 HBAs without –EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.
7. The LP8000–EMC HBA has a permanent GBIC, and does not have copper cable support.
8. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
9. Requires driver 8.1.5.21, and bios 1.34. Available at http://www.qlogic.com. Supports SNIA HBA API.
10. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
11. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interfaces.
12. The LP9002–E now ships with the LP9002L–E low profile adapter.

NCR UNIX SVR4 MPRAS

NCR

NCR – NCR UNIX SVR4 MPRAS						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Worldmark 4455, 4475	PCI	NCR UNIX SVR4 MPRAS 3.02	LSI ITI7004G2[1], QLogic QLA2204F[2]	FC–AL, FC–SW	Y

1. Requires package PSCSI302 Ver.02.10.10.09 or higher available from NCR
2. Requires driver version 1.08 and BIOS version 1.76, available at http://www.qlogic.com. Packages PKERN302 and PS MBAS302 available from NCR

Novell Netware
Dell

Dell – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerEdge: 1550, 2400, 2500	PCI	Novell Netware 5.00 SP6A[5, 6, 25, 26]	QLogic QLA2100F-EMC[14]	FC-AL	N	
2	PowerEdge: 2550[22], 4300	PCI	Novell Netware 5.00 SP6A[5, 6, 25, 26]	QLogic QLA2100F-EMC[14]	FC-AL	N	See[30]
3	PowerEdge: 2450, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.00 SP6A[5, 6, 25, 26]	QLogic: QLA2100F-EMC[14], **QLA2200F-EMC[7, 8]**	FC-AL	N	
4	**PowerEdge: 2450, 4400, 6100, 6300 6350, 6450**	PCI	**Novell Netware 5.10: SP2A[5, 6], SP5[5, 10], SP6; Novell Netware 6.0: SP1[5, 6, 9], SP2[5, 6], SP3**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL	Y[1, 2, 3, 4]	
5	PowerEdge: 2450, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3	QLogic QLA2100F-EMC[14]	FC-AL	Y[2, 4, 29]	
6	PowerEdge: 2400, 4300	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3	QLogic QLA2100F[14, 31]	FC-AL	N	
7	PowerEdge: 1550, 2500, 2550[22]	PCI	Novell Netware 5.10: SP5[5], SP6	QLogic QLA2100F-EMC[14]	FC-AL	Y[2, 4, 18, 29]	See[10]
8	PowerEdge: 2400, 4300	PCI	Novell Netware 5.10: SP5[5], SP6	QLogic QLA2100F-EMC[14]	FC-AL	Y[2, 4, 29]	See[10]
9	**PowerEdge: 1550, 2500, 2550[22]**	PCI	**Novell Netware 5.10: SP5[5], SP6**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL	Y[1, 2, 3, 4, 18, 19]	
10	**PowerEdge: 2300, 6400, 8450; PowerVault: 750N, 755N, 775N**	PCI	**Novell Netware: 5.00 SP6A[5, 6, 25, 26], 5.10 SP2A[5, 6], 5.10 SP5[5, 10], 5.10 SP6, 6.0 SP1[5, 6, 9], 6.0 SP2[5, 6], 6.0 SP3**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL	N	
11	PowerEdge: 2300, 6400, 8450; PowerVault: 750N, 755N, 775N	PCI	Novell Netware: 5.00 SP6A[5, 6, 25, 26], 5.10 SP2A[5, 6], 5.10 SP5[5], 5.10 SP6, 6.0 SP1[5, 9], 6.0 SP2[5], 6.0 SP3	QLogic QLA2100F-EMC[14]	FC-AL	N	
12	PowerEdge: 1550, 2500, 2550[22]	PCI	Novell Netware: 5.10 SP2A[5, 6], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2100F-EMC[14]	FC-AL	Y[2, 4, 18, 29]	
13	PowerEdge: 2400, 4300	PCI	Novell Netware: 5.10 SP2A[5, 6], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2100F-EMC[14]	FC-AL	Y[2, 4, 29]	
14	PowerEdge 2600	PCI-X	Novell Netware 5.00 SP6A[5, 6, 25, 26]	QLogic QLA2100F-EMC[14]	FC-AL	N	
15	PowerEdge 4600	PCI-X	Novell Netware 5.00 SP6A[5, 6, 25, 26]	QLogic QLA2100F-EMC[14]	FC-AL	N	See[10]
16	PowerEdge: 2650, 6600, 6650	PCI-X	Novell Netware 5.00 SP6A[5, 6, 25, 26]	QLogic: QLA2100F-EMC[14], **QLA2200F-EMC[7, 8]**	FC-AL	N	
17	**PowerEdge 2650**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[5, 10], SP6; Novell Netware 6.0: SP1[5, 6, 9], SP2[5, 6], SP3**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL	Y[1, 2, 3, 4, 18, 19]	
18	**PowerEdge: 6600, 6650**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[5, 10], SP6; Novell Netware 6.0: SP1[5, 6, 9], SP2[5, 6], SP3**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL	Y[1, 2, 3, 4]	
19	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3	QLogic QLA2100F-EMC[14]	FC-AL	Y[2, 4, 18, 29]	
20	PowerEdge 4600	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3	QLogic QLA2100F[14, 31]	FC-AL	N	
21	PowerEdge 4600	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2100F-EMC[14]	FC-AL	Y[2, 4, 29]	See[10]
22	PowerEdge: 6600, 6650	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6, Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2100F-EMC[14]	FC-AL	Y[2, 4, 29]	
23	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP5[5], SP6	QLogic QLA2100F-EMC[14]	FC-AL	Y[2, 4, 18, 29]	See[10]
24	**PowerEdge 2600**	PCI-X	**Novell Netware 5.10: SP5[5], SP6**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL	Y[1, 2, 3, 4, 18, 19]	
25	PowerEdge 2600	PCI-X	Novell Netware: 5.10 SP2A[5, 6], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2100F-EMC[14]	FC-AL	Y[2, 4, 18, 29]	
26	PowerEdge 1650	PCI	Novell Netware 5.00 SP6A[5, 6, 25, 26]	QLogic: **QLA2200F-EMC[7, 8]**, QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	See[10]
27	PowerEdge: 1550, 2400, 2450, 2500, 2550[22], 4300, 4400, 6100, 6300 6350, 6450	PCI	Novell Netware 5.00 SP6A[5, 6, 25, 26]	QLogic: **QLA2200F-EMC[7, 8]**, QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	
28	**PowerEdge: 1550, 2500, 2550[22]**	PCI	**Novell Netware 5.10 SP2A[5, 6]**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	
29	PowerEdge: 1550, 2500	PCI	Novell Netware 5.10 SP2A[5, 6]	QLogic QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4, 18]	
30	PowerEdge 1650	PCI	Novell Netware 5.10 SP2A[5, 6]	QLogic: **QLA2200F-EMC[7, 8]**, QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	See[10]
31	PowerEdge: 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10 SP2A[5, 6]	QLogic: **QLA2200F-EMC[7, 8]** QLA2310F-E-SP[8, 11]	FC-AL FC-SW	Y[1, 2, 3, 4]	
32	PowerEdge 2550[22]	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5, 24], SP6	QLogic QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4, 18]	
33	PowerEdge: 1550, 2500	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5, 24] SP6; Novell Netware 6.0: SP1[5, 6, 13], SP2[5, 6, 13], SP3	QLogic: QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18]	
34	PowerEdge 1650	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5, 24], SP6; Novell Netware 6.0: SP1[5, 6, 9, 13], SP2[5, 6, 13], SP3	QLogic: QLA2340-E-SP[8, 11] **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	See[10]
35	**PowerVault 750N 755N 775N**	PCI	**Novell Netware 5.10: SP2A[5, 6] SP5[5, 6, 32], SP6 Novell Netware 6.0: SP1[5, 9] SP2[5] SP3**	**QLogic QLA2202F-EMC[7, 8, 14]**	FC-AL, FC-SW	N	See[10]
36	**PowerEdge 2500**	PCI	**Novell Netware 5.10: SP2A[5, 6], SP5[5, 6], SP6, Novell Netware 6.0: SP1[5, 9] SP2[5] SP3**	**QLogic QLA2202F-EMC[7, 8, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	

Dell – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
37	**PowerEdge 2550[22]**	PCI	**Novell Netware 5.10: SP2A[5, 6], SP5[5, 6], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3**	**QLogic QLA2202F-EMC[7, 8, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	**See[30]**
38	**PowerEdge 2300, 8450**	PCI	**Novell Netware 5.10: SP2A[5, 6], SP5[5, 6], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3**	**QLogic QLA2202F-EMC[7, 8, 14]**	FC-AL, FC-SW	N	**See[30]**
39	**PowerEdge 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450**	PCI	**Novell Netware 5.10: SP2A[5, 6], SP5[5, 6], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3**	**QLogic QLA2202F-EMC[7, 8, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	**See[30]**
40	PowerEdge 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5, 10, 24], SP6; Novell Netware 6.0: SP1[5, 6, 9, 13], SP2[5, 6, 13], SP3	QLogic: QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
41	PowerEdge 2550[22]	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 6, 13], SP2[5, 6, 13], SP3	QLogic: QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18]	
42	PowerEdge: 1550, 1650, 2300, 2400, 2450, 2550[22], 4300, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 6, 9], SP2[5, 6], SP3	Emulex LP9002-E (LP9002L-E)[20, 21]	FC-AL, FC-SW	N	
43	**PowerEdge 1550**	PCI	**Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3**	**QLogic QLA2202F-EMC[7, 8, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	
44	**PowerEdge 1650**	PCI	**Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3**	**QLogic QLA2202F-EMC[7, 8, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	**See[10]**
45	PowerEdge 1650	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3	QLogic QLA2300F-E-SP[8, 11]	FC-AL, FC-SW	N	See[10]
46	PowerEdge: 2300, 2400, 2450, 4300, 4400, 6100, 6300, 6350, 6450, 8450; PowerVault: 750N, 755N, 775N	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3	QLogic QLA2300F-E-SP[8, 11]	FC-AL, FC-SW	N	
47	PowerEdge 6400	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3	QLogic: **QLA2202F-EMC[7, 8, 14]**, QLA2300F-E-SP[8, 11]	FC-AL, FC-SW	N	
48	**PowerEdge: 1550, 2500, 2550[22]**	PCI	**Novell Netware 5.10: SP5[5, 24], SP6**	**QLogic QLA2200F-EMC[7, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	
49	**PowerEdge: 2300, 6400**	PCI	**Novell Netware 5.10: SP5[5, 24], SP6**	**QLogic QLA2200F-EMC[7, 14]**	FC-AL, FC-SW	N	
50	**PowerEdge: 2450, 4400, 6100, 6300, 6350, 6450**	PCI	**Novell Netware 5.10: SP5[5, 24], SP6**	**QLogic QLA2200F-EMC[7, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
51	**PowerEdge 8450**	PCI	**Novell Netware 5.10: SP5[5, 24], SP6**	**QLogic QLA2200F-EMC[7, 8, 14, 23, 27, 28]**	FC-AL, FC-SW	N	
52	PowerEdge 2550[22]	PCI	Novell Netware 5.10: SP5[5, 24], SP6	QLogic: QLA2310F-E-SP[11], QLA2340-E-SP[11]	FC-AL, FC-SW	Y[1, 2, 3, 4, 18]	
53	PowerEdge: 1550, 2500	PCI	Novell Netware 5.10: SP5[5, 24], SP6; Novell Netware 6.0: SP1[5, 6, 13], SP2[5, 6, 13], SP3	QLogic QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4, 18]	
54	PowerEdge 1650	PCI	Novell Netware 5.10: SP5[5, 24], SP6; Novell Netware 6.0: SP1[5, 6, 9, 13], SP2[5, 6, 13], SP3	QLogic: **QLA2200F-EMC[7, 8, 14]**, QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	See[10]
55	PowerEdge 2300	PCI	Novell Netware 5.10: SP5[5, 6, 24], SP6; Novell Netware 6.0: SP1[5, 6, 9, 13], SP2[5, 6, 13], SP3	QLogic QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	N	
56	PowerEdge: 2450, 4400, 6100, 6300, 6350, 6450	PCI	Novell Netware 5.10: SP5[5, 10, 24], SP6; Novell Netware 6.0: SP1[5, 6, 9, 13], SP2[5, 6, 13], SP3	QLogic QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
57	PowerEdge: 6400, 8450	PCI	Novell Netware 5.10: SP5[5, 10, 24], SP6, Novell Netware 6.0: SP1[5, 6, 9, 13], SP2[5, 6, 13], SP3	QLogic QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	N	
58	PowerEdge: 2400, 4300	PCI	Novell Netware 5.10: SP5[5, 10, 24], SP6; Novell Netware 6.0: SP1[5, 6, 9, 13], SP2[5, 6, 13], SP3	QLogic: **QLA2200F-EMC[7, 8, 14]**, QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
59	**PowerEdge: 1550, 2500, 2550[22]**	PCI	**Novell Netware 6.0: SP1[5, 6, 13], SP2[5, 6, 13], SP3**	**QLogic QLA2200F-EMC[7, 8, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	
60	**PowerEdge: 2300, 6400**	PCI	**Novell Netware 6.0: SP1[5, 6, 13], SP2[5, 6, 13], SP3**	**QLogic QLA2200F-EMC[7, 8, 14]**	FC-AL, FC-SW	N	
61	**PowerEdge: 2450, 4400, 6100, 6300, 6350, 6450**	PCI	**Novell Netware 6.0: SP1[5, 6, 13], SP2[5, 6, 13], SP3**	**QLogic QLA2200F-EMC[7, 8, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
62	**PowerEdge 8450**	PCI	**Novell Netware 6.0: SP1[5, 6, 13], SP2[5, 6, 13], SP3**	**QLogic QLA2200F-EMC[7, 8, 14, 23]**	FC-AL, FC-SW	N	
63	PowerEdge 2550[22]	PCI	Novell Netware 6.0: SP1[5, 6, 13], SP2[5, 6, 13], SP3	QLogic QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4, 18]	
64	PowerEdge 8450	PCI	Novell Netware: 5.00 SP6A[5, 6, 25, 26], 5.10 SP2[5], 5.10 SP2A[5, 6]	QLogic: **QLA2200F-EMC[7, 8]**, QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	N	
65	PowerEdge 8450	PCI	Novell Netware: 5.00 SP6A[5, 6, 25, 26], 5.10 SP2[5], 5.10 SP2A[5, 6], 5.10 SP5[5, 10, 24], 5.10 SP6, 6.0 SP1[5, 6, 9, 13], 6.0 SP2[5, 6, 13], 6.0 SP3	QLogic QLA2340-E-SP[8, 11]	FC-AL, FC-SW	N	
66	PowerEdge: 2300, 6400	PCI	Novell Netware: 5.00 SP6A[5, 6, 25, 26], 5.10 SP2A[5, 6]	QLogic: **QLA2200F-EMC[7, 8]**, QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	N	
67	PowerEdge 2300	PCI	Novell Netware: 5.00 SP6A[5, 6, 25, 26], 5.10 SP2A[5, 6], 5.10 SP5[5, 6, 24], 5.10 SP6, 6.0 SP1[5, 6, 9, 13], 6.0 SP2[5, 6, 13], 6.0 SP3	QLogic: QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	
68	**PowerEdge 8450**	PCI	**Novell Netware: 5.00 SP6A[5, 6, 25, 26], 5.10 SP2A[5, 6], 5.10 SP5[5, 10, 24], 5.10 SP6, 6.0 SP1[5, 6, 9, 13], 6.0 SP2[5, 6, 13], 6.0 SP3**	**QLogic QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	
69	PowerEdge 6400	PCI	Novell Netware: 5.00 SP6A[5, 6, 25, 26], 5.10 SP2A[5, 6], 5.10 SP5[5, 10, 24], 5.10 SP6, 6.0 SP1[5, 6, 9, 13], 6.0 SP2[5, 6, 13], 6.0 SP3	QLogic: QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	
70	PowerVault 750N, 755N, 775N	PCI	Novell Netware: 5.00 SP6A[5, 6, 25, 26], 5.10 SP2A[5, 6], 5.10 SP5[5, 10], 5.10 SP6, 6.0 SP1[5, 6, 9], 6.0 SP2[5, 6], 6.0 SP3	QLogic: QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	

Dell – Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
71	PowerEdge 2500	PCI	Novell Netware: 5.10 SP2A[5, 6], 6.0 SP1[5, 6], 6.0 SP2[5, 6], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[20]	FC-AL, FC-SW	N	
72	PowerEdge: 1550, 2500, 2550[22]	PCI	Novell Netware, 5.10 SP2A[5, 6], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2300F-E-SP[8, 11]	FC-AL, FC-SW	N	
73	PowerEdge: 1750, 4600	PCI-X	Novell Netware 5.00 SP6A[5, 6, 25, 26]	QLogic: **QLA2200F-EMC[7, 8]**, QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	See[10]
74	PowerEdge, 2600, 2650, 6600, 6650	PCI-X	Novell Netware 5.00 SP6A[5, 6, 25, 26]	QLogic: **QLA2200F-EMC[7, 8]**, QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	
75	**PowerEdge 6600**	PCI-X	**Novell Netware 5.10 SP2A[5, 6]**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
76	**PowerEdge: 2600, 2650**	PCI-X	**Novell Netware 5.10 SP2A[5, 6]**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	
77	PowerEdge 2600	PCI-X	Novell Netware 5.10 SP2A[5, 6]	QLogic QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4, 18]	
78	PowerEdge 1750	PCI-X	Novell Netware 5.10 SP2A[5, 6]	QLogic: **QLA2200F-EMC[7, 8]**, QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	See[10]
79	**PowerEdge 6650**	**PCI-X**	**Novell Netware 5.10 SP2A[5, 6], SP5[5, 24], SP6; Novell Netware 6.0 SP1[5, 13], SP2[5, 13], SP3**	**QLogic QLA2342-E-SP[8, 11, 12]**	**FC-AL, FC-SW**	Y[1, 2, 3, 4]	
80	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5, 24], SP6; Novell Netware 6.0: SP1[5, 6, 13], SP2[5, 6, 13], SP3	QLogic: QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18]	
81	PowerEdge, 1750, 4600	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5, 24], SP6; Novell Netware 6.0: SP1[5, 6, 9, 13], SP2[5, 6, 13], SP3	QLogic: QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	See[10]
82	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5, 10, 24], SP6; Novell Netware 6.0: SP1[5, 6, 9, 13], SP2[5, 6, 13], SP3	QLogic: QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18]	
83	PowerEdge 6600	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5, 10, 24], SP6; Novell Netware 6.0: SP1[5, 6, 9, 13], SP2[5, 6, 13], SP3	QLogic: QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
84	PowerEdge 6600	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5, 10], SP6; Novell Netware 6.0 SP1[5, 6, 9]	QLogic QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
85	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5, 10], SP6; Novell Netware 6.0: SP1[5, 6, 9], SP2[5, 6], SP3	QLogic QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4, 18]	
86	PowerEdge 6650	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5, 10], SP6; Novell Netware 6.0: SP1[5, 6, 9], SP2[5, 6], SP3	QLogic: QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
87	**PowerEdge 4600**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	See[10]
88	PowerEdge 4600	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0 SP1[5, 6, 9]	QLogic QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	See[10]
89	PowerEdge: 1750, 2600, 2650, 4600, 6600, 6650	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 6, 9], SP2[5, 6], SP3	Emulex LP9002-E (LP9002L-E)[20, 21]	FC-AL, FC-SW	N	
90	**PowerEdge 2650**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3**	**QLogic QLA2202F-EMC[7, 8, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	
91	**PowerEdge: 1750, 4600**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6. Novell Netware 6.0: SP1[5, 9], SP2[5], SP3**	**QLogic QLA2202F-EMC[7, 8, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	**See[10]**
92	PowerEdge 2650	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3	QLogic QLA2300F-E-SP[8, 11]	FC-AL, FC-SW	N	
93	PowerEdge: 1750, 4600	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5, 9], SP2[5], SP3	QLogic QLA2300F-E-SP[8, 11]	FC-AL, FC-SW	N	See[10]
94	**PowerEdge 2600**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6: Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2202F-EMC[7, 8, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	
95	**PowerEdge 6600, 6650**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6 Novell Netware 6.0: SP1[5], SP2[5], SP3**	**QLogic QLA2202F-EMC[7, 8, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
96	PowerEdge: 6600, 6650	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[5], SP6; Novell Netware 6.0: SP1[5], SP2[5], SP3	QLogic QLA2300F-E-SP[8, 11]	FC-AL, FC-SW	N	
97	**PowerEdge 2650**	PCI-X	**Novell Netware 5.10: SP5[5, 13, 15] SP6**	**QLogic QLA2200F-EMC[7, 14, 16, 17]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	
98	**PowerEdge 2600**	PCI-X	**Novell Netware 5.10: SP5[5, 24], SP6**	**QLogic QLA2200F-EMC[7, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	
99	PowerEdge 2600	PCI-X	Novell Netware 5.10: SP5[5, 24], SP6; Novell Netware 6.0: SP1[5, 6, 13], SP2[5, 6, 13], SP3	QLogic QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4, 18]	
100	PowerEdge 1750	PCI-X	Novell Netware 5.10: SP5[5, 24], SP6; Novell Netware 6.0: SP1[5, 6, 9, 13], SP2[5, 6, 13], SP3	QLogic: **QLA2200F-EMC[7, 8, 14]**, QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	See[10]
101	**PowerEdge 6600, 6650**	PCI-X	**Novell Netware 5.10: SP5[5] SP6**	**QLogic QLA2200F-EMC[7]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
102	**PowerEdge 6650**	PCI-X	**Novell Netware 6.0 SP1[5, 13, 15]**	**QLogic QLA2200F-EMC[7, 14, 16, 17]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
103	**PowerEdge 6600**	PCI-X	**Novell Netware 6.0 SP1[5, 6, 13, 15]**	**QLogic QLA2200F-EMC[7, 8, 14, 16, 17]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
104	PowerEdge 4600	PCI-X	**Novell Netware 6.0 SP1[5, 6, 9, 13, 15]**	**QLogic QLA2200F-EMC[7, 8, 14, 16, 17]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	See[10]

Dell – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
105	PowerEdge 6650	PCI-X	Novell Netware 6.0: SP1[5, 13], SP2[5, 13], SP3	QLogic QLA2340-E-SP[11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
106	**PowerEdge 2650**	PCI-X	**Novell Netware 6.0: SP1[5, 6, 13, 15], SP2[5, 6, 13, 15], SP3**	**QLogic QLA2200F-EMC[7, 8, 14, 16, 17]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	
107	**PowerEdge 2600**	PCI-X	**Novell Netware 6.0: SP1[5, 6, 13], SP2[5, 6, 13], SP3**	**QLogic QLA2200F-EMC[7, 8, 14]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 18, 19]	
108	PowerEdge 4600	PCI-X	Novell Netware 6.0: SP2[5, 6], SP3	QLogic: **QLA2200F-EMC[7, 8, 14]**, QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	See[10]
109	PowerEdge 6600	PCI-X	Novell Netware 6.0: SP2[5, 6], SP3	QLogic: **QLA2200F-EMC[7, 8, 14]**, QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
110	PowerEdge 6650	PCI-X	Novell Netware 6.0: SP2[5], SP3	QLogic: **QLA2200F-EMC[7, 14]**, QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
111	**PowerEdge 6650**	PCI-X	**Novell Netware: 5.10 SP2A[5, 6], 6.0 SP1[5, 6], 6.0 SP2[5, 6], 6.0 SP3**	**QLogic QLA2200F-EMC[7, 8]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
112	PowerEdge 2600	PCI-X	Novell Netware: 5.10 SP2A[5, 6], 6.0 SP1[5], 6.0 SP2[5], 6.0 SP3	QLogic QLA2300F-E-SP[8, 11]	FC-AL, FC-SW	N	

1. Edit config.sys with the following: Files=100 Buffers=99
2. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditons exist where several LUNs are initially created and you perform your first install. NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.
3. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT_C: partition will.
4. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
5. Maximum number of NWFS volumes that can be mounted is 64.
6. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.
7. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
8. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
9. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
10. Symmetrix 8000 Series: 66/67 support at NetWare 5.x, 5568 support at Netware 5.1.
11. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
12. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
13. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.
14. Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.
15. **For ATF on Pre CX series, Multipath support or connections to the secondary port are not supported at this time. One path per SP, 2 HBAs per host.**
16. **Novell Storage Services supported.**
17. **PowerPath and ATF supported.**
18. DOS boot device maximum accessible capacity is 2GB. Netware SYS volume must be in LUN 0.
19. Supports FC-AL point-to-point and Fabric switch configurations.
20. Requires driver version 2.02e and firmware 3.90a7.
21. PowerPath not currently supported.
22. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
23. **Requires HBA bios 1.83 and driver 6.50v.**
24. Requires NetWare patches: NWPAPT2A and NSS5J.
25. NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.
26. Requires NWPA.NLM V.3.07A update from Novell website.
27. **Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.**
28. **Requires HBA firmware revision 1.83 and HBA driver revision 6.50v, available at http://www.qlogic.com**
    Requires SP4 or higher for NetWare 5.00.
29. Supports FC-AL point-to-point only.
30. AHA-2944W is no longer available in distribution channels.
31. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
32. **Novell 5.00 OS only supports the Host Adapter Module (HAM) driver.**

Fujitsu Siemens

Fujitsu Siemens – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Primergy: B210, C200, E200, F200, H400, K400, L200, N200, N400, P200, P250, R450	PCI	Novell Netware 5.00 SP6A[2, 3, 15, 16]	QLogic QLA2100F-EMC[17]	FC-AL	N	
2	Primergy 700	PCI	Novell Netware 5.00 SP6A[3, 16]	QLogic QLA2100F-EMC[17]	FC-AL	N	See[1]
3	Primergy: H400, K400, N400, P250	PCI	Novell Netware 5.10: SP2A[2, 3, 15, 16], SP5[3] SP6. Novell Netware 6.0: SP1[3, 6], SP2[3], SP3	QLogic QLA2100F-EMC[17]	FC-AL	Y[8, 10, 18]	
4	Primergy: H250[11], N800, R450	PCI-X	Novell Netware 5.00 SP6A[2, 3, 15, 16]	QLogic QLA2100F-EMC[17]	FC-AL	N	
5	Primergy H450	PCI-X	Novell Netware 5.00 SP6A[3, 16]	QLogic QLA2100F-EMC[17]	FC-AL	N	See[1]
6	Primergy H250[11]	PCI-X	Novell Netware 5.10 SP2A[2, 3, 15, 16]	QLogic QLA2100F-EMC[17, 19]	FC-AL	Y[8, 10, 18]	See[1]
7	Primergy N800	PCI-X	Novell Netware 5.10: SP2A[2, 3, 15, 16] SP5[3], SP6, Novell Netware 6.0: SP1[3, 6], SP2[3], SP3	QLogic QLA2100F-EMC[17]	FC-AL	Y[8, 10, 18]	
8	Primergy H250[11]	PCI-X	Novell Netware 5.10: SP5[3], SP6. Novell Netware 6.0: SP1[3, 6], SP2[3], SP3	QLogic QLA2100F-EMC[17]	FC-AL	Y[8, 10, 18]	
9	Primergy F250[11]	PCI-X	Novell Netware: 5.00 SP6A[2, 3, 15, 16], 5.10 SP2A[2, 3], 5.10 SP5[3], 5.10 SP6, 6.0 SP1[3, 6], 6.0 SP2[3] 6.0 SP3	QLogic QLA2100F-EMC[17]	FC-AL	N	
10	**Primergy H400, K400 N400**	PCI	**Novell Netware 5.00 SP6A[2, 3, 15, 16]**	**QLogic QLA2200F-EMC[4, 5]**	FC-AL, FC-SW	N	See[1]
11	Primergy P250	PCI	Novell Netware 5.00 SP6A[2, 3, 15, 16]	QLogic: **QLA2200F-EMC[4, 5]** QLA2310F-E-SP[5, 12], QLA2340-E-SP[5, 12], **QLA2342-E-SP[5, 12, 22]**	FC-AL, FC-SW	N	
12	Primergy: H400, K400 N400	PCI	Novell Netware 5.00 SP6A[2, 3, 15, 16]	QLogic: QLA2340-E-SP[12], **QLA2342-E-SP[5, 12, 22]**	FC-AL, FC-SW	N	

Fujitsu Siemens – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
13	Primergy P250	PCI	Novell Netware 5.10 SP2A[2, 3, 15, 16]	QLogic QLA2340-E-SP[5, 12]	FC-AL, FC-SW	Y[7, 8, 9, 10]	
14	**Primergy: H400, K400, N400, P250**	**PCI**	**Novell Netware 5.10: SP2A[2, 3, 15, 16], SP5[3], SP6; Novell Netware 6.0: SP1[3, 6], SP2[3], SP3**	**QLogic QLA2342-E-SP[5, 12, 22]**	**FC-AL, FC-SW**	**Y[7, 8, 9, 10]**	
15	**Primergy P250**	PCI	**Novell Netware 5.10: SP2A[2, 3], SP5[3], SP6; Novell Netware 6.0: SP1[2, 3, 6], SP2[2, 3], SP3**	**QLogic QLA2200F-EMC[4, 5]**	FC-AL, FC-SW	Y[7, 8, 9, 10]	
16	**Primergy T850**	PCI	**Novell Netware 5.10: SP2A[2, 3], SP5[3], SP6; Novell Netware 6.0: SP1[2, 3, 6], SP2[2, 3], SP3**	**QLogic QLA2200F-EMC[4, 5]**	FC-AL, FC-SW	N	
17	**Primergy: H400, K400, N400**	PCI	**Novell Netware 5.10: SP2A[2, 3], SP5[3], SP6; Novell Netware 6.0: SP1[2, 3, 6], SP2[2, 3], SP3**	**QLogic QLA2200F-EMC[4, 5]**	FC-AL, FC-SW	Y[7, 8, 9, 10]	See[1]
18	**Primergy P250**	PCI	**Novell Netware 5.10: SP2A[2, 3], SP5[3], SP6; Novell Netware 6.0: SP1[3, 6], SP2[3], SP3**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	Y[7, 8, 9, 10]	
19	**Primergy R450**	PCI	**Novell Netware 5.10: SP2A[2, 3], SP5[3], SP6; Novell Netware 6.0: SP1[3, 6], SP2[3], SP3**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	N	
20	**Primergy: E200, F200, L200, N200, P200**	PCI	**Novell Netware 5.10: SP2A[2, 3], SP5[3], SP6; Novell Netware 6.0: SP1[3, 6], SP2[3], SP3**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	N	See[1]
21	**Primergy 700**	PCI	**Novell Netware 5.10: SP5[2, 3, 21], SP6; Novell Netware 6.0 SP1[3, 6]**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	N	See[1]
22	**Primergy H400**	PCI	**Novell Netware 5.10: SP5[2, 3], SP6**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	Y[7, 8, 9, 10]	See[20]
23	**Primergy: K400, N400**	PCI	**Novell Netware 5.10: SP5[2, 3], SP6; Novell Netware 6.0: SP2[3], SP3**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	Y[7, 8, 9, 10]	See[20]
24	Primergy P250	PCI	Novell Netware 5.10: SP5[3], SP6	QLogic QLA2310F-E-SP[12]	FC-AL, FC-SW	Y[7, 8, 9, 10]	
25	Primergy: H400, K400, N400	PCI	Novell Netware 5.10: SP5[3], SP6	QLogic: QLA2310F-E-SP[12], QLA2340-E-SP[12]	FC-AL, FC-SW	Y[7, 8, 9, 10]	
26	Primergy P250	PCI	Novell Netware 5.10: SP5[3], SP6; Novell Netware 6.0: SP1[3, 6], SP2[3], SP3	QLogic QLA2340-E-SP[12]	FC-AL, FC-SW	Y[7, 8, 9, 10]	
27	Primergy: B210, C200, E200, F200, L200, N200, P200, R450	PCI	Novell Netware 6.0 SP1[3, 6]	QLogic QLA2310F-E-SP[5, 12]	FC-AL, FC-SW	N	
28	Primergy 700	PCI	Novell Netware 6.0: SP1[3, 6], SP2[3], SP3	QLogic: QLA2310F-E-SP[5, 12], QLA2340-E-SP[5, 12], **QLA2342-E-SP[5, 12, 22]**	FC-AL, FC-SW	N	
29	**Primergy R450**	PCI	**Novell Netware: 5.00 SP6A[2, 3, 15, 16], 5.10 SP2A[2, 3], 5.10 SP5[3], 5.10 SP6, 6.0 SP1[2, 3, 6], 6.0 SP2[2, 3], 6.0 SP3**	**QLogic QLA2200F-EMC[4, 5]**	FC-AL, FC-SW	N	
30	**Primergy: 700, E200, F200, L200, N200, P200**	PCI	**Novell Netware: 5.00 SP6A[2, 3, 15, 16], 5.10 SP2A[2, 3], 5.10 SP5[3], 5.10 SP6, 6.0 SP1[2, 3, 6], 6.0 SP2[2, 3], 6.0 SP3**	**QLogic QLA2200F-EMC[4, 5]**	FC-AL, FC-SW	N	See[1]
31	**Primergy: B210, C200**	PCI	**Novell Netware: 5.00 SP6A[2, 3, 15, 16], 5.10 SP2A[2, 3], 6.0 SP1[2, 3], 6.0 SP2[2, 3], 6.0 SP3**	**QLogic QLA2200F-EMC[4, 5]**	FC-AL, FC-SW	N	
32	Primergy P250	PCI	Novell Netware: 5.10 SP2A[2, 3, 15, 16], 6.0 SP1[3, 6], 6.0 SP2[3], 6.0 SP3	QLogic QLA2310F-E-SP[5, 12]	FC-AL, FC-SW	Y[7, 8, 9, 10]	
33	Primergy: H400, K400, N400	PCI	Novell Netware: 5.10 SP2A[2, 3, 15, 16], 6.0 SP1[3, 6], 6.0 SP2[3], 6.0 SP3	QLogic: QLA2310F-E-SP[5, 12], QLA2340-E-SP[5, 12]	FC-AL, FC-SW	Y[7, 8, 9, 10]	
34	**Primergy: K400, N400**	PCI	**Novell Netware: 5.10 SP2A[2, 3], 6.0 SP1[3, 6]**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	Y[7, 8, 9, 10]	See[1]
35	**Primergy H400**	PCI	**Novell Netware: 5.10 SP2A[2, 3], 6.0 SP1[3, 6], 6.0 SP2[3], 6.0 SP3**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	Y[7, 8, 9, 10]	See[1]
36	**Primergy: B210, C200**	PCI	**Novell Netware: 5.10 SP2A[2, 3], 6.0 SP1[3] 6.0 SP2[3], 6.0 SP3**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	N	
37	**Primergy 700**	PCI	**Novell Netware: 5.10 SP2A[2, 3], 6.0 SP2[3], 6.0 SP3**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	N	See[20]
38	**Primergy: H250[11], N800**	PCI-X	**Novell Netware 5.00 SP6A[2, 3, 15, 16]**	**QLogic QLA2200F-EMC[4, 5]**	FC-AL, FC-SW	N	See[1]
39	Primergy H250[11]	PCI-X	Novell Netware 5.00 SP6A[2, 3, 15, 16]	QLogic: QLA2310F-E-SP[5, 12], QLA2340-E-SP[5, 12], **QLA2342-E-SP[5, 12, 22]**	FC-AL, FC-SW	N	
40	Primergy N800	PCI-X	Novell Netware 5.00 SP6A[2, 3, 15, 16]	QLogic: QLA2340-E-SP[12], **QLA2342-E-SP[5, 12, 22]**	FC-AL, FC-SW	N	
41	**Primergy: H250[11], N800**	**PCI-X**	**Novell Netware 5.10: SP2A[2, 3, 15, 16], SP5[3], SP6; Novell Netware 6.0: SP1[3, 6], SP2[3], SP3**	**QLogic QLA2342-E-SP[5, 12, 22]**	**FC-AL, FC-SW**	Y[7, 8, 9, 10]	
42	**Primergy N800**	PCI-X	**Novell Netware 5.10: SP2A[2, 3], SP5[2, 3], SP6; Novell Netware 6.0: SP1[3, 6], SP2[3], SP3**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	Y[7, 8, 9, 10]	See[1]
43	**Primergy: RX200, RX300, TX200 TX300**	PCI-X	**Novell Netware 5.10: SP2A[2, 3], SP5[2, 3], SP6, Novell Netware 6.0: SP1[3, 6], SP2[3], SP3**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	N	See[1]
44	Primergy: H250[11], N800	PCI-X	**Novell Netware 5.10: SP2A[2, 3], SP5[3], SP6, Novell Netware 6.0: SP1[2, 3, 6], SP2[2, 3], SP3**	**QLogic QLA2200F-EMC[4, 5]**	FC-AL, FC-SW	Y[7, 8, 9, 10]	See[1]
45	Primergy H250[11]	PCI-X	Novell Netware 5.10: SP2A[2, 3], SP5[3] SP6, Novell Netware 6.0: SP1[3, 6], SP2[3], SP3	QLogic QLA2202F-EMC[4, 5, 17]	FC-AL, FC-SW	Y[7, 8, 9, 10]	See[1]
46	Primergy H450	PCI-X	Novell Netware 5.10: SP2A[2, 3] SP5[3] SP6, Novell Netware 6.0: SP1[3, 6], SP2[3], SP3	QLogic QLA2202F-EMC[4, 5, 17]	FC-AL, FC-SW	N	See[1]

Fujitsu Siemens – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
47	Primergy F250[11]	PCI-X	Novell Netware 5.10: SP2A[2, 3], SP5[3], SP6; Novell Netware 6.0: SP1[3, 6], SP2[3], SP3	QLogic: **QLA2202F-EMC[4, 5, 17]**, QLA2300F-E-SP[5, 12]	FC-AL, FC-SW	N	
48	Primergy: RX200, RX300, TX200, TX300	PCI-X	Novell Netware 5.10: SP5[3], SP6	QLogic QLA2310F-E-SP[12]	FC-AL, FC-SW	N	
49	Primergy: H250[11], N800	PCI-X	Novell Netware 5.10: SP5[3], SP6	QLogic: QLA2310F-E-SP[12], QLA2340-E-SP[12]	FC-AL, FC-SW	Y[7, 8, 9, 10]	
50	**Primergy: RX200, RX300, TX200, TX300**	**PCI-X**	**Novell Netware: 5.00 SP6A[2, 3, 15, 16], 5.10 SP2A[2, 3, 15, 16], 5.10 SP5[3], 5.10 SP6, 6.0 SP1[3, 6], 6.0 SP2[3], 6.0 SP3**	**QLogic QLA2342-E-SP[5, 12, 22]**	**FC-AL, FC-SW**	**N**	
51	**Primergy: H450, RX200, RX300, TX200, TX300**	PCI-X	**Novell Netware: 5.00 SP6A[2, 3, 15, 16], 5.10 SP2A[2, 3], 5.10 SP5[3], 5.10 SP6, 6.0 SP1[2, 3, 6], 6.0 SP2[2, 3], 6.0 SP3**	**QLogic QLA2200F-EMC[4, 5]**	FC-AL, FC-SW	N	**See[1]**
52	Primergy F250[11]	PCI-X	Novell Netware: 5.00 SP6A[2, 3, 15, 16], 5.10 SP2A[2, 3], 5.10 SP5[3], 5.10 SP6, 6.0 SP1[2, 3, 6], 6.0 SP2[2, 3], 6.0 SP3	QLogic: **QLA2200F-EMC[4, 5]**, QLA2310F-E-SP[5, 12], QLA2340-E-SP[5, 12], **QLA2342-E-SP[5, 12, 22]**	FC-AL, FC-SW	N	
53	**Primergy R450**	PCI-X	**Novell Netware: 5.00 SP6A[2, 3, 15, 16], 5.10 SP2A[2, 3], 6.0 SP1[2, 3], 6.0 SP2[2, 3], 6.0 SP3**	**QLogic QLA2200F-EMC[4, 5]**	FC-AL, FC-SW	N	
54	Primergy: RX200, RX300, TX200, TX300	PCI-X	Novell Netware: 5.00 SP6A[2, 3, 15, 16], 5.10 SP5[3], 5.10 SP6	QLogic QLA2340-E-SP[12]	FC-AL, FC-SW	N	
55	Primergy: H250[11], N800	PCI-X	Novell Netware: 5.10 SP2A[2, 3, 15, 16], 6.0 SP1[3, 6], 6.0 SP2[3], 6.0 SP3	QLogic: QLA2310F-E-SP[5, 12], QLA2340-E-SP[5, 12]	FC-AL, FC-SW	Y[7, 8, 9, 10]	
56	Primergy: RX200, RX300, TX200, TX300	PCI-X	Novell Netware: 5.10 SP2A[2, 3, 15, 16], 6.0 SP1[3, 6], 6.0 SP2[3], 6.0 SP3	QLogic: QLA2310F-E-SP[5, 12], QLA2340-E-SP[5, 12]	FC-AL, FC-SW	N	
57	**Primergy R450**	PCI-X	**Novell Netware: 5.10 SP2A[2, 3], 6.0 SP1[3], 6.0 SP2[3], 6.0 SP3**	**QLogic QLA2202F-EMC[4, 5, 17]**	FC-AL, FC-SW	N	
58	Primergy F250[11]	PCI-X	Novell Netware 5.10: SP2A[2, 3], SP5[3], SP6; Novell Netware 6.0: SP1[2, 3, 6], SP2[2, 3], SP3	Emulex LP9002-E (LP9002L-E)[13, 14]	FC-SW	N	

1. Symmetrix 8000 Series: 66/67 support at NetWare 5.x. 5568 support at Netware 5.1.
2. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.
3. Maximum number of NWFS volumes that can be mounted is 64.
4. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
5. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
6. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
7. Edit config.sys with the following: Files=100 Buffers=99
8. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditions exist where several LUNs are initially created and you perform your first install, NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.
9. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT .C: partition will.
10. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
11. Must use standard PCI 32bit/33MHz slot for SCSI
12. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
13. PowerPath not currently supported.
14. Requires driver version 2.02e and firmware 3.90a7.
15. NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.
16. Requires NWPA.NLM V.3.07A update from Novell website.
17. Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.
18. Supports FC-AL point-to-point only.
19. Requires HBA firmware revision 1.83 and HBA driver revision 6.50v, available at http://www.qlogic.com Requires SP4 or higher for NetWare 5.00.
20. AHA-2944W is no longer available in distribution channels.
21. **Novell 5.00 OS only supports the Host Adapter Module (HAM) driver.**
22. **Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)**

HPQ

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netserver LH; (LH Pro), III; Netserver LP 2000r; Proliant ML350(G2)[6]	PCI	Novell Netware 5.00 SP6A[1, 2, 26, 27]	QLogic QLA2100F-EMC[19]	FC-AL	N	
2	Proliant: ML370(G2), ML370(G3), ML750[17]	PCI	Novell Netware 5.00 SP6A[1, 2, 26, 27]	QLogic QLA2100F-EMC[19]	FC-AL	N	See[13]
3	**Proliant 1600[6, 12], 1850[6], 2500[6], 3000[6], 5000[6], 5500[5, 6], 6000[5, 6], 6400R[6], 6500[5, 6], 850[6], DL360[6], DL380[6], DL380(G2)[6], DL580[6], DL580(G2)[6], ML350[6], ML370[6], ML530[6], ML570[6]**	PCI	**Novell Netware 5.00 SP6A[1, 2, 26, 27]**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL	N	
4	Netserver LH: 4, II; Netserver, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant, DL360(G2)[6], **DL380(G3)**, ML530(G2)[6]	PCI	Novell Netware 5.00 SP6A[1, 2, 26, 27]	QLogic: QLA2100F-EMC[19], **QLA2200F-EMC[3, 4]**	FC-AL	N	
5	Netserver LC 2000r Proliant: 1600[6, 12], 1850[6], 2500[6], 3000[6], 5000[6], 5500[5, 6], 6000[5, 6], 6400R[6], 6500[5, 6], 7000[5, 6], 8000[5, 6], 850[6], 8500, DL360[6], **DL380[6], DL380(G2)[6], DL380(G3)**, DL580[6], DL580(G2)[6], ML350[6], ML370[6], ML530[6], ML570[6]	PCI	Novell Netware 5.00 SP6A[1, 2, 26, 27, 29]	QLogic QLA2100F-EMC[19]	FC-AL	N	See[28]
6	Proliant DL320[6]	PCI	Novell Netware 5.00 SP6A[1, 2, 26, 27, 29]	QLogic QLA2100F-EMC[19]	FC-AL	N	See[13]
7	Netserver LH 4, II PRO, III Netserver LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	PCI	Novell Netware 5.10: SP2A[1, 2] SP5[1, 13] SP6; Novell Netware 6.0: SP1[1, 2, 7] SP2[1, 2] SP3	HPQ D8602A (Agilent HHBA-5101B)[22, 23, 24]	FC-AL	N	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
8	**Netserver LH: 4, II;** **Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[6, 12], 1850[6], 2500[6], 3000[6], 5000[6], 5500[5, 6], 6000[5, 6], 6400R[6], 6500[5, 6], 850[6], DL360[6], DL360(G2)[6], DL380[6], DL380(G2)[6], DL380(G3), DL580[6], DL580(G2)[6], ML350[6], ML370[6], ML530[6], ML530(G2)[6], ML570[6]**	PCI	**Novell Netware 5.10: SP2A[1, 2], SP5[1, 13], SP6;** **Novell Netware 6.0: SP1[1, 2, 7], SP2[1, 2], SP3**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL	Y[8, 9, 10, 11]	
9	Netserver: LC 2000 U3, LT 6000R	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 2, 7], SP2[1, 2], SP3	HPQ D8602A (Agilent HHBA-5101B)[22, 23, 24]	FC-AL	N	See[13]
10	Netserver LC 2000r; Proliant 8000[5, 6]	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 7], SP2[1], SP3	QLogic QLA2100F-EMC[19]	FC-AL	N	
11	Netserver LH: 4, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8: Proliant: 1600[6, 12], 1850[6], 2500[6], 3000[6], 5000[6], 5500[5, 6], 6000[5, 6], 6400R[6], 6500[5, 6], 850[6], DL360[6], DL360(G2)[6], **DL380[6], DL380(G2)[6], DL380(G3)**, DL580[6], DL580(G2)[6], ML350[6], ML350(G2)[6], ML370[6], ML530[6], ML530(G2)[6], ML570[6]	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 7], SP2[1], SP3	QLogic QLA2100F-EMC[19]	FC-AL	Y[9, 11, 30]	
12	Proliant: DL320[6], ML370(G2), **ML370(G3)**, ML750[17]	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 7], SP2[1], SP3	QLogic QLA2100F-EMC[19]	FC-AL	Y[9, 11, 30]	See[13]
13	Proliant ML750[17]	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 7], SP2[1], SP3	QLogic QLA2100F[19, 23]	FC-AL	N	
14	Netserver LH (LH Pro)	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1], SP2[1], SP3	QLogic QLA2100F-EMC[19]	FC-AL	Y[9, 11, 30]	
15	Proliant 7000[5, 6]	PCI	Novell Netware 5.10: SP5[1], SP6	QLogic QLA2100F-EMC[19]	FC-AL	Y[9, 11, 30]	See[13]
16	Proliant 8500	PCI	Novell Netware 5.10: SP5[1], SP6	QLogic QLA2100F-EMC[19]	FC-AL	N	See[13]
17	**Netserver LH (LH Pro):** **Proliant 7000[5, 6]**	PCI	**Novell Netware 5.10: SP5[1], SP6**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL	Y[8, 9, 10, 11]	
18	**Proliant 8500**	PCI	**Novell Netware 5.10: SP5[1], SP6**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL	N	
19	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: 3, 3000, 6000, PRO;** **Proliant 8000[5, 6]**	PCI	**Novell Netware: 5.00 SP6A[1, 2, 26, 27], 5.10 SP2A[1, 2], 5.10 SP5[1, 13], 5.10 SP6, 6.0 SP1[1, 2, 7], 6.0 SP2[1, 2], 6.0 SP3**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL	N	
20	Netserver: LC 2000 U3, LH 3, LH 3000, LH 6000, LH PRO	PCI	Novell Netware: 5.00 SP6A[1, 2, 26, 27], 5.10 SP2A[1, 2], 5.10 SP5[1], 5.10 SP6, 6.0 SP1[1, 7], 6.0 SP2[1], 6.0 SP3	QLogic QLA2100F-EMC[19]	FC-AL	N	
21	Netserver LH (LH Pro)	PCI	Novell Netware: 5.10 SP2A[1, 2], 6.0 SP1[1, 2], 6.0 SP2[1, 2], 6.0 SP3	HPQ D8602A (Agilent HHBA-5101B)[22, 23, 24]	FC-AL	N	
22	Proliant 7000[5, 6]	PCI	Novell Netware: 5.10 SP2A[1, 2], 6.0 SP1[1], 6.0 SP2[1], 6.0 SP3	QLogic QLA2100F-EMC[19]	FC-AL	Y[9, 11, 30]	
23	Proliant 8500	PCI	Novell Netware: 5.10 SP2A[1, 2], 6.0 SP1[1], 6.0 SP2[1], 6.0 SP3	QLogic QLA2100F-EMC[19]	FC-AL	N	
24	**Proliant: DL560, DL560 (G2), ML570(G2)**	PCI-X	**Novell Netware 5.00 SP6A[1, 2, 26, 27]**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL	N	
25	Proliant DL360(G3)	PCI-X	Novell Netware 5.00 SP6A[1, 2, 26, 27]	QLogic: QLA2100F-EMC[19], **QLA2200F-EMC[3, 4]**	FC-AL	N	
26	Proliant: DL560, **DL560 (G2)**, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.00 SP6A[1, 2, 26, 27, 29]	QLogic QLA2100F-EMC[19]	FC-AL	N	See[28]
27	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Novell Netware 5.10: SP2A[1, 2], SP5[1, 13], SP6;** **Novell Netware 6.0: SP1[1, 2, 7], SP2[1, 2], SP3**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL	Y[8, 9, 10, 11]	
28	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 7], SP2[1], SP3	QLogic QLA2100F-EMC[19]	FC-AL	Y[9, 11, 30]	
29	**Proliant DL580(G3)**	PCI, PCI-X	**Novell Netware 5.00 SP6A[1, 2, 26, 27]**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL	N	
30	**Proliant DL580(G3)**	PCI, PCI-X	**Novell Netware 5.00 SP6A[1, 2, 26, 27, 29]**	**QLogic QLA2100F-EMC[19]**	FC-AL	N	See[28]
31	**Proliant DL580(G3)**	PCI, PCI-X	**Novell Netware 5.10: SP2A[1, 2], SP5[1, 13], SP6;** **Novell Netware 6.0: SP1[1, 2, 7], SP2[1, 2], SP3**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL	Y[8, 9, 10, 11]	
32	**Proliant DL580(G3)**	PCI, PCI-X	**Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6;** **Novell Netware 6.0: SP1[1, 7], SP2[1], SP3**	**QLogic QLA2100F-EMC[19]**	FC-AL	Y[9, 11, 30]	
33	Netserver LH (LH Pro), 4, II, III Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8 Proliant: 1600[6, 12], 1850[6], 2500[6], 3000[6], 5000[6], 5500[5, 6], 6000[5, 6], 6400R[6], 6500[5, 6], 7000[5, 6], 850[6], DL360[6], DL360(G2)[6], DL380[6], DL380(G2)[6], DL380(G3), DL580[6], DL580(G2)[6], ML350[6], ML350(G2)[6], ML370[6], ML530[6], ML530(G2)[6], ML570[6]	PCI	Novell Netware 5.00 SP6A[1, 2, 26, 27]	QLogic: QLA2200F-EMC[3, 4], QLA2310F-E-SP[4, 15], QLA2340-E-SP[4, 15], **QLA2342-E-SP[4, 14, 15]**	FC-AL, FC	N	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
34	Proliant: DL320[6], ML370(G2), ML370(G3), ML750[17]	PCI	Novell Netware 5.00 SP6A[1, 2, 26, 27]	QLogic: **QLA2200F-EMC**[3, 4], QLA2310F-E-SP[4, 15], QLA2340-E-SP[4, 15] **QLA2342-E-SP**[4, 14, 15]	FC-AL, FC-SW	N	See[13]
35	**Netserver LH 4**	PCI	**Novell Netware 5.10 SP2A**[1, 2]	**QLogic QLA2200F-EMC**[3, 4]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
36	Netserver LH: (LH Pro), II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[6, 12], 1850[6], 2500[6], 3000[6], 5000[6], 5500[5, 6], 6000[5, 6], 6400R[6], 6500[5, 6], 7000[5, 6], 850[6], DL360[6], DL360(G2)[6], **DL380[6], DL380(G2)[6], DL380(G3)**, DL580[6], DL580(G2)[6], ML350[6], ML350(G2)[6], ML370[6], ML530[6], ML530(G2)[6], ML570[6]	PCI	Novell Netware 5.10 SP2A[1, 2]	QLogic: **QLA2200F-EMC**[3, 4], QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
37	Proliant: DL320[6], ML370(G2), ML370(G3), ML750[17]	PCI	Novell Netware 5.10 SP2A[1, 2]	QLogic: **QLA2200F-EMC**[3, 4], QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	See[13]
38	**Netserver LH: 3, PRO**	PCI	**Novell Netware 5.10: SP2A**[1, 2], **SP5**[1, 2, 29], **SP6**; **Novell Netware 6.0: SP1**[1, 7], **SP2**[1], **SP3**	**QLogic QLA2202F-EMC**[3, 4, 19]	FC-AL, FC-SW	N	**See**[28]
39	Netserver LP 2000r	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1, 13, 25], SP6; Novell Netware 6.0: SP1[1, 2, 7, 16], SP2[1, 2, 16], SP3	QLogic: QLA2340-E-SP[4, 15], **QLA2342-E-SP**[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
40	**Netserver LH: (LH Pro), 4, II, III; Netserver: LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[6, 12], 1850[6], 2500[6], 3000[6], 5000[6], 5500[5, 6], 6000[5, 6], 6400R[6], 6500[5, 6], 7000[5, 6], 850[6], DL360[6], DL380[6], DL380(G2)[6], DL380(G3), DL580[6], DL580(G2)[6], ML350[6], ML370[6], ML530[6], ML570[6]**	PCI	**Novell Netware 5.10: SP2A**[1, 2], **SP5**[1, 2], **SP6**; **Novell Netware 6.0: SP1**[1, 7], **SP2**[1], **SP3**	**QLogic QLA2202F-EMC**[3, 4, 19]	FC-AL, FC-SW	Y[8, 9, 10, 11]	**See**[28]
1	**Netserver: LC 2000r, LH 3000, LH 6000; Proliant: 8000[5, 6], 8500**	PCI	**Novell Netware 5.10: SP2A**[1, 2], **SP5**[1, 2], **SP6**; **Novell Netware 6.0: SP1**[1, 7], **SP2**[1], **SP3**	**QLogic QLA2202F-EMC**[3, 4, 19]	FC-AL, FC-SW	N	**See**[28]
42	**Proliant: DL320[6], ML370(G2), ML370(G3)**	PCI	**Novell Netware 5.10: SP2A**[1, 2], **SP5**[1, 2], **SP6**; **Novell Netware 6.0: SP1**[1, 7], **SP2**[1], **SP3**	**QLogic QLA2202F-EMC**[3, 4, 19]	FC-AL, FC-SW	Y[8, 9, 10, 11]	**See**[13]
43	Netserver LH 4	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1, 25], SP6	QLogic QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
44	**Proliant DL580(G2)[6]**	**PCI**	**Novell Netware 5.10: SP2A**[1, 2], **SP5**[1, 25], **SP6**; **Novell Netware 6.0: SP1**[1, 2, 16], **SP2**[1, 2, 16], **SP3**	**QLogic QLA2342-E-SP**[4, 14, 15]	**FC-AL, FC-SW**	Y[8, 9, 10, 11]	
45	Netserver LH: (LH Pro), 4, II, III; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[6, 12], 1850[6], 2500[6], 3000[6], 5000[6], 5500[5, 6], 6000[5, 6], 6400R[6], 6500[5, 6], 7000[5, 6], 850[6], DL360[6], DL360(G2)[6], **DL380[6], DL380(G2)[6], DL380(G3)**, DL580[6], ML350[6], ML370[6], ML530[6], ML530(G2)[6], ML570[6]	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1, 25], SP6; Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3	QLogic: QLA2340-E-SP[4, 15], **QLA2342-E-SP**[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
46	Proliant ML350(G2)[6]	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1, 25], SP6; Novell Netware 6.0: SP1[1, 2, 7, 16], SP2[1, 2, 16], SP3	QLogic: QLA2340-E-SP[4, 15], **QLA2342-E-SP**[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
47	Proliant: DL320[6], ML370(G2), ML370(G3), ML750[17]	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1, 25], SP6; Novell Netware 6.0: SP1[1, 2, 7, 16], SP2[1, 2, 16], SP3	QLogic: QLA2340-E-SP[4, 15], **QLA2342-E-SP**[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	See[13]
48	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[6, 12], 1850[6], 2500[6], 6400R[6], 6500[5, 6], 850[6], DL320[6], DL360[6], DL360(G2)[6], **DL380[6], DL380(G2)[6], DL380(G3)**, DL580[6], DL580(G2)[6], ML350[6], ML350(G2)[6], ML370[6], ML370(G2), ML370(G3), ML530[6], ML530(G2)[6], ML570[6], ML750[17]	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 2, 7], SP2[1, 2], SP3	Emulex LP9002-E (LP9002L-E)[20, 21]	FC-AL, FC-SW	N	
49	**Netserver LP 2000r Proliant DL360(G2)[6], DL380(G3), ML350(G2)[6], ML530(G2)[6]**	PCI	**Novell Netware 5.10: SP2A**[1, 2], **SP5**[1] **SP6** **Novell Netware 6.0: SP1**[1, 7], **SP2**[1], **SP3**	**QLogic QLA2202F-EMC**[3, 4, 19]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
50	**Proliant ML750[17]**	PCI	**Novell Netware 5.10: SP2A**[1, 2], **SP5**[1], **SP6**, **Novell Netware 6.0: SP1**[1, 7], **SP2**[1], **SP3**	**QLogic QLA2202F-EMC**[3, 4, 19]	FC-AL, FC-SW	Y[8, 9, 10, 11]	**See**[13]
51	Netserver LC: 2000 U3, 2000r, Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[6, 12], 1850[6], 2500[6], 3000[6], 5000[6], 5500[5, 6], 6000[5, 6], 6400R[6], 6500[5, 6], 8000[5, 6], 850[6], DL360[6], DL360(G2)[6], **DL380[6], DL380(G2)[6], DL380(G3)**, DL580[6], DL580(G2)[6], ML350[6], ML350(G2)[6], ML370[6], ML530[6], ML530(G2)[6], ML570[6]	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 7], SP2[1], SP3	QLogic QLA2300F-E-SP[4, 15]	FC-AL, FC-SW	N	
52	Proliant: DL320[6], ML370(G2), **ML370(G3)**, ML750[17]	PCI	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 7], SP2[1], SP3	QLogic QLA2300F-E-SP[4, 15]	FC-AL, FC-SW	N	See[13]
53	**Netserver LH III**	PCI	**Novell Netware 5.10: SP5**[1, 13, 25] **SP6** **Novell Netware 6.0: SP1**[1, 2, 7, 16] **SP2**[1, 2, 16], **SP3**	**QLogic QLA2200F-EMC**[3, 4, 19]	FC-AL, FC-SW	Y[8, 9, 10, 11]	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
54	Netserver LP 2000r	PCI	Novell Netware 5.10: SP5[1, 13, 25], SP6, Novell Netware 6.0: SP1[1, 2, 7, 16], SP2[1, 2, 16], SP3	QLogic: **QLA2200F-EMC[3, 4, 19]**, QLA2310F-E-SP[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
55	**Netserver LC 2000 U3**	PCI	**Novell Netware 5.10: SP5[1, 2], SP6**	**QLogic QLA2202F-EMC[3, 4, 19]**	FC-AL, FC-SW	N	See[13]
56	**Netserver LT 6000R**	PCI	**Novell Netware 5.10: SP5[1, 2], SP6**	**QLogic QLA2202F-EMC[3, 4, 19]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	See[13]
57	**Proliant: 1600[6, 12], 1850[6], 2500[6], 3000[6], 5000[6], 5500[5, 6], 6000[5, 6], 6400R[6], 6500[5, 6], 7000[5, 6], 850[6], DL360[6], DL360(G2)[6], DL380[6], DL380(G2)[6], DL380(G3), DL580[6], ML350[6], ML370[6], ML530[6], ML530(G2)[6], ML570[6]**	PCI	**Novell Netware 5.10: SP5[1, 25], SP6**	**QLogic QLA2200F-EMC[3, 18]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	
58	**Proliant: 8000[5, 6], 8500**	PCI	**Novell Netware 5.10: SP5[1, 25], SP6**	**QLogic QLA2200F-EMC[3, 18]**	FC-AL, FC-SW	N	
59	**Netserver LH: (LH Pro), 4, II** **Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8**	PCI	**Novell Netware 5.10: SP5[1, 25], SP6**	**QLogic QLA2200F-EMC[3, 19]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	
60	**Netserver LH: 3, 3000, 6000**	PCI	**Novell Netware 5.10: SP5[1, 25], SP6**	**QLogic QLA2200F-EMC[3, 19]**	FC-AL, FC-SW	N	
61	Netserver LC 2000 U3	PCI	Novell Netware 5.10: SP5[1, 25], SP6	QLogic QLA2310F-E-SP[15]	FC-AL, FC-SW	N	
62	Proliant ML750[6]	PCI	Novell Netware 5.10: SP5[1, 25], SP6	QLogic QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11, 17]	
63	**Proliant DL380(G3)[17]**	PCI	**Novell Netware 5.10: SP5[1, 25], SP6**	**QLogic: QLA2200F-EMC[3, 18], QLA2310F-E-SP[14, 15], QLA2340-E-SP[14, 15], QLA2342-E-SP[4, 14, 15]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	
64	Proliant DL580(G2)[6]	PCI	Novell Netware 5.10: SP5[1, 25], SP6	QLogic: **QLA2200F-EMC[3, 18]**, QLA2310F-E-SP[14, 15], QLA2340-E-SP[15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
65	Netserver LH: (LH Pro), II, III, Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[6, 12], 1850[6], 2500[6], 3000[6], 5000[6], 5500[5, 6], 6000[5, 6], 6400R[6], 6500[5, 6], 7000[5, 6], 850[6], DL360[6], DL360(G2)[6], **DL380[6], DL380(G2)[6], DL380(G3)**, DL580[6], ML350[6], ML370[6], ML530[6], ML530(G2)[6], ML570[6]	PCI	Novell Netware 5.10: SP5[1, 25], SP6; Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3	QLogic QLA2310F-E-SP[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
66	Proliant: 8000[5, 6], 8500	PCI	Novell Netware 5.10: SP5[1, 25], SP6; Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3	QLogic QLA2310F-E-SP[4, 14, 15]	FC-AL, FC-SW	N	
67	Proliant ML350(G2)[6]	PCI	Novell Netware 5.10: SP5[1, 25], SP6; Novell Netware 6.0: SP1[1, 2, 7, 16], SP2[1, 2, 16], SP3	QLogic: **QLA2200F-EMC[3, 4, 18]**, QLA2310F-E-SP[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
68	Proliant: DL320[6], ML370(G2), ML370(G3), ML750[17]	PCI	Novell Netware 5.10: SP5[1, 25], SP6; Novell Netware 6.0: SP1[1, 2, 7, 16], SP2[1, 2, 16], SP3	QLogic: **QLA2200F-EMC[3, 4, 18]**, QLA2310F-E-SP[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	See[13]
69	Netserver LH (LH Pro)	PCI	Novell Netware 5.10: SP5[1], SP6	HPQ D8602A (Agilent HHBA-5101B)[22, 23, 24]	FC-AL, FC-SW	N	
70	**Netserver LC 2000 U3, 2000r,** **Netserver LH PRO**	PCI	**Novell Netware 5.10: SP5[1], SP6**	**QLogic QLA2200F-EMC[3]**	FC-AL, FC-SW	N	
71	Proliant ML750[6]	PCI	Novell Netware 5.10: SP5[1], SP6	QLogic: QLA2340-E-SP[4, 15], **QLA2342-E-SP[4, 14, 15]**	FC-AL, FC-SW	Y[8, 9, 10, 11, 17]	
72	**Proliant: 1600[6, 12], 1850[6], 2500[6], 3000[6], 5000[6], 5500[5, 6], 6000[5, 6], 6400R[6], 6500[5, 6], 7000[5, 6], 850[6], DL360[6], DL360(G2)[6], DL380[6], DL380(G2)[6], DL580[6], ML350[6], ML370[6], ML530[6], ML530(G2)[6], ML570[6]**	PCI	**Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3**	**QLogic QLA2200F-EMC[3, 4, 18]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	
73	**Proliant: 8000[5, 6], 8500**	PCI	**Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3**	**QLogic QLA2200F-EMC[3, 4, 18]**	FC-AL, FC-SW	N	
74	**Netserver LH PRO**	PCI	**Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3**	**QLogic QLA2200F-EMC[3, 4, 19]**	FC-AL, FC-SW	N	
75	**Netserver LH: (LH Pro), II** **Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8**	PCI	**Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3**	**QLogic QLA2200F-EMC[3, 4, 19]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	
76	Proliant DL580(G2)[6]	PCI	Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3	QLogic: **QLA2200F-EMC[3, 4, 18]**, QLA2310F-E-SP[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
77	**Proliant DL380(G3)**	PCI	**Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3**	**QLogic: QLA2200F-EMC[3, 4, 18], QLA2340-E-SP[4, 14, 15]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	
78	Netserver LH 4	PCI	Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3	QLogic: **QLA2200F-EMC[3, 4, 19]**, QLA2310F-E-SP[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
79	Netserver LH: 3, 3000, 6000	PCI	Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3	QLogic: **QLA2200F-EMC[3, 4, 19]**, QLA2310F-E-SP[4, 14, 15]	FC-AL, FC-SW	N	
80	**Netserver LH: 3, 3000, 6000, PRO**	PCI	**Novell Netware: 5.00 SP6A[1, 2, 26, 27], 5.10 SP2A[1, 2]**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL, FC-SW	N	
81	Proliant: 8000[5, 6], 8500	PCI	Novell Netware: 5.00 SP6A[1, 2, 26, 27], 5.10 SP2A[1, 2]	QLogic: **QLA2200F-EMC[3, 4]**, QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	N	
82	Netserver LH: 3, 3000, 6000	PCI	Novell Netware: 5.00 SP6A[1, 2, 26, 27], 5.10 SP2A[1, 2], 5.10 SP5[1, 25], 5.10 SP6	QLogic QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	N	
83	Netserver LH: 3, 3000, 6000, PRO Proliant: 8000[5, 6], 8500	PCI	Novell Netware: 5.00 SP6A[1, 2, 26, 27], 5.10 SP2A[1, 2], 5.10 SP5[1, 25], 5.10 SP6, 6.0 SP1[1, 2, 16], 6.0 SP2[1, 2, 16], 6.0 SP3	QLogic: QLA2340-E-SP[4, 15] **QLA2342-E-SP[4, 14, 15]**	FC-AL, FC-SW	N	
84	Netserver LC 2000r	PCI	Novell Netware: 5.00 SP6A[1, 2, 26, 27], 5.10 SP2A[1, 2], 5.10 SP5[1, 25], 5.10 SP6, 6.0 SP1[1, 2, 16], 6.0 SP2[1, 2, 16], 6.0 SP3	QLogic: QLA2310F-E-SP[4, 15], QLA2340-E-SP[4, 15] **QLA2342-E-SP[4, 14, 15]**	FC-AL, FC-SW	N	

HPQ – Novell Netware

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
85	Netserver LH PRO	PCI	Novell Netware: 5.00 SP6A[1, 2, 26, 27], 5.10 SP2A[1, 2], 5.10 SP5[1], 5.10 SP6, 6.0 SP1[1, 2], 6.0 SP2[1, 2], 6.0 SP3	QLogic QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	N	
86	Netserver LC 2000 U3	PCI	Novell Netware: 5.00 SP6A[1, 2, 26, 27], 5.10 SP2A[1, 2], 5.10 SP5[1], 5.10 SP6, 6.0 SP1[1, 2], 6.0 SP2[1, 2], 6.0 SP3	QLogic: QLA2340-E-SP[4, 15], QLA2342-E-SP[4, 14, 15]	FC-AL, FC-SW	N	
87	**Netserver LC 2000r**	PCI	**Novell Netware: 5.00 SP6A[1, 2, 26, 27], 5.10 SP2A[1, 2], 6.0 SP1[1, 2], 6.0 SP2[1, 2], 6.0 SP3**	**QLogic QLA2200F-EMC[3, 4]**	FC-AL, FC-SW	N	
88	Netserver LC 2000 U3	PCI	Novell Netware: 5.00 SP6A[1, 2, 26, 27], 5.10 SP2A[1, 2], 6.0 SP1[1, 2], 6.0 SP2[1, 2], 6.0 SP3	QLogic: **QLA2200F-EMC[3, 4]**, QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	N	
89	Proliant DL580(G2)[6]	PCI	Novell Netware: 5.10 SP2A[1, 2], 6.0 SP1[1, 2, 16], 6.0 SP2[1, 2, 16], 6.0 SP3	QLogic QLA2340-E-SP[4, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
90	Proliant 8500	PCI	Novell Netware: 5.10 SP2A[1, 2], 6.0 SP1[1, 2], 6.0 SP2[1, 2], 6.0 SP3	Emulex LP9002-E (LP9002L-E)[20]	FC-AL, FC-SW	N	
91	**Netserver LC 2000 U3**	PCI	**Novell Netware: 5.10 SP2A[1, 2], 6.0 SP1[1, 7], 6.0 SP2[1], 6.0 SP3**	**QLogic QLA2202F-EMC[3, 4, 19]**	FC-AL, FC-SW	N	**See[28]**
92	**Netserver LT 6000R**	PCI	**Novell Netware: 5.10 SP2A[1, 2], 6.0 SP1[1, 7], 6.0 SP2[1], 6.0 SP3**	**QLogic QLA2202F-EMC[3, 4, 19]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	**See[28]**
93	Netserver LH (LH Pro): Proliant: 7000[5, 6], 8500	PCI	Novell Netware: 5.10 SP2A[1, 2], 6.0 SP1[1], 6.0 SP2[1], 6.0 SP3	QLogic QLA2300F-E-SP[4, 15]	FC-AL, FC-SW	N	
94	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.00 SP6A[1, 2, 26, 27]	QLogic: **QLA2200F-EMC[3, 4]**, QLA2310F-E-SP[4, 15], QLA2340-E-SP[4, 15], **QLA2342-E-SP[4, 14, 15]**	FC-AL, FC-SW	N	
95	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.10 SP2A[1, 2]	QLogic: **QLA2200F-EMC[3, 4]**, QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
96	Proliant: DL740, DL760[6], DL760 (G2)	PCI-X	Novell Netware 5.10: SP2A[1, 2], SP5[1, 13, 25], SP6; Novell Netware 6.0: SP1[1, 2, 7, 16], SP2[1, 2, 16], SP3	QLogic: QLA2340-E-SP[4, 15], **QLA2342-E-SP[4, 14, 15]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	
97	**Proliant: DL560, DL560 (G2), DL740, DL760[6], DL760 (G2), ML570(G2)**	PCI-X	**Novell Netware 5.10: SP2A[1, 2], SP5[1, 2], SP6; Novell Netware 6.0: SP1[1, 7], SP2[1], SP3**	**QLogic QLA2202F-EMC[3, 4, 19]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	**See[28]**
98	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Novell Netware 5.10: SP2A[1, 2], SP5[1, 25], SP6; Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3	QLogic: QLA2340-E-SP[4, 15], **QLA2342-E-SP[4, 14, 15]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	
99	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL740, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 2, 7], SP2[1, 2], SP3	Emulex LP9002-E (LP9002L-E)[20, 21]	FC-AL, FC-SW	N	
100	**Proliant DL360(G3)**	PCI-X	**Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 7], SP2[1], SP3**	**QLogic QLA2202F-EMC[3, 4, 19]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	
101	Proliant: DL360(G3), DL560, **DL560 (G2)**, DL760[6], DL760 (G2), ML570(G2)	PCI-X	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 7], SP2[1], SP3	QLogic QLA2300F-E-SP[4, 15]	FC-AL, FC-SW	N	
102	Proliant: DL740, DL760[6], DL760 (G2)	PCI-X	Novell Netware 5.10: SP5[1, 13, 25], SP6; Novell Netware 6.0: SP1[1, 2, 7, 16], SP2[1, 2, 16], SP3	QLogic: **QLA2200F-EMC[3, 4, 18]**, QLA2310F-E-SP[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
103	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Novell Netware 5.10: SP5[1, 25], SP6**	**QLogic QLA2200F-EMC[3, 18]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	
104	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Novell Netware 5.10: SP5[1, 25], SP6; Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3	QLogic QLA2310F-E-SP[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
105	**Proliant: DL360(G3), DL560, DL560 (G2), ML570(G2)**	PCI-X	**Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3**	**QLogic QLA2200F-EMC[3, 4, 18]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	
106	**Proliant DL580(G3)**	PCI, PCI-X	**Novell Netware 5.00 SP6A[1, 2, 26, 27]**	QLogic: QLA2200F-EMC[3, 4], QLA2310F-E-SP[4, 15], QLA2340-E-SP[4, 15], QLA2342-E-SP[4, 14, 15]	FC-AL, FC-SW	N	
107	**Proliant DL580(G3)**	PCI, PCI-X	Novell Netware 5.10 SP2A[1, 2]	QLogic: QLA2200F-EMC[3, 4], QLA2310F-E-SP[4, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
108	**Proliant DL580(G3)**	PCI, PCI-X	**Novell Netware 5.10: SP2A[1, 2], SP5[1, 2], SP6; Novell Netware 6.0: SP1[1, 7], SP2[1], SP3**	**QLogic QLA2202F-EMC[3, 4, 19]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	See[28]
109	Proliant DL580(G3)	PCI, PCI-X	Novell Netware 5.10: SP2A[1, 2], SP5[1, 25], SP6; Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3	QLogic: QLA2340-E-SP[4, 15], QLA2342-E-SP[4, 14, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
110	Proliant DL580(G3)	PCI, PCI-X	Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 2, 7], SP2[1, 2], SP3	Emulex LP9002-E (LP9002L-E)[20, 21]	FC-AL, FC-SW	N	

HPQ – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
111	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.10: SP2A[1, 2], SP5[1], SP6; Novell Netware 6.0: SP1[1, 7], SP2[1], SP3**	**QLogic QLA2300F-E-SP[4, 15]**	**FC-AL, FC-SW**	**N**	
112	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[1, 25], SP6**	**QLogic QLA2200F-EMC[3, 18]**	**FC-AL, FC-SW**	**Y[8, 9, 10, 11]**	
113	Proliant DL580(G2)[6]	PCI, PCI-X	Novell Netware 5.10: SP5[1, 25], SP6	QLogic: QLA2310F-E-SP[4, 15], QLA2340-E-SP[4, 15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	
114	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 5.10: SP5[1, 25], SP6; Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3**	**QLogic QLA2310F-E-SP[4, 14, 15]**	**FC-AL, FC-SW**	**Y[8, 9, 10, 11]**	
115	**Proliant DL580(G2)[6]**	PCI, PCI-X	**Novell Netware 5.10: SP5[1, 25], SP6; Novell Netware 6.0: SP1[1, 16], SP2[1, 16], SP3**	**QLogic: QLA2200F-EMC[3], QLA2342-E-SP[4, 14, 15]**	FC-AL, FC-SW	Y[8, 9, 10, 11]	
116	**Proliant DL580(G3)**	**PCI, PCI-X**	**Novell Netware 6.0: SP1[1, 2, 16], SP2[1, 2, 16], SP3**	**QLogic QLA2200F-EMC[3, 4, 18]**	**FC-AL, FC-SW**	**Y[8, 9, 10, 11]**	
117	Proliant DL580(G2)[6]	PCI, PCI-X	Novell Netware 6.0: SP1[1, 16], SP2[1, 16], SP3	QLogic: QLA2310F-E-SP[15], QLA2340-E-SP[15]	FC-AL, FC-SW	Y[8, 9, 10, 11]	

1. Maximum number of NWFS volumes that can be mounted is 64.
2. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.
3. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
4. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load ideed, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
5. Includes both Pentium PRO and XEON models
6. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
7. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family.
8. Edit config.sys with the following: Files=100 Buffers=99
9. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditons exist where several LUNs are initially created and you perform your first install. NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs.
10. To enable failover with fabric boot DOSFAT.NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT_C: partition will.
11. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
12. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
13. Symmetrix 8000 Series: 66/67 support at NetWare 5.x. 5568 support at Netware 5.1.
14. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
15. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
16. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.
17. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
18. **Requires HBA bios 1.83 and driver 6.50v.**
19. Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.
20. Requires driver version 2.02e and firmware 3.90a7.
21. PowerPath not currently supported.
22. Requires driver version 2.00E or higher and NetWare 5.1 support pack 3 or higher.
23. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
24. (HHBA-5101BK-01)
25. Requires NetWare patches: NWPAPT2A and NSS5J.
26. NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.
27. Requires NWPA.NLM V.3.07A update from Novell website.
28. AHA-2944W is no longer available in distribution channels.
29. Novell 5.00 OS only supports the Host Adapter Module (HAM) driver
30. Supports FC-AL point-to-point only.

IBM

IBM – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), x230, x232, x240, x250, **x255**, x350 (6000R), x370	PCI	Novell Netware 5.00 SP6A[5, 6, 27, 28]	QLogic QLA2100F-EMC[13]	FC-AL	N	
2	Netfinity 8500	PCI	Novell Netware 5.00 SP6A[6, 28]	QLogic QLA2100F-EMC[13]	FC-AL	N	
3	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), x230, x232, x240, x250, **x255**, x350 (6000R), x370	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	QLogic QLA2100F-EMC[13]	FC-AL	Y[2, 4, 29]	
4	xSeries: X342 **x345**	PCI	Novell Netware: 5.00 SP6A[5, 6, 27, 28], 5.10 SP2A[5, 6], 5.10 SP5[6], 5.10 SP6, 6.0 SP1[6, 7], 6.0 SP2[6], 6.0 SP3	QLogic QLA2100F-EMC[13]	FC-AL	N	
5	xSeries: **x360**, x440	PCI-X	Novell Netware 5.00 SP6A[5, 6, 27, 28]	QLogic QLA2100F-EMC[13]	FC-AL	N	
6	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3**	**QLogic QLA2100F-EMC[13]**	FC-AL	Y[2, 4, 29]	
7	xSeries x440	PCI-X	Novell Netware 5.10: SP2A[6], SP5[6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	QLogic QLA2100F-EMC[13]	FC-AL	Y[2, 4, 29]	
8	**xSeries x440**	PCI-X	**Novell Netware 5.10: SP5[6], SP6**	**QLogic QLA2200F-EMC[8, 9]**	FC-AL	Y[1, 2, 3, 4]	
9	**xSeries x445**	PCI PCI-X	**Novell Netware 5.00 SP6A[5, 6, 27, 28]**	**QLogic QLA2100F-EMC[13]**	FC-AL	N[3]	

IBM – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
10	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP2A[6], SP5[6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	QLogic QLA2100F-EMC[13]	FC-AL	Y[2, 4, 29]	
11	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP5[6], SP6	QLogic QLA2200F-EMC[8, 9]	FC-AL	Y[1, 2, 3, 4]	
12	Netfinity 8500R	PCI	Novell Netware 5.00 SP6A[5, 6, 27, 28]	QLogic: QLA2200F-EMC[8, 9, 13], QLA2342-E-SP[8, 11, 12]	FC-AL, FC-SW	N	
13	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.00 SP6A[5, 6, 27, 28]	QLogic: QLA2200F-EMC[8, 9], QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], QLA2342-E-SP[8, 11, 12]	FC-AL, FC-SW	N	
14	Netfinity 8500R	PCI	Novell Netware 5.10 SP2[6]	QLogic QLA2200F-EMC[8, 9]	FC-AL, FC-SW	N	
15	Netfinity: 7100, 7600; xSeries: x230, x240, x350 (6000R), x370	PCI	Novell Netware 5.10 SP2A[5, 6]	QLogic QLA2200F-EMC[8, 9]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
16	Netfinity 8500R	PCI	Novell Netware 5.10 SP2A[5, 6]	QLogic QLA2202F-EMC[8, 9, 13]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
17	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000; xSeries: X330, X340 (4500R), x232, x250, x255	PCI	Novell Netware 5.10 SP2A[5, 6]	QLogic: QLA2200F-EMC[8, 9], QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
18	Netfinity 7000 M10[10]	PCI	Novell Netware 5.10 SP2A[5, 6]	QLogic: QLA2200F-EMC[8, 9], QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], QLA2342-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
19	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600; xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R), x370	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5, 6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	QLogic QLA2202F-EMC[8, 9, 13]	FC-AL, FC-SW	Y[1, 2, 3, 4]	See[30]
20	xSeries X342	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[5, 6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	QLogic QLA2202F-EMC[8, 9, 13]	FC-AL, FC-SW	N	See[30]
21	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600; xSeries: X330, X340 (4500R), x230, x232, x240, x250, x350 (6000R), x370	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6, 24], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3	IBM: 00N6881 (QLA2200)[8, 13, 17, 18, 19, 23], 19K1246(QLA2310)[8, 17, 18, 19, 20, 21], 24P0960(QLA2340)[8, 13, 17, 18, 19, 22]	FC-AL, FC-SW	Y[2, 4]	
22	xSeries X342	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6, 24], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3	IBM: 00N6881 (QLA2200)[8, 13, 17, 18, 19, 23], 19K1246(QLA2310)[8, 17, 18, 19, 20, 21], 24P0960(QLA2340)[8, 13, 17, 18, 19, 22]	FC-AL, FC-SW	N	
23	Netfinity: 7100, 7600; xSeries: x230, x240, x350 (6000R)	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6, 25], SP6	QLogic QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
24	xSeries x370	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6, 25], SP6	QLogic: QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
25	Netfinity 8500	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6, 25], SP6; Novell Netware 6.0: SP1[5, 6, 7, 16], SP2[5, 6, 16], SP3	IBM: 00N6881 (QLA2200)[8, 13, 17, 18, 19, 23], 19K1246(QLA2310)[8, 17, 18, 19, 20, 21], 24P0960(QLA2340)[8, 13, 17, 18, 19, 22]	FC-AL, FC-SW	N	
26	Netfinity 8500R	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6, 25], SP6; Novell Netware 6.0: SP1[5, 6, 7, 16], SP2[5, 6, 16], SP3	QLogic QLA2200F-EMC[8, 9, 13]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
27	xSeries x255	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6, 25], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3	QLogic: QLA2340-E-SP[8, 11], QLA2342-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
28	xSeries: x232, x370	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6, 25], SP6; Novell Netware 6.0: SP1[5, 6], SP2[5, 6], SP3	QLogic QLA2342-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
29	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100 7600; xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R)	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6, 25], SP6; Novell Netware 6.0: SP1[5, 6], SP2[5, 6], SP3	QLogic: QLA2340-E-SP[8, 11], QLA2342-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
30	Netfinity 8500	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6, 25], SP6; Novell Netware 6.0: SP1[6, 7, 16], SP2[6, 16], SP3	QLogic QLA2202F-EMC[8, 9, 13]	FC-AL, FC-SW	N	
31	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x350 (6000R), x370	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3	Emulex LP9002-E (LP9002L-E)[14, 15]	FC-AL, FC-SW	N	
32	Netfinity 8500R; xSeries x255	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3	IBM: 00N6881 (QLA2200)[8, 13, 17, 18, 19, 23], 19K1246(QLA2310)[8, 17, 18, 19, 20, 21], 24P0960(QLA2340)[8, 13, 17, 18, 19, 22]	FC-AL, FC-SW	Y[2, 4]	
33	Netfinity 8500R	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3	QLogic: QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], QLA2342-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
34	xSeries: x232, x255	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	QLogic QLA2202F-EMC[8, 9, 13]	FC-AL, FC-SW	Y[1, 2, 3, 4]	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
35	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x350 (6000R), x370	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	QLogic QLA2300F-E-SP[8, 11]	FC-AL, FC-SW	N	
36	**xSeries x345**	PCI	**Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3**	**QLogic: QLA2202F-EMC[8, 9, 13], QLA2300F-E-SP[8, 11]**	FC-AL, FC-SW	N	
37	**Netfinity 8500R**	PCI	**Novell Netware 5.10: SP5[5, 6, 25], SP6; Novell Netware 6.0: SP1[6, 7, 16], SP2[6, 16], SP3**	**QLogic QLA2202F-EMC[8, 9, 13]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	**See[30]**
38	xSeries X342	PCI	Novell Netware 5.10: SP5[6, 24, 25], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3	QLogic: **QLA2200F-EMC[8, 9, 13]**, QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	N	
39	**xSeries X335**	PCI	**Novell Netware 5.10: SP5[6, 24], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3**	**IBM: 19K1246(QLA2310)[8, 17, 18, 19, 20, 21], 24P0960(QLA2340)[8, 13, 17, 18, 19, 22]**	FC-AL, FC-SW	Y[2, 4]	
40	**xSeries x255**	PCI	**Novell Netware 5.10: SP5[6, 25], SP6**	**QLogic QLA2200F-EMC[9]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
41	**Netfinity 7000 M10[26]**	PCI	**Novell Netware 5.10: SP5[6, 25], SP6**	**QLogic QLA2200F-EMC[9, 13]**	FC-AL, FC-SW	Y[1, 2, 3, 4, 10]	
42	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7100, 7600; xSeries: X330, X340 (4500R), x230, x240, x250, x350 (6000R), x370**	PCI	**Novell Netware 5.10: SP5[6, 25], SP6**	**QLogic QLA2200F-EMC[9, 13]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
43	xSeries X335	PCI	Novell Netware 5.10: SP5[6, 25], SP6	QLogic QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
44	Netfinity 8500	PCI	Novell Netware 5.10: SP5[6, 25], SP6	QLogic QLA2340-E-SP[8, 11]	FC-AL, FC-SW	N	
45	xSeries x232	PCI	Novell Netware 5.10: SP5[6, 25], SP6	QLogic: **QLA2200F-EMC[9, 13]**, QLA2310F-E-SP[11], QLA2340-E-SP[11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
46	**xSeries x255**	PCI	**Novell Netware 5.10: SP5[6, 25], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3**	**QLogic QLA2310F-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
47	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000; xSeries: X330, X340 (4500R), x250	PCI	Novell Netware 5.10: SP5[6, 25], SP6; Novell Netware 6.0: SP1[5, 6], SP2[5, 6], SP3	QLogic QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
48	Netfinity 7000 M10[10, 26]	PCI	Novell Netware 5.10: SP5[6, 25], SP6; Novell Netware 6.0: SP1[5, 6], SP2[5, 6], SP3	QLogic: QLA2310F-E-SP[8, 11, 12], QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
49	xSeries X335	PCI	Novell Netware 5.10: SP5[6, 25], SP6; Novell Netware 6.0: SP1[5, 6], SP2[5, 6], SP3	QLogic: QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
50	Netfinity 8500R	PCI	Novell Netware 5.10: SP5[6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	QLogic QLA2300F-E-SP[8, 11]	FC-AL, FC-SW	N	
51	**xSeries x255**	PCI	**Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3**	**QLogic QLA2200F-EMC[8, 9, 13]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
52	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[10, 26]; xSeries: X330, X340 (4500R), x250**	PCI	**Novell Netware 6.0: SP1[5, 6], SP2[5, 6], SP3**	**QLogic QLA2200F-EMC[8, 9, 13]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
53	xSeries X335	PCI	Novell Netware 6.0: SP1[5, 6], SP2[5, 6], SP3	QLogic QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
54	Netfinity: 7100, 7600; xSeries: x230, x232, x240, x350 (6000R)	PCI	Novell Netware 6.0: SP1[5, 6], SP2[5, 6], SP3	QLogic: **QLA2200F-EMC[8, 9, 13]**, QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
55	xSeries x370	PCI	Novell Netware 6.0: SP1[5, 6], SP2[5, 6], SP3	QLogic: **QLA2200F-EMC[8, 9, 13]**, QLA2310F-E-SP[8, 11, 12], QLA2340-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
56	Netfinity 8500R	PCI	Novell Netware: 5.00 SP6A[5, 6, 27, 28], 5.10 SP2[6]	QLogic: QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11]	FC-AL, FC-SW	N	
57	xSeries X342	PCI	Novell Netware: 5.00 SP6A[5, 6, 27, 28], 5.10 SP2A[5, 6]	QLogic: **QLA2200F-EMC[8, 9]** QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	N	
58	xSeries X342	PCI	Novell Netware: 5.00 SP6A[5, 6, 27, 28], 5.10 SP2A[5, 6], 5.10 SP5[6, 24, 25], 5.10 SP6, 6.0 SP1[5, 6, 7], 6.0 SP2[5, 6], 6.0 SP3	QLogic: QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	
59	Netfinity 8500	PCI	Novell Netware: 5.00 SP6A[5, 6, 27, 28], 5.10 SP2A[5, 6], 5.10 SP5[6, 25], 5.10 SP6, 6.0 SP1[5, 6, 7, 16], 6.0 SP2[5, 6, 16], 6.0 SP3	QLogic: **QLA2200F-EMC[9, 13]** QLA2310F-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	
60	**xSeries x345**	PCI	**Novell Netware 5.00 SP6A[5, 6, 27, 28], 5.10 SP2A[5, 6], 5.10 SP5[6], 5.10 SP6, 6.0 SP1[5, 6, 7], 6.0 SP2[5, 6], 6.0 SP3**	**QLogic: QLA2200F-EMC[9] QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	
61	Netfinity 8500	PCI	Novell Netware: 5.00 SP6A[5, 6, 27, 28], 5.10 SP2A[5, 6], 6.0 SP1[5, 6, 7, 16], 6.0 SP2[5, 6, 16], 6.0 SP3	QLogic QLA2340-E-SP[11]	FC-AL, FC-SW	N	
62	**xSeries x255**	PCI	**Novell Netware: 5.10 SP2A[5, 6], 6.0 SP1[5, 6], 6.0 SP2[5, 6], 6.0 SP3**	**Emulex LP9002-E (LP9002L-E)[14]**	FC-AL, FC-SW	N	
63	xSeries x232	PCI	Novell Netware: 5.10 SP2A[5, 6], 6.0 SP1[5, 6], 6.0 SP2[5, 6], 6.0 SP3	QLogic QLA2340-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
64	xSeries x360	PCI-X	**Novell Netware 5.00 SP6A[5, 6, 27, 28]**	**QLogic: QLA2200F-EMC[8, 9], QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	
65	xSeries x440	PCI-X	Novell Netware 5.00 SP6A[5, 6, 27, 28]	QLogic: **QLA2200F-EMC[9]**, QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], QLA2342-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
66	xSeries x440	PCI-X	**Novell Netware 5.10 SP2A[5, 6]**	**QLogic QLA2200F-EMC[8, 9]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
67	xSeries x440	PCI-X	Novell Netware 5.10 SP2A[5, 6, 27, 28]	IBM: 19K1246(QLA2310)[20], 24P0960(QLA2340)[22]	FC-AL, FC-SW	Y[2, 4]	
68	xSeries x440	PCI-X	Novell Netware 5.10: SP2A[5, 6, 27, 28], SP5[5, 6, 27, 28], SP6	IBM 00N6881 (QLA2200)[23]	FC-AL, FC-SW	Y[2, 4]	
69	xSeries x440	PCI-X	Novell Netware 5.10: SP2A[5, 6, 27, 28], SP5[5, 6, 27, 28], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	IBM 00N6881 (QLA2200)[8, 13, 23]	FC-AL, FC-SW	Y[2, 4]	
70	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[6, 24, 25], SP6**	**QLogic QLA2310F-E-SP[8, 11]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
71	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[6, 24, 25], SP6; Novell Netware 6.0: SP1[5, 6, 7, 16], SP2[5, 6], SP3**	**QLogic: QLA2340-E-SP[8, 11], QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
72	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[6, 24], SP6**	**QLogic QLA2200F-EMC[8, 9]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
73	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[6, 24], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3**	**IBM 00N6881 (QLA2200)[8, 13, 17, 18, 19, 23]**	FC-AL, FC-SW	Y[2, 4]	
74	xSeries x440	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[6, 25], SP6; Novell Netware 6.0: SP1[5, 6], SP2[5, 6], SP3	QLogic: QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
75	**xSeries x440**	**PCI-X**	**Novell Netware 5.10: SP2A[5, 6], SP5[6, 25], SP6; Novell Netware 6.0: SP1[6, 16], SP2[6], SP3**	**QLogic QLA2342-E-SP[8, 11, 12]**	**FC-AL, FC-SW**	**Y[1, 2, 3, 4]**	
76	xSeries: **x360**, x440	PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3	Emulex LP9002-E (LP9002L-E)[14, 15]	FC-AL, FC-SW	N	
77	**xSeries: x360, x440**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3**	**QLogic QLA2202F-EMC[8, 9, 13]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
78	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3**	**QLogic QLA2300F-E-SP[8, 11]**	FC-AL, FC-SW	N	
79	**xSeries x360**	PCI-X	**Novell Netware 5.10: SP5[6, 24], SP6**	**IBM: 19K1246(QLA2310)[8, 11, 17, 18, 19, 20, 21], 24P0960(QLA2340)[8, 11, 13, 17, 18, 19, 22]**	FC-AL, FC-SW	Y[2, 4]	
80	xSeries x440	PCI-X	Novell Netware 5.10: SP5[6], SP6	IBM: 19K1246(QLA2310)[11, 20], 24P0960(QLA2340)[11, 22]	FC-AL, FC-SW	Y[2, 4]	
81	**xSeries x440**	PCI-X	**Novell Netware 5.10: SP5[6], SP6**	**QLogic QLA2200F-EMC[9]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
82	xSeries x235	PCI-X	Novell Netware 5.10: SP5[6], SP6	QLogic: **QLA2200F-EMC[9]**, QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], **QLA2342-E-SP[8, 11, 12]**	FC-AL, FC-SW	N	
83	xSeries x440	PCI-X	Novell Netware 6.0 SP1[6, 16]	QLogic QLA2340-E-SP[11]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
84	**xSeries x360**	PCI-X	**Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3**	**QLogic: QLA2200F-EMC[8, 9, 13], QLA2310F-E-SP[8, 11, 12]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
85	xSeries x440	PCI-X	Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	IBM: 19K1246(QLA2310)[8, 20, 21], 24P0960(QLA2340)[8, 13, 22]	FC-AL, FC-SW	Y[2, 4]	
86	**xSeries x440**	PCI-X	**Novell Netware 6.0: SP1[6], SP2[6], SP3**	**QLogic QLA2200F-EMC[8, 9, 13]**	FC-AL, FC-SW	Y[1, 2, 3, 4]	
87	xSeries x440	PCI-X	Novell Netware 6.0: SP2[6], SP3	QLogic QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
88	**xSeries x360**	PCI-X	**Novell Netware: 5.10 SP2A[5, 6], 6.0 SP1[5, 6, 7], 6.0 SP2[5, 6], 6.0 SP3**	**IBM: 19K1246(QLA2310)[8, 17, 18, 19, 20, 21], 24P0960(QLA2340)[8, 13, 17, 18, 19, 22]**	FC-AL, FC-SW	Y[2, 4]	
89	xSeries x440	PCI-X	Novell Netware: 5.10 SP2A[5, 6], 6.0 SP1[6], 6.0 SP2[6], 6.0 SP3	QLogic QLA2300F-E-SP[8, 11]	FC-AL, FC-SW	N	
90	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.00 SP6A[5, 6, 27, 28]**	**QLogic: QLA2200F-EMC[9], QLA2310F-E-SP[8, 11], QLA2340-E-SP[8, 11], QLA2342-E-SP[8, 11, 12]**	**FC-AL, FC-SW**	**N**	
91	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10 SP2A[5, 6]**	**QLogic QLA2200F-EMC[8, 9]**	**FC-AL, FC-SW**	**Y[1, 2, 3, 4]**	
92	xSeries x445	PCI, PCI-X	Novell Netware 5.10 SP2A[5, 6, 27, 28]	IBM: 19K1246(QLA2310)[8, 11, 20, 21], 24P0960(QLA2340)[8, 11, 13, 22]	FC-AL, FC-SW	Y[2, 4]	
93	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP2A[5, 6, 27, 28], SP5[5, 6, 27, 28], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	IBM 00N6881 (QLA2200)[8, 13, 23]	FC-AL, FC-SW	Y[2, 4]	
94	**xSeries x445**	**PCI, PCI-X**	**Novell Netware 5.10: SP2A[5, 6], SP5[6, 25], SP6; Novell Netware 6.0 SP1[5, 6]**	**QLogic QLA2310F-E-SP[8, 11]**	**FC-AL, FC-SW**	**Y[1, 2, 3, 4]**	
95	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[6, 25], SP6; Novell Netware 6.0: SP1[5, 6, 16], SP2[5, 6], SP3	QLogic: QLA2340-E-SP[8, 11], QLA2342-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
96	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3	Emulex LP9002-E (LP9002L-E)[14, 15]	FC-AL, FC-SW	N	
97	xSeries x445	PCI, PCI-X	Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	QLogic QLA2202F-EMC[8, 9, 13]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
98	xSeries x345	PCI, PCI-X	Novell Netware 5.10: SP5[6, 25], SP6	QLogic QLA2340-E-SP[8, 11]	FC-AL, FC-SW	N	
99	xSeries x345	PCI, PCI-X	Novell Netware 5.10: SP5[6, 25], SP6; Novell Netware 6.0: SP1[6, 16], SP2[6], SP3	QLogic QLA2342-E-SP[8, 11, 12]	FC-AL, FC-SW	N	

IBM – Novell Netware							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
100	xSeries x345	PCI, PCI-X	Novell Netware 5.10: SP5[6, 25], SP6; Novell Netware 6.0: SP1[6], SP2[6], SP3	QLogic QLA2310F-E-SP[8, 11]	FC-AL, FC-SW	N	
101	xSeries x445	PCI PCI-X	Novell Netware 5.10: SP5[6], SP6	IBM: 19K1246(QLA2310)[11, 20], 24P0960(QLA2340)[11, 22]	FC-AL, FC-SW	Y[2, 4]	
102	xSeries x345	PCI, PCI-X	Novell Netware 5.10: SP5[6], SP6	QLogic QLA2200F-EMC[9]	FC-AL, FC-SW	N	
103	xSeries x445	PCI PCI-X	Novell Netware 5.10: SP5[6], SP6	QLogic QLA2200F-EMC[9]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
104	xSeries x345	PCI, PCI-X	Novell Netware 6.0: SP1[6, 16], SP2[6], SP3	QLogic QLA2340-E-SP[11]	FC-AL, FC-SW	N	
105	xSeries x445	PCI PCI-X	Novell Netware 6.0: SP1[6, 7], SP2[6], SP3	IBM: 19K1246(QLA2310)[8, 20, 21], 24P0960(QLA2340)[8, 13, 22]	FC-AL, FC-SW	Y[2, 4]	
106	xSeries x445	PCI PCI-X	Novell Netware 6.0: SP1[6], SP2[6], SP3	QLogic QLA2200F-EMC[8, 9, 13]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
107	xSeries x445	PCI PCI-X	Novell Netware 6.0: SP2[5, 6], SP3	QLogic QLA2310F-E-SP[8, 11, 12]	FC-AL, FC-SW	Y[1, 2, 3, 4]	
108	xSeries x445	PCI PCI-X	Novell Netware 5.10 SP2A[5, 6] 6.0 SP1[6], 6.0 SP2[6], 6.0 SP3	QLogic QLA2300F-E-SP[8, 11]	FC-AL, FC-SW	N	
109	Netfinity: 5000, 5500, 5500 M10 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R xSeries: X330, X340 (4500R) x230, x232, x240, x250, x350 (6000R), x370	PCI	Novell Netware 5.00 SP6A[5, 6, 27, 28]	QLogic QLA2200F-EMC[8, 9]	FC-SW	N	
110	Netfinity: 5000, 5500, 5500 M10 5500 M20, 5600, 7000, 7000 M10[10], 7100, 7600, 8500R xSeries: X330, X340 (4500R) x230, x232, x240, x250 x350 (6000R), x370	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6, 24], SP6 Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3	QLogic QLA2200F-EMC[8, 9]	FC-SW	Y[1, 2, 3, 4]	
111	xSeries: x255, x345	PCI	Novell Netware 5.10: SP2A[5, 6], SP5[6], SP6; Novell Netware 6.0: SP1[5, 6, 7], SP2[5, 6], SP3	Emulex LP9002-E (LP9002L-E)[14, 15]	FC-SW	N	
112	xSeries x440	PCI-X	Novell Netware: 5.10 SP2A[5, 6], 6.0 SP1[6, 7], 6.0 SP2[6], 6.0 SP3	QLogic QLA2200F-EMC[8, 9]	FC-SW	Y[1, 2, 3, 4]	
113	xSeries x445	PCI, PCI-X	Novell Netware: 5.10 SP2A[5, 6], 6.0 SP1[6, 7], 6.0 SP2[6], 6.0 SP3	QLogic QLA2200F-EMC[8, 9]	FC-SW	Y[1, 2, 3, 4]	

1. Edit config.sys with the following: Files=100 Buffers=99
2. When installing NetWare for fabric boot (when operating system is not installed in the local host) on the Symmetrix, create only one LUN and then perform the install. To install a second server that will be fabric boot, repeat the process by creating one additional LUN and then loading the operating system to it. Continue this process until the desired number of fabric boot servers have been reached. Conditons exist where several LUNs are initially created and you perform your first install, NetWare will sometimes acquire and stripe the operating system across several of the newly created LUNs
3. To enable failover with fabric boot DOSFAT NSS must be loaded from the autoexec.ncf. In a failed condition the c:\ partition will not failover correctly but the DOSFAT C: partition will
4. NetWare boot support is contingent on migration of the DOS boot partition to an NSS partition. NetWare will warn you of the possibility of data corruption if you convert the DOS boot partition to an NSS partition. The risk of data corruption is during I/O to the C: drive while in the NetWare debugger, or while writing reboot log files during an "Auto Restart After Abend". When you load DOSFAT, please set "Auto Restart After Abend" to 0 to avoid the possibility of data corruption.
5. Symmetrix 8000 Series: 66/67 support at NetWare 4.11, 5.x, 5568 support at Netware 5.1.
6. Maximum number of NWFS volumes that can be mounted is 64
7. PCI-X servers must use single 5 volt PCI slot for Adaptec 2944 family
8. Driver installation with NetWare 5.0 SP6A: Do not load cpqmpk.psm when prompted. At the point when you are to load idecd, ideata and scsihd, toggle to the Control prompt with <Alt-Esc>. Once at the system control, unload nwpa.nlm, then load nwpa.nlm version 3.07a 5/3/01. Once the new nwpa.nlm is loaded, toggle back to the install screen and continue with the install. When install is complete, down the server and copy nwpa.nlm version 3.07a 5/3/01 to the c:\nwserver directory and reboot.
9. **Supported in "Shared HBA" topology. Single HBA may be zoned to more than one storage array. This included arrays of different types and/or models.**
10. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
11. Requires driver 6.50v and BIOS 1.34. Driver and documentation available from www.qlogic.com
12. Support for CX600, CX400, FC4500, FC4700, and FC5300. (FC5300 requires copper to Fibre transceiver.)
13. Requires HBA bios 1.83 and driver 6.50v. Driver and documentation available from www.qlogic.com.
14. Requires driver version 2.02e and firmware 3.90a7.
15. PowerPath not currently supported.
16. HPQ Proliant servers with ATF and Powerpath requires use of SCSIHD in place of CPQSHD.
17. **Host must be offline for interfamily Symmetrix microcode upgrade.**
18. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
19. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
20. This HBA is equivalent to the qLogic QLA2310.
21. Requires driver 6.50v, BIOS 1.34 available from Qlogic
22. This HBA is equivalent to the qLogic QLA2340
23. (QLA2200) For IBM xSeries and Netfinity servers only.
24. Symmetrix 8000 Series: 66/67 support at NetWare 5.x; 5568 support at Netware 5.1
25. Requires NetWare patches: NWPAPT2A and NSS5J.
26. This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850
27. NetWare NSS has 120 LUN per port limitation. If NSS will not be used, 128 LUNs is supported.
28. Requires NWPA.NLM V.3.07A update from Novell website
29. Supports FC-AL point-to-point only
30. AHA-2944W is no longer available in distribution channels

Red Hat Linux

DG

DG – Red Hat Linux						
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	AViiON: AV1400, AV2800, AV3704, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10**[1, 3, 8], v2.4.9-E.12[1, 8], v2.4.9-E.16[1, 8], **v2.4.9-E.3**[1, 2, 3, 4]; Red Hat Linux 2.1 ES: **v2.4.9-e.12**[1, 8], v2.4.9-e.16[1, 8]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 9]	Emulex: LP9802-E[5, 6, 7], LP9802DC-E, LP982-E[5, 6, 7]	FC-AL, FC-SW	N
2	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-e.24[1, 14], ES v2.4.9-e.24[1, 14]	QLogic QLA2342-E-SP[5, 10, 11, 12, 13]	FC-AL, FC-SW	N
3	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-e.24[1, 14], ES v2.4.9-e.24[1, 14]	QLogic QLA2340-E-SP[5, 12, 24]	FC-AL, FC-SW[10, 11]	Y[15, 16, 17, 18, 19, 20, 21, 22, 23]

1. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.

2. **This kernel is limited to 110 devices, not 128.**
3. **Supported with QLogic driver v6.04.02 or v6.05.00.**
4. **The kernel version listed is included in the corresponding standard distributed release.**
5. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
6. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
7. **Host must be offline for interfamily Symmetrix microcode upgrade.**
8. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
9. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later.
10. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
11. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
12. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
13. **Single HBA zoning is required regardless of the switch being utilized.**
14. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
15. **Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
16. **Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.**
17. **Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.**
18. **Access Logic required, direct connect or fabric. (no booting through switch inter-switch links)**
19. **No MirrorView or SnapView used on boot LUNs.**
20. **EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.**
21. **Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.**
22. **Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.**
23. **For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.**
24. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**

Dell

Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**PowerEdge: 2550[5], 4300**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[4, 6]**	**QLogic QLA2200F-EMC[1, 3]**	FC-AL, FC-SW	N
2	PowerEdge: 2300, 2400, 2450, 2500, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[4, 6]	QLogic: **QLA2200F-EMC[1, 3]**, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
3	PowerEdge: 2400, 4300	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[4, 6, 8]**, v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], **v2.4.9-E.3[4, 7, 8, 9]**; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 6]**, v2.4.9-e.16[4, 6]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 14]	Emulex: **LP9802-E[1, 3, 10]**, LP9802DC-E, **LP982-E[1, 3, 10]**	FC-AL, FC-SW	N
4	**PowerEdge: 1550, 1650, 2300, 2450, 2500, 2550[5], 4400, 6100, 6300, 6350, 6400, 6450, 8450**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6, 8], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 6], v2.4.9-e.16[4, 6];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 14]**	**Emulex: LP9802-E[1, 3, 10], LP982-E[1, 3, 10]**	FC-AL, FC-SW	N
5	**PowerEdge: 2300, 2450, 2500, 2550[5], 4400, 6100, 6300, 6350, 6400, 6450, 8450**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6, 8], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 6], v2.4.9-e.16[4, 6];** **Red Hat Linux 7.3: (v2.4.18-3)[4], updated w/ v2.4.18-27.7.x rpm[4, 14];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic: QLA2200F-EMC[1, 2, 3], QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	N
6	**PowerEdge 4300**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6, 8], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 6], v2.4.9-e.16[4, 6];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2342-E-SP[11]**	FC-AL, FC-SW	N
7	**PowerEdge: 2400, 4300**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6, 8], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 6], v2.4.9-e.16[4, 6];** **Red Hat Linux. 7.3 updated w/ v2.4.18-27.7.x rpm[4, 14], 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic: QLA2200F-EMC[1, 2, 3], QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	N
8	PowerEdge: 1550, 1650 2300, 2450, 2500, 2550[5], 4400, 6100, 6300, 6350 6400 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[4, 6, 8]**, v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], **v2.4.9-E.3[4, 7, 8, 9]** v2.4.9-E.9[4, 6]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 6]**, v2.4.9-e.16[4, 6]; Red Hat Linux 7.3: (v2.4.18-3)[4], updated w/ v2.4.18-27.7.x rpm[4, 14]	Emulex LP9802DC-E	FC-AL, FC-SW	N
9	**PowerEdge 2400**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6, 8], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9] v2.4.9-E.9[4, 6];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 6], v2.4.9-e.16[4, 6];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2342-E-SP[11]**	FC-AL, FC-SW	N

Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
10	**PowerEdge: 2300, 2450, 2500, 2550[5], 4400, 6100, 6300, 6350, 6400, 6450, 8450**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6, 8], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9], v2.4.9-E.9[4, 6];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 6], v2.4.9-e.16[4, 6];** **Red Hat Linux: 7.3 (v2.4.18-3)[4], 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2342-E-SP[11]**	FC-AL, FC-SW	N
11	**PowerEdge 1650**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9], v2.4.9-E.9[4, 6];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 6], v2.4.9-e.16[4, 6];** **Red Hat Linux 7.3 (v2.4.18-3)[4]**	**QLogic QLA2342-E-SP[11]**	FC-AL, FC-SW	N
12	PowerEdge: 1550, 1650, 2550[5]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.9[4, 6]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 6]**, v2.4.9-e.16[4, 6]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
13	PowerEdge: 1650, 2300, 2450, 2500, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.9[4, 6]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 6]**, v2.4.9-e.16[4, 6]; Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N
14	PowerEdge 1550	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.9[4, 6]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 6]**, v2.4.9-e.16[4, 6]; Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex LP9002-E (LP9002L-E); **QLogic QLA2342-E-SP[11]**	FC-AL, FC-SW	N
15	PowerEdge 2550[5]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.9[4, 6]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 6]**, v2.4.9-e.16[4, 6]; Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E	FC-AL, FC-SW	N
16	**PowerEdge: 1550[15], 1650[15], 2300[15], 2400, 2450[15], 2500[15], 2550[5, 15], 4400[15], 6100[15], 6300[15], 6350[15], 6400[15], 6450, 8450**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 19], ES v2.4.9-e.24[4, 19]**	**QLogic QLA2342-E-SP[1, 12, 16, 17, 18]**	**FC-AL, FC-SW**	**N**
17	**PowerEdge 1650**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[4]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	N
18	**PowerEdge 1550**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[4]**	**QLogic: QLA2200F-EMC[1, 2, 3], QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	N
19	**PowerEdge: 2300, 2400, 2450, 2500, 2550[5], 4300, 4400, 6100, 6300, 6350, 6400, 6450, 8450**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 14]**	**QLogic QLA2342-E-SP[1, 3, 11, 12, 13]**	FC-AL, FC-SW	N
20	**PowerEdge 1650**	PCI	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[4, 7, 8, 9], 7.3 (v2.4.18-3)[4]**	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	N
21	PowerEdge: 1550, 1650, 2300, 2450, 2500, 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.9[4, 6], 7.3 (v2.4.18-3)[4]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	N
22	**PowerEdge 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[4, 6]**	**QLogic QLA2200F-EMC[1, 3]**	FC-AL, FC-SW	N
23	PowerEdge: 2600, 2650, 4600, 6600	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[4, 6]	QLogic: **QLA2200F-EMC[1, 3]**, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
24	**PowerEdge: 1750, 2600, 4600, 6600, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6, 8], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 6], v2.4.9-e.16[4, 6];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 14]**	**Emulex: LP9802-E[1, 3, 10], LP982-E[1, 3, 10]**	FC-AL, FC-SW	N
25	**PowerEdge: 2600, 2650, 4600, 6600, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6, 8], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 6], v2.4.9-e.16[4, 6];** **Red Hat Linux 7.3: (v2.4.18-3)[4], updated w/ v2.4.18-27.7.x rpm[4, 14];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic: QLA2200F-EMC[1, 2, 3], QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	N
26	**PowerEdge 2650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6, 8], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 14]**	**Emulex: LP9802-E[1, 3, 10], LP982-E[1, 3, 10]**	FC-AL, FC-SW	N
27	PowerEdge: 1750, 2600, 2650, 4600, 6600, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[4, 6, 8]**, v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], **v2.4.9-E.3[4, 7, 8, 9]**, v2.4.9-E.9[4, 6]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 6]**, v2.4.9-e.16[4, 6] Red Hat Linux 7.3 (v2.4.18-3)[4] updated w/ v2.4.18-27.7.x rpm[4, 14]	Emulex LP9802DC-E	FC-AL, FC-SW	N

Dell – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
28	**PowerEdge: 2600, 4600, 6600, 6650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6, 8], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9], v2.4.9-E.9[4, 6];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 6], v2.4.9-e.16[4, 6];** **Red Hat Linux: 7.3 (v2.4.18-3)[4], 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2342-E-SP[11]**	FC-AL, FC-SW	N
29	**PowerEdge 2650**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6, 8], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9], v2.4.9-E.9[4, 6];** **Red Hat Linux: 7.3 (v2.4.18-3)[4], 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2342-E-SP[11]**	FC-AL, FC-SW	N
30	**PowerEdge 1750**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.3[4, 7, 8, 9], v2.4.9-E.9[4, 6];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 6], v2.4.9-e.16[4, 6];** **Red Hat Linux 7.3 (v2.4.18-3)[4]**	**QLogic QLA2342-E-SP[11]**	FC-AL, FC-SW	N
31	PowerEdge: 1750, 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.9[4, 6]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 6]**, v2.4.9-e.16[4, 6]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
32	PowerEdge: 1750, 2600, 4600, 6600	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.9[4, 6]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 6]**, v2.4.9-e.16[4, 6]; Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N
33	PowerEdge 6650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.9[4, 6]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 6]**, v2.4.9-e.16[4, 6]; Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP982-E	FC-AL, FC-SW	N
34	PowerEdge 2650	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 6], v2.4.9-E.12[4, 6], v2.4.9-E.16[4, 6], v2.4.9-E.9[4, 6]; Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N
35	**PowerEdge 2650[15]**	PCI-X	**Red Hat Linux 2.1 ES: v2.4.9-e.12[4, 6], v2.4.9-e.16[4, 6]**	**Emulex: LP9002-E (LP9002L-E), LP9802-E[1, 3, 10], LP982-E[1, 3, 10];** **QLogic QLA2342-E-SP[11]**	FC-AL, FC-SW	N
36	**PowerEdge: 2600[15], 2650, 6600[15], 6650**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 19], ES v2.4.9-e.24[4, 19]**	**QLogic QLA2340-E-SP[1, 13, 18]**	**FC-AL, FC-SW**	**Y[20, 21, 22, 23, 24, 25, 26, 27, 28]**
37	**PowerEdge: 1750, 2600, 2650, 4600, 6600[15], 6650**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 19], ES v2.4.9-e.24[4, 19]**	**QLogic QLA2342-E-SP[1, 12, 16, 17, 18]**	**FC-AL, FC-SW**	**N**
38	**PowerEdge 1750**	PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[4]**	**QLogic QLA2200F-EMC[1, 2, 3]**	FC-AL, FC-SW	N
39	**PowerEdge: 2600, 2650, 4600, 6600, 6650**	PCI-X	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 14]**	**QLogic QLA2342-E-SP[1, 3, 11, 12, 13]**	FC-AL, FC-SW	N
40	**PowerEdge 1750**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[4, 7, 8, 9], 7.3 (v2.4.18-3)[4]**	**QLogic: QLA2310F-E-SP[1, 2, 3], QLA2340-E-SP[1, 2, 3]**	FC-AL, FC-SW	N
41	PowerEdge: 1750, 2600, 2650, 4600, 6600	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.9[4, 6], 7.3 (v2.4.18-3)[4]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	N
42	**PowerEdge 1650[15]**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 19], ES v2.4.9-e.24[4, 19]**	**QLogic QLA2340-E-SP[1, 13, 18]**	**FC-AL, FC-SW[16, 17]**	**N**
43	**PowerEdge: 1550[15], 2300[15], 2400, 2450[15], 2500[15], 2550[5, 15], 4400[15], 6100[15], 6300[15], 6350[15], 6400[15], 6450[15], 8450[15]**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 19], ES v2.4.9-e.24[4, 19]**	**QLogic QLA2340-E-SP[1, 13, 18]**	**FC-AL, FC-SW[16, 17]**	**Y[20, 21, 22, 23, 24, 25, 26, 27, 28]**
44	**PowerEdge 2600[15]**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 19], ES v2.4.9-e.24[4, 19]**	**QLogic QLA2340-E-SP[1, 13, 18]**	**FC-AL, FC-SW[16, 17]**	**Y[20, 21, 22, 23, 24, 25, 26, 27, 28]**
45	**PowerEdge: 1750, 4600[15]**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 19], ES v2.4.9-e.24[4, 19]**	**QLogic QLA2340-E-SP[1, 13, 18]**	**FC-AL, FC-SW[16, 17]**	**N**

1. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
2. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
3. **Host must be offline for interfamily Symmetrix microcode upgrade.**
4. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
5. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts
6. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
7. **This kernel is limited to 110 devices, not 128.**
8. **Supported with QLogic driver v6.04.02 or v6.05.00.**
9. **The kernel version listed is included in the corresponding standard distributed release.**
10. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
11. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
12. **Single HBA zoning is required regardless of the switch being utilized.**
13. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
14. Symmetrix 8000 Series 66/67 support at Red Hat Kernel v2.4.x or later. 5568 support at Red Hat kernel v2.4.x or later.
15. **An RPM from Dell may be used to install the QLogic v6.04.02 or v6.05.00 drivers and may be obtained from the QLogic website at http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
16. FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
17. FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.
18. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
19. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**

20. Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
21. Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.
22. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
23. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
24. No MirrorView or SnapView used on boot LUNs.
25. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.
26. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.
27. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.
28. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.

Fujitsu Siemens

Fujitsu Siemens – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**Primergy**: B210, C200, E200, F200, H200, H400, K400, L200, N200, N400, P200, P250, R450	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[6, 9]	QLogic QLA2200F-EMC[1, 3]	FC-AL, FC-SW	N
2	**Primergy**: B210, C200, E200, F200, H200, H400, K400, L200, N200, N400, P200, P250, R450	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[5, 6, 9], v2.4.9-E.12[6, 9], v2.4.9-E.16[6, 9], v2.4.9-E.3[4, 5, 6, 7]; Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 9], v2.4.9-e.16[6, 9]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[6, 10], 8.0 updated to v2.4.18-27.8.0[6]	QLogic QLA2200F-EMC[1, 2, 3]	FC-AL, FC-SW	N
3	**Primergy**: F250[8], H250[8], H450, N800, RX200, RX300, TX200, TX300	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[6, 9]	QLogic QLA2200F-EMC[1, 3]	FC-AL, FC-SW	N
4	**Primergy**: F250[8], H250[8], H450, N800, RX200, RX300, TX200, TX300	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[5, 6, 9], v2.4.9-E.12[6, 9], v2.4.9-E.16[6, 9], v2.4.9-E.3[4, 5, 6, 7]; Red Hat Linux 2.1 ES: v2.4.9-e.12[6, 9], v2.4.9-e.16[6, 9]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[6, 10], 8.0 updated to v2.4.18-27.8.0[6]	QLogic QLA2200F-EMC[1, 2, 3]	FC-AL, FC-SW	N

1. Host must be offline for interfamily Symmetrix microcode upgrade.
2. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
3. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
4. The kernel version listed is included in the corresponding standard distributed release.
5. Supported with QLogic driver v6.04.02 or v6.05.00.
6. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
7. This kernel is limited to 110 devices, not 128.
8. Must use standard PCI 32bit/33MHz slot for SCSI
9. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
10. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later.

HPQ

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Proliant ML370(G2)	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 4]	Emulex: LP9802-E, LP982-E; QLogic: **QLA2200F-EMC[1, 2]**, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
2	**Netserver LH III**; **Proliant DL580(G2)[10]**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 4]**	**QLogic QLA2200F-EMC[1, 2]**	FC-AL, FC-SW	N
3	Netserver LC: 2000 U3, 2000r, Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[10, 11], 1850[10], 2500[10], 3000[10], 5000[10], 5500[10, 12], 6000[10, 12], 6400R[10], 6500[10, 12], 800, 8000[10, 12], 850[10], DL320[10], DL360[10], DL360(G2)[10], **DL380[10]**, **DL380(G2)[10]**, **DL380(G3)**, DL580[10], ML350[10], ML370[10], ML370(G3), ML530[10], ML570[10], ML750[13]	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 4]	QLogic: **QLA2200F-EMC[1, 2]**, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
4	Proliant DL580(G2)[10]	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[3, 4, 7]**, v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], **v2.4.9-E.3[4, 6, 7, 8]**; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 4]**, v2.4.9-e.16[3, 4]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15]	Emulex: **LP9802-E[1, 2, 9]**, LP9802DC-E, **LP982-E[1, 2, 9]**	FC-AL, FC-SW	N
5	**Netserver LC: 2000 U3, 2000r**; Netserver LH: 3000, 6000, Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[10, 11], 1850[10], 2500[10], 6400R[10], 6500[10, 12], 800, 850[10] DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3) DL580[10], ML350[10], ML350(G2)[10], ML370[10], ML370(G3), ML530[10] ML530(G2)[10], ML570[10], ML750[13]	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8];** Red Hat Linux 2.1 ES v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15]	**Emulex: LP9802-E[1, 2, 9], LP982-E[1, 2, 9]**	FC-AL, FC-SW	N
6	**Proliant ML370(G2)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8];** Red Hat Linux 2.1 ES v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4]; Red Hat Linux 7.3: (v2.4.18-3)[4] updated w/ v2.4.18-27.7.x rpm[4, 15]	**Emulex: LP9802-E[1, 2, 9], LP982-E[1, 2, 9]**	FC-AL, FC-SW	N

HPQ – Red Hat Linux

No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
7	**Netserver LP 2000r;** **Proliant ML750[13]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[3, 4, 7], v2.4.9–E.12[3, 4], v2.4.9–E.16[3, 4], v2.4.9–E.3[4, 6, 7, 8];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[3, 4], v2.4.9–e.16[3, 4];** **Red Hat Linux 7.3: (v2.4.18–3)[4] updated w/ v2.4.18–27.7.x rpm[4, 15];** **Red Hat Linux 8.0 updated to v2.4.18–27.8.0[4]**	**QLogic QLA2200F–EMC[1, 2, 5]**	FC–AL, FC–SW	N
8	**Netserver LC: 2000 U3, 2000r;** **Netserver LH: (LH Pro), 3, 3000, 4, 6000, II;** **Netserver: LT 6000R, LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[10, 11], 1850[10], 2500[10], 3000[10], 5000[10], 5500[10, 12], 6000[10, 12], 6400R[10], 6500[10, 12], 800, 8000[10, 12], 850[10], DL320[10], DL360[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], ML350[10], ML370[10], ML370(G2), ML370(G3), ML530[10], ML570[10]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[3, 4, 7], v2.4.9–E.12[3, 4], v2.4.9–E.16[3, 4], v2.4.9–E.3[4, 6, 7, 8];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[3, 4], v2.4.9–e.16[3, 4];** **Red Hat Linux 7.3: (v2.4.18–3)[4] updated w/ v2.4.18–27.7.x rpm[4, 15];** **Red Hat Linux 8.0 updated to v2.4.18–27.8.0[4]**	**QLogic: QLA2200F–EMC[1, 2, 5], QLA2310F–E–SP[1, 2, 5], QLA2340–E–SP[1, 2, 5]**	FC–AL, FC–SW	N
9	**Netserver LX PRO**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[3, 4, 7], v2.4.9–E.12[3, 4], v2.4.9–E.16[3, 4], v2.4.9–E.3[4, 6, 7, 8];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[3, 4], v2.4.9–e.16[3, 4];** **Red Hat Linux 7.3: (v2.4.18–3)[4] updated w/ v2.4.18–27.7.x rpm[4, 15];** **Red Hat Linux 8.0 updated to v2.4.18–27.8.0[4]**	**QLogic: QLA2310F–E–SP[1, 2, 5], QLA2340–E–SP[1, 2, 5]**	FC–AL, FC–SW	N
10	**Netserver LH III;** **Proliant DL580(G2)[10]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[3, 4, 7], v2.4.9–E.12[3, 4], v2.4.9–E.16[3, 4], v2.4.9–E.3[4, 6, 7, 8];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[3, 4], v2.4.9–e.16[3, 4];** **Red Hat Linux 8.0 updated to v2.4.18–27.8.0[4]**	**QLogic QLA2342–E–SP[14]**	FC–AL, FC–SW	N
11	**Netserver LX PRO**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[3, 4, 7], v2.4.9–E.12[3, 4], v2.4.9–E.16[3, 4], v2.4.9–E.3[4, 6, 7, 8];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[3, 4], v2.4.9–e.16[3, 4];** **Red Hat Linux: 7.3 updated w/ v2.4.18–27.7.x rpm[4, 15], 8.0 updated to v2.4.18–27.8.0[4]**	**QLogic QLA2200F–EMC[1, 2, 5]**	FC–AL, FC–SW	N
12	**Netserver LH III;** **Proliant: DL360(G2)[10], DL580(G2)[10]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[3, 4, 7], v2.4.9–E.12[3, 4], v2.4.9–E.16[3, 4], v2.4.9–E.3[4, 6, 7, 8];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[3, 4], v2.4.9–e.16[3, 4];** **Red Hat Linux: 7.3 updated w/ v2.4.18–27.7.x rpm[4, 15], 8.0 updated to v2.4.18–27.8.0[4]**	**QLogic: QLA2200F–EMC[1, 2, 5], QLA2310F–E–SP[1, 2, 5], QLA2340–E–SP[1, 2, 5]**	FC–AL, FC–SW	N
13	**Netserver LP 2000r;** **Proliant ML750[13]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[3, 4, 7], v2.4.9–E.12[3, 4], v2.4.9–E.16[3, 4], v2.4.9–E.3[4, 6, 7, 8];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[3, 4], v2.4.9–e.16[3, 4];** **Red Hat Linux: 7.3 updated w/ v2.4.18–27.7.x rpm[4, 15], 8.0 updated to v2.4.18–27.8.0[4]**	**QLogic: QLA2310F–E–SP[1, 2, 5], QLA2340–E–SP[1, 2, 5]**	FC–AL, FC–SW	N
14	**Proliant ML370(G3)**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[3, 4, 7], v2.4.9–E.12[3, 4], v2.4.9–E.16[3, 4], v2.4.9–E.3[4, 6, 7, 8], v2.4.9–E.9[3, 4];** **Red Hat Linux 2.1 ES: v2.4.9–e.12[3, 4], v2.4.9–e.16[3, 4];** **Red Hat Linux 7.3 updated w/ v2.4.18–27.7.x rpm[4, 15]**	**Emulex LP9002–E (LP9002L–E)[1, 2]**	FC–AL, FC–SW	N
15	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[10, 11], 1850[10], 2500[10], 6400R[10], 6500[10, 12], 800, 8500[10], DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], ML350[10], ML350(G2)[10], ML370[10], ML370(G3), ML530[10], ML530(G2)[10], ML570[10], ML750[13]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9–E.10[3, 4, 7], v2.4.9–E.12[3, 4], v2.4.9–E.16[3, 4], v2.4.9–E.3[4, 6, 7, 8], v2.4.9–E.9[3, 4]; Red Hat Linux 2.1 ES: v2.4.9–e.12[3, 4], v2.4.9–e.16[3, 4]; Red Hat Linux 7.3 (v2.4.18–3)[4], updated w/ v2.4.18–27.7.x rpm[4, 15]	Emulex LP9802DC–E	FC–AL, FC–SW	N

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No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
16	Proliant ML370(G2)	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[3, 4, 7]**, v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], **v2.4.9-E.3[4, 6, 7, 8]**, v2.4.9-E.9[3, 4]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 4]**, v2.4.9-e.16[3, 4]; Red Hat Linux 7.3: (v2.4.18-3)[4] updated w/ v2.4.18-27 7.x rpm[4, 15]	Emulex: **LP9002-E (LP9002L-E)[1, 2]**, LP9802DC-E	FC-AL, FC-SW	N
17	**Netserver LP 2000r** **Proliant: DL360(G2)[10], ML750[13]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7]**, v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], **v2.4.9-E.3[4, 6, 7, 8]**, v2.4.9-E.9[3, 4]; **Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4]**, v2.4.9-e.16[3, 4]; **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
18	**Netserver LC: 2000 U3, 2000r** **Netserver LH: (LH Pro), 3, 3000 4, 6000 II** **Netserver: LT 6000R, LX PRO LXR 8000, LXR 8500, LXR PRO, LXR PRO8;** **Proliant: 1600[10, 11] 1850[10] 2500[10] 3000[10] 5000[10] 5500[10, 12] 6000[10, 12] 6400R[10], 6500[10, 12] 800 8000[10, 12] 850[10] DL320[10] DL360[10] DL380[10] DL380(G2)[10], DL380(G3), DL580[10], ML350[10] ML370[10], ML370(G2), ML370(G3), ML530[10], ML570[10]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7]**, v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], **v2.4.9-E.3[4, 6, 7, 8]**, v2.4.9-E.9[3, 4]; **Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4]**, v2.4.9-e.16[3, 4]; **Red Hat Linux: 7.3 (v2.4.18-3)[4], 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
19	**Proliant 8500**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8], v2.4.9-E.9[3, 4];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4];** **Red Hat Linux 7.3 (v2.4.18-3)[4]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
20	Proliant: 7000[10, 12], 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 4]**, v2.4.9-e.16[3, 4]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
21	Proliant: ML350(G2)[10], ML530(G2)[10]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 4]**, v2.4.9-e.16[3, 4]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, **QLA2342-E-SP[14]**	FC-AL, FC-SW	N
22	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[10, 11], 1850[10], 2500[10] 6400R[10] 6500[10, 12], 800 850[10], DL320[10], DL360[10], DL360(G2)[10] **DL380[10] DL380(G2)[10] DL380(G3)**, DL580[10], ML350[10], ML350(G2)[10], ML370[10], ML530[10], ML530(G2)[10], ML570[10], ML750[13]	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 4]**, v2.4.9-e 16[3, 4]; Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N
23	Proliant 8500	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 4]**, v2.4.9-e.16[3, 4]; Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW	N
24	**Proliant 7000[10, 12]**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4];** **Red Hat Linux 2.1 ES v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4].** **Red Hat Linux 7.3 (v2.4.18-3)[4]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
25	**Proliant ML750[10]**	PCI	**Red Hat Linux 2.1, Advanced Server v2.4.9-e.24[4, 37], ES v2.4.9-e.24[4, 37]**	**QLogic QLA2340-E-SP[1, 16, 38]**	**FC-AL, FC-SW**	**Y[13, 26, 27, 28, 29, 30, 31, 32, 33, 34]**
26	**Proliant ML350(G2)[10] ML370[10], ML370(G2), ML530[10], ML530(G2)[10], ML570[10]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 37], ES v2.4.9-e.24[4, 37]**	**QLogic QLA2340-E-SP[1, 16, 38]**	**FC-AL, FC-SW**	**Y[26, 27, 28, 29, 30, 31, 32, 33, 34]**
27	**Proliant 3000[10] 6500[10, 12] 7000[10, 12] 8500 DL320[10], DL360[10] DL360(G2)[10] DL380[10] DL380(G2)[10] DL380(G3), DL580[10], ML350[10] ML350(G2)[10], ML370[10], ML370(G2), ML370(G3) ML530[10] ML530(G2)[10], ML570[10], ML750[10]**	PCI	**Red Hat Linux 2.1, Advanced Server v2.4.9-e.24[4, 37], ES v2.4.9-e.24[4, 37]**	**QLogic QLA2342-E-SP[1, 16, 17, 35, 36, 38]**	**FC-AL, FC-SW**	**N**
28	**Netserver LC: 2000 U3, 2000r** **Netserver LH, 3, 3000 4, 6000 II PRO III** **Netserver LP 2000r LT 6000R LX PRO LXR 8000 LXR 8500, LXR PRO, LXR PRO8** **Proliant 1600[10, 11] 1850[10] 2500[10] 5000[10] 5500[10, 12], 6000[10, 12] 6400R[10] 800, 8000[10, 12] 850[10] DL580(G2)[10] ML750[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 37], ES v2.4.9-e.24[4, 37]**	**QLogic QLA2342-E-SP[1, 17, 35, 36, 38]**	**FC-AL, FC-SW**	**N**
29	Proliant ML370(G3)	PCI	Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N
30	**Proliant 7000[10, 12]**	PCI	**Red Hat Linux 7.3 (v2.4.18-3)[4]**	**QLogic QLA2310F-E-SP[1, 2, 5], QLA2340-E-SP[1, 2, 5]**	FC-AL, FC-SW	N
31	**Proliant 7000[10, 12]**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15]**	**QLogic QLA2200F-EMC[2, 5]**	FC-AL, FC-SW	N

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
32	**Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[10, 11], 1850[10], 2500[10], 3000[10], 5000[10], 5500[10, 12], 6000[10, 12] 6400R[10], 6500[10, 12], 800, 8000[10, 12], 850[10], DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], DL580(G2)[10], ML350[10], ML370[10], ML370(G2), ML370(G3), ML530[10], ML570[10], ML750[13]**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15]**	**QLogic QLA2342-E-SP[1, 2, 14, 16, 17]**	FC-AL, FC-SW	N
33	**Proliant 8500**	PCI	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[4, 6, 7, 8], 7.3 (v2.4.18-3)[4]**	**QLogic: QLA2200F-EMC[1, 2, 5] QLA2310F-E-SP[1, 2, 5], QLA2340-E-SP[1, 2, 5]**	FC-AL, FC-SW	N
34	Netserver LC: 2000 U3, 2000r; Netserver LH: 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500; Proliant: 1600[10, 11], 1850[10], 2500[10], 6400R[10], 6500[10, 12], 800, 850[10], DL320[10], DL360[10], DL360(G2)[10], **DL380[10], DL380(G2)[10], DL380(G3)**, DL580[10], ML350[10], ML350(G2)[10], ML370[10], ML370(G3), ML530[10], ML530(G2)[10], ML570[10], ML750[13]	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.9[3, 4], 7.3 (v2.4.18-3)[4]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	N
35	**Proliant 7000[10, 12]**	PCI	**Red Hat Linux: 7.3 (v2.4.18-3)[4], 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2200F-EMC[1, 2, 5]**	FC-AL, FC-SW	N
36	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[4, 6, 7, 8]**	**Emulex LP9002-E (LP9002L-E)[1, 2]**	FC-AL, FC-SW	N
37	**Proliant DL360(G3)**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 4]**	**QLogic QLA2200F-EMC[1, 2]**	FC-AL, FC-SW	N
38	Proliant: DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[3, 4]	QLogic: **QLA2200F-EMC[1, 2]**, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
39	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
40	Proliant DL740	PCI-X	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[3, 4, 7]**, v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 4]**, v2.4.9-e.16[3, 4]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15]	Emulex: **LP9802-E[1, 2, 9]** LP9802DC-E, **LP982-E[1, 2, 9]**; **QLogic: QLA2200F-EMC[1, 2, 5], QLA2310F-E-SP[1, 2, 5], QLA2340-E-SP[1, 2, 5]**	FC-AL, FC-SW	N
41	**Proliant: DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15]**	**Emulex: LP9802-E[1, 2, 9], LP982-E[1, 2, 9]**	FC-AL, FC-SW	N
42	**Proliant: DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4]; Red Hat Linux 7.3: (v2.4.18-3)[4] updated w/ v2.4.18-27.7.x rpm[4, 15]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic: QLA2200F-EMC[1, 2, 5], QLA2310F-E-SP[1, 2, 5], QLA2340-E-SP[1, 2, 5]**	FC-AL, FC-SW	N
3	**Proliant DL360(G3)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15], 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2200F-EMC[1, 2, 5]**	FC-AL, FC-SW	N
44	Proliant: DL760[10], DL760 (G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[3, 4, 7]**, v2.4.9-E 12[3, 4], v2.4.9-E 16[3, 4] **v2.4.9-E.3[4, 6, 7, 8]**, v2.4.9-E 9[3, 4]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4 9-e 16[3, 4]; Red Hat Linux 7.3 updated w/ v2.4.18-27 7 x rpm[4, 15]	Emulex: **LP9802-E[1, 2, 9]** LP9802DC-E, **LP982-E[1, 2, 9]**	FC-AL, FC-SW	N
45	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server, **v2.4.9-E.10[3, 4, 7]** v2.4.9-E 12[3, 4], v2 4 9-E.16[3, 4] **v2.4.9-E.3[4, 6, 7, 8]**, v2 4 9-E 9[3, 4]; Red Hat Linux 2 1 ES: **v2.4.9-e.12[3, 4]**, v2.4.9-e 16[3, 4] Red Hat Linux 7.3 (v2.4 18-3)[4] updated w/ v2 4 18-27 7 x rpm[4, 15]	Emulex LP9802DC-E	FC-AL, FC-SW	N

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
46	**Proliant: DL360(G3), DL760[10], DL760 (G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8], v2.4.9-E.9[3, 4];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
47	**Proliant: DL560, DL560 (G2), ML570(G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8], v2.4.9-E.9[3, 4];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4];** **Red Hat Linux: 7.3 (v2.4.18-3)[4], 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2342-E-SP[14]**	FC-AL, FC-SW	N
48	**Proliant: DL760[10], DL760 (G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8], v2.4.9-E.9[3, 4];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15], 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic: QLA2200F-EMC[1, 2, 5], QLA2310F-E-SP[1, 2, 5], QLA2340-E-SP[1, 2, 5]**	FC-AL, FC-SW	N
49	**Proliant DL360(G3)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.3[4, 6, 7, 8];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15]**	**Emulex: LP9802-E[1, 2, 9], LP982-E[1, 2, 9]**	FC-AL, FC-SW	N
50	**Proliant DL360(G3)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.3[4, 6, 7, 8];** **Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15], 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic: QLA2310F-E-SP[1, 2, 5], QLA2340-E-SP[1, 2, 5]**	FC-AL, FC-SW	N
51	Proliant: DL360(G3), DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 4]**, v2.4.9-e.16[3, 4]; Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N
52	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[3, 4], **v2.4.9-e.24[4]**	Emulex LP9002-E (LP9002L-E); QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
53	**Proliant BL40p**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[3, 4], v2.4.9-E.3[4, 6, 7, 8], v2.4.9-e.24[4]**	**Emulex: LP9802-E[1, 2, 9], LP982-E[1, 2, 9]**	FC-AL, FC-SW	N
54	Proliant BL40p	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[3, 4], **v2.4.9-E.3[4, 6, 7, 8], v2.4.9-e.24[4]**; Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[4], **v2.4.20-18.8[4]**	Emulex LP9802DC-E: **IBM: 00N6881 (QLA2200)[1, 2, 5, 20], 19K1246(QLA2310)[1, 2, 5, 18], 24P0960(QLA2340)[1, 2, 5, 19].** QLogic: QLA2200F, **QLA2200F-EMC[1, 2, 5], QLA2342-E-SP[14]**	FC-AL, FC-SW	N
55	**Proliant: DL760[10] DL760 (G2)**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8], v2.4.9-E.9[3, 4];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4]**	**Emulex LP9002-E (LP9002L-E)[1, 2]**	FC-AL, FC-SW	N
56	Proliant DL360(G3)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 4]**, v2.4.9-e.16[3, 4]	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
57	Proliant DL360(G3)	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[3, 4]**, v2.4.9-e.16[3, 4]; Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	N
58	**Proliant DL740**	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.16[3, 4], ES v2.4.9-e.12[3, 4], ES v2.4.9-e.16[3, 4]**	**Emulex LP9002-E (LP9002L-E)[1, 2]**	FC-AL, FC-SW	N
59	Proliant DL740 DL760[10] DL760 (G2), ML570(G2)	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 37], ES v2.4.9-e.24[4, 37]**	**QLogic QLA2340-E-SP[1, 16, 38]**	FC-AL, FC-SW	Y[26, 27, 28, 29, 30, 31, 32, 33]
60	Proliant DL360(G3), DL560, DL560 (G2), DL740 DL760[10] DL760 (G2), ML570(G2)	PCI-X	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 37] ES v2.4.9-e.24[4, 37]**	**QLogic QLA2342-E-SP[1, 16, 17, 35, 36, 38]**	FC-AL, FC-SW	N
61	Proliant DL360(G3) DL560, DL560 (G2), DL740 DL760[10], DL760 (G2) ML570(G2)	PCI-X	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15]**	**QLogic QLA2342-E-SP[1, 2, 14, 16, 17]**	FC-AL, FC-SW	N

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
62	Proliant BL40p	PCI-X	Red Hat Linux 8.0 updated to: v2.4.18-19.8.0[4], **v2.4.20-18.8[4]**	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	N
63	**Proliant BL40p**	PCI-X	**Red Hat Linux: 2.1 Advanced Server v2.4.9-E.3[4, 6, 7, 8], 8.0 updated to v2.4.18-19.8.0[4], 8.0 updated to v2.4.20-18.8[4]**	**QLogic: QLA2310F-E-SP[1, 2, 5], QLA2340-E-SP[1, 2, 5]**	FC-AL, FC-SW	N
64	Proliant: DL560, **DL560 (G2)**, ML570(G2)	PCI-X	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.9[3, 4], 7.3 (v2.4.18-3)[4]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	N
65	Proliant BL20p (G2)[21, 22]	PCI-X[23]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[3, 4, 21], v2.4.9-E.3[4, 21]	HPQ Dual-port mezzanine controller card[24]	FC-AL, FC-SW	N
66	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8];** **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15]**	**Emulex: LP9802-E[1, 2, 9], LP982-E[1, 2, 9]**	**FC-AL, FC-SW**	**N**
67	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8], v2.4.9-E.9[3, 4];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4];** **Red Hat Linux 7.3: (v2.4.18-3)[4] updated w/ v2.4.18-27.7.x rpm[4, 15]**	**Emulex LP9802DC-E**	**FC-AL, FC-SW**	**N**
68	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.3[4, 6, 7, 8], v2.4.9-E.9[3, 4];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4];** **Red Hat Linux: 7.3 (v2.4.18-3)[4], 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2342-E-SP[14]**	**FC-AL, FC-SW**	**N**
69	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.12[3, 4], v2.4.9-E.3[4, 6, 7, 8];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4];** **Red Hat Linux 7.3: (v2.4.18-3)[4] updated w/ v2.4.18-27.7.x rpm[4, 15];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic: QLA2310F-E-SP[1, 2, 5], QLA2340-E-SP[1, 2, 5]**	**FC-AL, FC-SW**	**N**
70	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4, 7], v2.4.9-E.3[4, 6, 7, 8];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4];** **Red Hat Linux 7.3: (v2.4.18-3)[4] updated w/ v2.4.18-27.7.x rpm[4, 15];** **Red Hat Linux 8.0 updated to v2.4.18-27.8.0[4]**	**QLogic QLA2200F-EMC[1, 2, 5]**	**FC-AL, FC-SW**	**N**
71	Proliant DL580(G2)[10]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
72	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4];** **Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4];** **Red Hat Linux 7.3 (v2.4.18-3)[4]**	**Emulex LP9002-E (LP9002L-E)**	**FC-AL, FC-SW**	**N**
73	Proliant DL580(G2)[10]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[3, 4], v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4]; Red Hat Linux 2.1 ES: v2.4.9-e.12[3, 4], v2.4.9-e.16[3, 4]; Red Hat Linux 7.3 (v2.4.18-3)[4]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic QLA2342-E-SP[14]	FC-AL, FC-SW	N
74	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[3, 4], v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4]**	**QLogic QLA2200F-EMC**	**FC-AL, FC-SW**	**N**
75	Proliant DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[3, 4], v2.4.9-E.9[3, 4]	QLogic QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
76	Proliant DL580(G2)[10]	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-e.24[4, 37], ES v2.4.9-e.24[4, 37]	QLogic QLA2340-E-SP[16, 38]	FC-AL, FC-SW	N[26, 29, 30, 31, 32, 33, 34]
77	Proliant DL580(G2)[10] DL580(G3)	PCI, PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 37], ES v2.4.9-e.24[4, 37]	QLogic QLA2342-E-SP[14, 16, 17, 35, 36, 38]	FC-AL, FC-SW	N

HPQ – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
78	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-E.9[3, 4], ES v2.4.9-e.12[3, 4], ES v2.4.9-e.16[3, 4].** **Red Hat Linux 7.3 (v2.4.18-3)[4]**	**Emulex: LP9802-E, LP982-E**	**FC-AL, FC-SW**	**N**
79	**Proliant DL580(G2)[10]**	PCI, PCI-X	**Red Hat Linux 7.3 (v2.4.18-3)[4]**	**QLogic: QLA2200F-EMC[1, 2, 5] QLA2310F-E-SP[1, 2, 5], QLA2340-E-SP[1, 2, 5]**	FC-AL, FC-SW	N
80	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4, 15]**	**QLogic QLA2342-E-SP[1, 2, 14, 16, 17]**	**FC-AL, FC-SW**	**N**
81	**Proliant BL40p**	PCI-X	**Red Hat Linux 8.0 updated to v2.4.18-19.8.0[4], v2.4.20-18.8[4]**	**Emulex LP9002-E (LP9002L-E)[1, 2, 25]**	FC-AL, FC-SW[17]	N
82	**Netserver LC: 2000 U3, 2000r; Netserver LH: 3, 3000, 4, 6000, II, PRO, III; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[10, 11], 1850[10], 2500[10], 3000[10], 5000[10], 5500[10, 12], 6000[10, 12], 6400R[10], 6500[10, 12], 7000[10, 12], 800, 8000[10, 12], 850[10], 8500, DL320[10], DL360[10], DL360(G2)[10], DL380[10], DL380(G2)[10], DL380(G3), DL580[10], DL580(G2)[10], ML350[10], ML370(G3), ML750[13]**	PCI	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 37], ES v2.4.9-e.24[4, 37]**	**QLogic QLA2340-E-SP[1, 16, 38]**	**FC-AL, FC-SW[35, 36]**	**Y[26, 27, 28, 29, 30, 31, 32, 33, 34]**
83	**Proliant DL560 (G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 37], ES v2.4.9-e.24[4, 37]**	**QLogic QLA2340-E-SP[1, 16, 38]**	**FC-AL, FC-SW[35, 36]**	**Y[26, 27, 29, 30, 31, 32, 33, 34]**
84	**Proliant: DL360(G3), DL560, DL560 (G2)**	**PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 37], ES v2.4.9-e.24[4, 37]**	**QLogic QLA2340-E-SP[1, 16, 38]**	**FC-AL, FC-SW[35, 36]**	**Y[26, 27, 28, 29, 30, 31, 32, 33, 34]**
85	**Proliant DL580(G3)**	**PCI, PCI-X**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[4, 37], ES v2.4.9-e.24[4, 37]**	**QLogic QLA2340-E-SP[1, 16, 38]**	**FC-AL, FC-SW[35, 36]**	**Y[26, 27, 28, 29, 30, 31, 32, 33, 34]**

1. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
2. **Host must be offline for interfamily Symmetrix microcode upgrade.**
3. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
4. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
5. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
6. **The kernel version listed is included in the corresponding standard distributed release.**
7. **Supported with QLogic driver v6.04.02 or v6.05.00.**
8. **This kernel is limited to 110 devices, not 128.**
9. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
10. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
11. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
12. Includes both Pentium PRO and XEON models
13. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
14. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
15. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later.
16. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
17. Single HBA zoning is required regardless of the switch being utilized.
18. **This HBA is equivalent to the qLogic QLA2310.**
19. **This HBA is equivalent to the qLogic QLA2340.**
20. **(QLA2200) For IBM xSeries and Netfinity servers only.**
21. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
22. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
23. Dual port PCI-X fibre channel mezzanine card option is embedded. No PCI/PCI-X slots available.
24. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
25. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
26. **Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
27. **Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.**
28. **Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.**
29. **Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)**
30. **No MirrorView or SnapView used on boot LUNs.**
31. **EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.**
32. **Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.**
33. **Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.**
34. **For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.**
35. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
36. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
37. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
38. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**

IBM

IBM – Red Hat Linux						
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[1, 15]**	**QLogic QLA2200F-EMC[4, 5]**	FC-AL, FC-SW	N
2	Netfinity 5000, 5500, 5500 M10, 5500 M20, 5600, 7000 7000 M10[9], 7100, 7600, 8500R xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[8]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[1, 15]	QLogic: **QLA2200F-EMC[4, 5]**, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
4	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[1, 15]	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-SW	N

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
4	**Netfinity 8500R**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15, 21], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3: (v2.4.18-3)[1], updated w/ v2.4.18-27.7.x rpm[1, 18]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[1]	QLogic QLA2200F-EMC[2, 4, 5]	FC-AL, FC-SW	N
5	**xSeries X335**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]	QLogic: QLA2310F-E-SP[2, 4, 5], QLA2340-E-SP[2, 4, 5]	FC-AL, FC-SW	N
6	**xSeries x345**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 18]	Emulex: LP9802-E[4, 5, 16], LP9802DC-E, LP982-E[4, 5, 16]	FC-AL, FC-SW	N
7	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 18]	Emulex: LP9802-E[4, 5, 16], LP982-E[4, 5, 16]	FC-AL, FC-SW	N
8	**xSeries x345**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3: (v2.4.18-3)[1, 18, 19], updated w/ v2.4.18-27.7.x rpm[1, 18]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[1]	QLogic QLA2310F-E-SP[2, 4, 5]	FC-AL, FC-SW	N
9	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3: (v2.4.18-3)[1], updated w/ v2.4.18-27.7.x rpm[1, 18]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[1]	QLogic: QLA2200F-EMC[2, 4, 5], QLA2310F-E-SP[2, 4, 5], QLA2340-E-SP[2, 4, 5]	FC-AL, FC-SW	N
10	**Netfinity 8500R**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3: (v2.4.18-3)[1], updated w/ v2.4.18-27.7.x rpm[1, 18]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[1]	QLogic: QLA2310F-E-SP[2, 4, 5], QLA2340-E-SP[2, 4, 5]	FC-AL, FC-SW	N
11	**xSeries x345**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[1]	QLogic QLA2342-E-SP[22]	FC-AL, FC-SW	N
12	**xSeries x345**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux: 7.3 updated w/ v2.4.18-27.7.x rpm[1, 18], 8.0 updated to v2.4.18-27.8.0[1]	QLogic: QLA2200F-EMC[2, 4, 5], QLA2340-E-SP[2, 4, 5]	FC-AL, FC-SW	N
13	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]	IBM: 19K1246(QLA2310)[2, 4, 5, 7], 24P0960(QLA2340)[2, 3, 4, 5]; QLogic: QLA2200F, QLA2342-E-SP[22]	FC-AL, FC-SW	N
14	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[8]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3: (v2.4.18-3)[1], updated w/ v2.4.18-27.7.x rpm[1, 18]	Emulex LP9802DC-E	FC-AL FC-SW	N
15	**Netfinity 5000 5500 5500 M10, 5500 M20 5600 7000 7000 M10[9] 7100 7600, 8500R xSeries X330 X340 (4500R), X342 x230 x232 x240 x250 x255[8] x350 (6000R) x370**	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3: (v2.4.18-3)[1] updated w/ v2.4.18-27.7.x rpm[1, 18]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[1]	IBM: 00N6881 (QLA2200)[2, 4, 5, 6], 19K1246(QLA2310)[2, 4, 5, 7], 24P0960(QLA2340)[2, 3, 4, 5]	FC-AL, FC-SW	N

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
16	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x350 (6000R), x370**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3 (v2.4.18-3)[1], 8.0 updated to v2.4.18-27.8.0[1]**	**QLogic QLA2342-E-SP[22]**	FC-AL, FC-SW	N
17	**xSeries X335**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.3[1, 10, 11, 12]**	**Emulex LP9802-E[4, 5, 16]**	FC-AL, FC-SW	N
18	**xSeries x345**	PCI	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]**	**IBM 19K1246(QLA2310)[7]**	FC-AL, FC-SW	N
19	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[8]**, x350 (6000R), x370	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[1, 15]**, v2.4.9-e.16[1, 15]; Red Hat Linux 7.3 (v2.4.18-3)[1]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N
20	xSeries X335	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.16[1, 15], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES: **v2.4.9-e.12[1, 15]**, v2.4.9-e.16[1, 15]	Emulex LP9802-E	FC-AL, FC-SW	N
21	**Netfinity 8500R**	**PCI**	**Red Hat Linux 2.1, Advanced Server v2.4.9-e.24[1, 25], ES v2.4.9-e.24[1, 25]**	**QLogic QLA2340-E-SP[5, 23, 24]**	**FC-AL, FC-SW**	**Y[28, 29, 30, 31, 32, 33, 34, 35, 36]**
22	**Netfinity 8500R**	**PCI**	**Red Hat Linux 2.1; Advanced Server v2.4.9-e.24[1, 25], ES v2.4.9-e.24[1, 25]**	**QLogic QLA2342-E-SP[5, 20, 23, 24, 26, 27]**	**FC-AL, FC-SW**	**N**
23	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[37], 7100, 7600, 8500, xSeries: X330, X335, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x345, x350 (6000R), x370**	**PCI**	**Red Hat Linux 2.1, Advanced Server v2.4.9-e.24[1, 25], ES v2.4.9-e.24[1, 25]**	**QLogic QLA2342-E-SP[5, 20, 24, 26, 27]**	**FC-AL, FC-SW**	**N**
24	**Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255[8], x345, x350 (6000R), x370**	PCI	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 18]**	**QLogic QLA2342-E-SP[4, 5, 20, 22, 23]**	FC-AL, FC-SW	N
25	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[9], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, **x255[8]**, x350 (6000R), x370	PCI	Red Hat Linux: 2.1 Advanced Server v2.4.9-E.9[1, 15], 7.3 (v2.4.18-3)[1]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	N
26	**xSeries x440[13, 14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[1, 11, 15]**	**Emulex: LP9802-E, LP982-E**	FC-AL, FC-SW	N
27	xSeries: **x360[8]**, x440[13, 14]	PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[1, 15]	QLogic: **QLA2200F-EMC[4, 5]**, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
28	**xSeries x440[13, 14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]**	**Emulex: LP9802-E[4, 5, 16], LP982-E[4, 5, 16]; QLogic: QLA2200F-EMC[2, 4, 5], QLA2310F-E-SP[2, 4, 5], QLA2340-E-SP[2, 4, 5]**	FC-AL, FC-SW	N
29	**xSeries x360[8]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 18]**	**Emulex: LP9802-E[4, 5, 16], LP982-E[4, 5, 16]**	FC-AL, FC-SW	N
30	**xSeries x360[8]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3: (v2.4.18-3)[1], updated w/ v2.4.18-27.7.x rpm[1, 18]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[1]**	**QLogic: QLA2200F-EMC[2, 4, 5], QLA2310F-E-SP[2, 4, 5], QLA2340-E-SP[2, 4, 5]**	FC-AL, FC-SW	N
31	xSeries x440[13, 14]	PCI-X	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[1, 11, 15]**, v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12], **v2.4.9-E.9[1, 11, 15]**; Red Hat Linux 2.1 ES: **v2.4.9-e.12[1, 15]**, v2.4.9-e.16[1, 15]	Emulex LP9802DC-E, **IBM: 00N6881 (QLA2200)[2, 4, 5, 6], 19K1246(QLA2310)[2, 4, 5, 7], 24P0960(QLA2340)[2, 3, 4, 5]**	FC-AL, FC-SW	N
32	**xSeries x440[13, 14]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]**	**QLogic QLA2342-E-SP[22]**	FC-AL, FC-SW	N
33	**xSeries x360[8]**	PCI-X	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3 (v2.4.18-3)[1] updated w/ v2.4.18-27.7.x rpm[1, 18]**	Emulex LP9802DC-E	FC-AL, FC-SW	N

IBM – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
34	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3: (v2.4.18-3)[1], updated w/ v2.4.18-27.7.x rpm[1, 18]; Red Hat Linux 8.0 updated to v2.4.18-27.8.0[1]	IBM: 00N6881 (QLA2200)[2, 4, 5, 6], 19K1246(QLA2310)[2, 4, 5, 7], 24P0960(QLA2340)[2, 3, 4, 5]	FC-AL, FC-SW	N
35	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES. v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux; 7.3 (v2.4.18-3)[1], 8.0 updated to v2.4.18-27.8.0[1]	QLogic QLA2342-E-SP[22]	FC-AL, FC-SW	N
36	xSeries x440[13, 14]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.9[1, 11, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N
37	xSeries x360[8]	PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3 (v2.4.18-3)[1]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N
38	xSeries. x255. x360[8], x440[13, 14]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 25], ES v2.4.9-e.24[1, 25]	QLogic QLA2342-E-SP[5, 20, 24, 26, 27]	FC-AL, FC-SW	N
39	xSeries x235	PCI-X	Red Hat Linux 2.1. Advanced Server v2.4.9-e.24[1, 25], ES v2.4.9-e.24[1, 25]	QLogic: QLA2340-E-SP[5, 23, 24], QLA2342-E-SP[5, 20, 24, 26, 27]	FC-AL, FC-SW	N
40	xSeries x360[8]	PCI-X	Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 18]	QLogic QLA2342-E-SP[4, 5, 20, 22, 23]	FC-AL, FC-SW	N
41	xSeries x360[8]	PCI-X	Red Hat Linux; 2.1 Advanced Server v2.4.9-E.9[1, 15], 7.3 (v2.4.18-3)[1]	Emulex: LP9802-E, LP982-E	FC-AL, FC-SW	N
42	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[1, 11, 15]	Emulex: LP9802-E, LP982-E	FC-AL. FC-SW	N
43	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[1, 15]	QLogic: QLA2200F-EMC[4, 5], QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	N
44	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]	Emulex: LP9802-E[4, 5, 16], LP982-E[4, 5, 16]; QLogic: QLA2200F-EMC[2, 4, 5], QLA2310F-E-SP[2, 4, 5], QLA2340-E-SP[2, 4, 5]	FC-AL, FC-SW	N
45	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12], v2.4.9-E.9[1, 11, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]	Emulex LP9802DC-E; IBM: 00N6881 (QLA2200)[2, 4, 5, 6], 19K1246(QLA2310)[2, 4, 5, 7], 24P0960(QLA2340)[2, 3, 4, 5]	FC-AL, FC-SW	N
46	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.3[1, 10, 11, 12], v2.4.9-E.9[1, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]	QLogic QLA2342-E-SP[22]	FC-AL. FC-SW	N
47	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15], v2.4.9-E.9[1, 11, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	N
48	xSeries x445	PCI, PCI-X	Red Hat Linux 2.1; Advanced Server v2.4.9-e.24[1, 25], ES v2.4.9-e.24[1, 25]	QLogic QLA2342-E-SP[5, 20, 24, 26, 27]	FC-AL, FC-SW	N
49	xSeries x345	PCI	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 11, 15], v2.4.9-E.12[1, 15], v2.4.9-E.16[1, 15]; Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 15], v2.4.9-e.16[1, 15]; Red Hat Linux 7.3: (v2.4.18-3)[1, 18, 19], updated w/ v2.4.18-27.7.x rpm[1, 18]	Emulex LP9002-E (LP9002L-E)[4, 5, 17]	FC-AL, FC-SW[20]	N
50	Netfinity 7000 M10[37]	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 25], ES v2.4.9-e.24[1, 25]	QLogic QLA2340-E-SP[5, 23, 24]	FC-AL, FC-SW[26, 27]	Y[9, 28, 29, 30, 31, 32, 33, 34, 35, 36]
51	Netfinity 8500; xSeries x345	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 25], ES v2.4.9-e.24[1, 25]	QLogic QLA2340-E-SP[5, 23, 24]	FC-AL, FC-SW[26, 27]	N
52	Netfinity: 5000, 5500, 5500 M10 5500 M20, 5600, 7000 7100 7600; xSeries. X330, X335. X340 (4500R), X342. x230, x232, x240. x250 x255[8], x350 (6000R). x370	PCI	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 25] ES v2.4.9-e.24[1, 25]	QLogic QLA2340-E-SP[5, 23, 24]	FC-AL, FC-SW[26, 27]	Y[28, 29, 30, 31, 32, 33, 34, 35, 36]
53	xSeries x255	PCI-X	Red Hat Linux 2.1. Advanced Server v2.4.9-e.24[1, 25], ES v2.4.9-e.24[1, 25]	QLogic QLA2340-E-SP[5, 23, 24]	FC-AL, FC-SW[26, 27]	Y[8, 28, 29, 30, 31, 32, 33, 34, 35, 36]
54	xSeries. x360[8], x440[13, 14]	PCI-X	Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 25], ES v2.4.9-e.24[1, 25]	QLogic QLA2340-E-SP[5, 23, 24]	FC-AL, FC-SW[26, 27]	Y[28, 29, 30, 31, 32, 33, [illegible]
55	xSeries x445	PCI PCI-X	Red Hat Linux 2.1. Advanced Server v2.4.9-e.24[1, 25], ES v2.4.9-e.24[1, 25]	QLogic QLA2340-E-SP[5, 23, 24]	FC-AL, FC-SW[26, 27]	Y[28, 29, 30, 31, 32, 33, 34, 35, 36]

1 EMC supports the following filesystems ext2, ext3 reiserfs If there is a customer requirement for a different filesystem, please submit an RPQ
2 Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem detail all.asp?oemid=65.
3 This HBA is equivalent to the qLogic QLA2340.
4 Host must be offline for interfamily Symmetrix microcode upgrade.
5 QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.

6. **(QLA2200) For IBM xSeries and Netfinity servers only.**
7. This HBA is equivalent to the qLogic QLA2310.
8. PowerPath v3.02 not supported on this system.
9. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
10. **This kernel is limited to 110 devices, not 128.**
11. **Supported with QLogic driver v6.04.02 or v6.05.00.**
12. **The kernel version listed is included in the corresponding standard distributed release.**
13. PowerPath v3.0.2 b069 is not supported on this system.
14. This system is supported with Red Hat 2.1 Advanced Server v2.4.9-E.3 and updated with v2.4.9-E.9, E.10, and E.12 RPMs.
15. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
16. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
17. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
18. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later.
19. **This kernel is supported with PowerPath 3.0.1 on Symmetrix attached hosts only.**
20. Single HBA zoning is required regardless of the switch being utilized.
21. **Requires v6.05 or higher Navisphere host agent/CLI.**
22. **Requires QLogic driver v6.04.02 or v6.05.00 and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
23. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
24. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
25. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
26. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
27. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
28. **Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
29. **Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.**
30. **Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.**
31. **Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)**
32. **No MirrorView or SnapView used on boot LUNs.**
33. **EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.**
34. **Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.**
35. **Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.**
36. **For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.**
37. **This server only supports 5 Volt HBAs: qLogic 22XX family, qLogic 23XX family, Emulex LP8000, and Emulex LP850**

NEC

NEC – Red Hat Linux						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Express 5800: 120Ra-2 140Ha, 140Ma, 180Ha	PCI	Red Hat Linux 2.1 Advanced Server: **v2.4.9-E.10[1, 2, 8]**, v2.4.9-E.12[1, 8], v2.4.9-E.16[1, 8], **v2.4.9-E.3[1, 2, 3, 4]**; Red Hat Linux 2.1 ES: **v2.4.9-e.12[1, 8]**, v2.4.9-e.16[1, 8]; Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 9]	Emulex: **LP9802-E[5, 6, 7]** LP9802DC-E, **LP982-E[5, 6, 7]**	FC-AL, FC-SW	N
2	**Express 5800: 120Rd-1, 120Rf-2, 140Hd, 140Rc-4, 180Rc-4**	**PCI**	**Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 2, 8]**, v2.4.9-E.12[1, 8], v2.4.9-E.16[1, 8], v2.4.9-E.3[1, 2, 3, 4]; **Red Hat Linux 2.1 ES: v2.4.9-e.12[1, 8]**, v2.4.9-e.16[1, 8]; **Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[1, 9]**	**NEC N8190-105[10]**	**FC-AL, FC-SW**	**N**
3	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 20], ES v2.4.9-e.24[1, 20]**	**QLogic QLA2342-E-SP[5, 22, 23, 24, 25]**	**FC-AL, FC-SW**	**N**
4	**Express 5800: 120Ra-2, 140Ha, 140Ma, 180Ha**	**PCI**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 20], ES v2.4.9-e.24[1, 20]**	**QLogic QLA2340-E-SP[5, 21, 22]**	**FC-AL, FC-SW[23, 24]**	**Y[11, 12, 13, 14, 15, 16, 17, 18, 19]**

1. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
2. **Supported with QLogic driver v6.04.02 or v6.05.00.**
3. **The kernel version listed is included in the corresponding standard distributed release.**
4. **This kernel is limited to 110 devices, not 128.**
5. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
6. **Host must be offline for interfamily Symmetrix microcode upgrade.**
7. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
8. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
9. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later
10. **Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.**
11. **Requires QLogic driver 4.47.18 driver disk, dd.img-i686.gz and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
12. **Only one HBA is qualified for use in the Linux host when booting from the CLARiiON via fabric.**
13. **Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.**
14. **Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)**
15. **No MirrorView or SnapView used on boot LUNs.**
16. **EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability.**
17. **Refer to the Customer Service website or your EMC Service Personnel for the latest documentation.**
18. **Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation.**
19. **For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.**
20. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
21. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
22. **Requires QLogic driver v6.04.01 (included in 2.4.9-e.24 kernel) and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
23. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
24. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
25. **Single HBA zoning is required regardless of the switch being utilized.**

SGI IRIX

SGI

SGI – SGI IRIX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Origin 300, 3000	PCI	SGI IRIX 6.5.17, 6.5.18	SGI PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B, XT-FC-1P-OPT-A	FC-AL, FC-SW	N
2	Origin 200	PCI	SGI IRIX 6.5.17, 6.5.18	SGI PCI-FC-1P-OPT-A, XT-FC-1P-OPT-A	FC-AL, FC-SW	N
3	Origin 2000	PCI, XIO	SGI IRIX 6.5.17, 6.5.18	SGI PCI-FC-1P-OPT-A, XT-FC-1P-OPT-A	FC-AL, FC-SW	N

SuSE Linux
DG

DG – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON AV3704R	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[5, 6]	QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[1]
2	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[5, 6]	QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4]	FC-AL, FC-SW	N	See[1, 8]
3	AViiON AV3704R	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic: QLA2310F-E-SP[3, 4, 7, 17], QLA2340-E-SP[3, 4, 7, 17]	FC-AL, FC-SW	N	See[1]
4	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic: QLA2310F-E-SP[3, 4, 7, 17], QLA2340-E-SP[3, 4, 7, 17]	FC-AL, FC-SW	N	See[1, 8]
5	AViiON AV3704R	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[9, 10, 11]	QLogic: QLA2310F-E-SP[3, 4, 12], QLA2340-E-SP[3, 4, 12]	FC-AL, FC-SW	N	See[1]
6	AViiON: AV1400, AV2800, AV3704, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[9, 10, 11]	QLogic: QLA2310F-E-SP[3, 4, 12], QLA2340-E-SP[3, 4, 12]	FC-AL, FC-SW	N	See[1, 8]
7	AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[5, 6]	QLogic QLA2200F-EMC[2, 3, 4]	FC-AL, FC-SW[7]	N	See[1]
8	AViiON AV3704	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[5, 6]	QLogic QLA2200F-EMC[2, 3, 4, 7]	FC-AL, FC-SW[7]	N	See[1]
9	AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic QLA2200F-EMC[3, 4, 14]	FC-AL, FC-SW[7]	N	See[1]
10	AViiON AV3704	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic QLA2200F-EMC[3, 4, 7, 14]	FC-AL, FC-SW[7]	N	See[1]
11	AViiON: AV1400, AV2800, AV3704R, AV3800, AV8900, AV8950, AV8950R	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[9, 10, 11]	QLogic QLA2200F-EMC[3, 4, 13]	FC-AL, FC-SW[7]	N	See[1]
12	AViiON AV3704	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[9, 10, 11]	QLogic QLA2200F-EMC[3, 4, 7, 13]	FC-AL, FC-SW[7]	N	See[1]

1. Linux v2.4.x Kernels support a maximum of 128 devices per system.
2. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
3. **Host must be offline for interfamily Symmetrix microcode upgrade.**
4. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
5. **Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux**
6. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ**
7. Single HBA zoning is required regardless of the switch being utilized.
8. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later.
9. **Requires QLogic driver v6.04.00 or above.**
10. **Requires QLogic v6.04.02 driver.**
11. **Requires rev3_sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.**
12. **Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
13. **Requires QLogic driver v6.04.02 and BIOS v1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
14. **Requires QLogic driver v6.04.02 and BIOS 1.83 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
15. **Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
16. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
17. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

Dell

Dell – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerEdge: 1550, 1650, 2300, 2450, 2500, 2550[8], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1, 2]
2	PowerEdge: 2400, 4300	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	
3	PowerVault: 750N, 755N, 775N	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1]
4	PowerEdge: 1550, 1650, 2300, 2450, 2500, 2550[8], 4400, 6100, 6300, 6350, 6400, 6450, 8450	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic: QLA2310F-E-SP[4, 5, 13, 14], QLA2340-E-SP[4, 5, 13, 14]	FC-AL, FC-SW	N	See[1, 2]
5	PowerEdge: 2400, 4300	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic: QLA2310F-E-SP[4, 5, 13, 14], QLA2340-E-SP[4, 5, 13, 14]	FC-AL, FC-SW	N	
6	PowerVault: 750N, 755N, 775N	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic: QLA2310F-E-SP[4, 5, 13, 14], QLA2340-E-SP[4, 5, 13, 14]	FC-AL, FC-SW	N	See[1]
7	PowerEdge 1550 1650 2300, 2450, 2500 2550[8] 4400, 6100, 6300, 6350 6400, 6450 8450	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[10, 11, 12]	QLogic: QLA2310F-E-SP[4, 5, 9], QLA2340-E-SP[4, 5, 9]	FC-AL, FC-SW	N	See[1, 2]
8	PowerEdge 2400, 4300	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[10, 11, 12]	QLogic: QLA2310F-E-SP[4, 5, 9], QLA2340-E-SP[4, 5, 9]	FC-AL, FC-SW	N	
9	PowerVault: 750N, 755N, 775N	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[10, 11, 12]	QLogic: QLA2310F-E-SP[4, 5, 9], QLA2340-E-SP[4, 5, 9]	FC-AL, FC-SW	N	See[1]
10	PowerEdge: 1750, 2600, 2650 4600, 6600, 6650	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1, 2]
11	PowerEdge 1750 2600 2650 4600, 6600, 6650	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic: QLA2310F-E-SP[4, 5, 13, 14], QLA2340-E-SP[4, 5, 13, 14]	FC-AL, FC-SW	N	See[1, 2]
12	PowerEdge 1750, 2600, 2650 4600 6600 6650	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[10, 11, 12]	QLogic: QLA2310F-E-SP[4, 5, 9], QLA2340-E-SP[4, 5, 9]	FC-AL, FC-SW	N	See[1, 2]

1. Linux v2.4.x Kernels support a maximum of 128 devices per system.
2. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later
3. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
4. **Host must be offline for interfamily Symmetrix microcode upgrade.**
5. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
6. **Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux**
7. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ**
8. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
9. **Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
10. **Requires QLogic v6.04.02 driver.**
11. **Requires rev3_sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.**
12. **Requires QLogic driver v6.04.00 or above.**
13. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**

14. **Single HBA zoning is required regardless of the switch being utilized.**
15. **Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
16. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**

HPQ

HPQ – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 10], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 11], 6000[8, 11], 6400R[8], 6500[8, 11], 7000[8, 11], 800, 8000[8, 11], 850[8], DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[9]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1, 2]
2	Netserver LH III	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	
3	Proliant ML350(G2)[8]	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1]
4	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 10], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 11], 6000[8, 11], 6400R[8], 6500[8, 11], 7000[8, 11], 800, 8000[8, 11], 850[8], DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[9]	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[16, 18, 19, 17]	QLogic: QLA2310F-E-SP[4, 5, 18, 19], QLA2340-E-SP[4, 5, 18, 19]	FC-AL, FC-SW	N	See[1, 2]
5	Netserver LH III	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[16, 18, 19, 17]	QLogic: QLA2310F-E-SP[4, 5, 18, 19], QLA2340-E-SP[4, 5, 18, 19]	FC-AL, FC-SW	N	
6	Proliant ML350(G2)[8]	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[16, 18, 19, 17]	QLogic: QLA2310F-E-SP[4, 5, 18, 19], QLA2340-E-SP[4, 5, 18, 19]	FC-AL, FC-SW	N	See[1]
7	Netserver LC: 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[8, 10], 1850[8], 2500[8], 3000[8], 5000[8], 5500[8, 11], 6000[8, 11], 6400R[8], 6500[8, 11], 7000[8, 11], 800, 8000[8, 11], 850[8], DL320[8], DL360[8], DL360(G2)[8], DL380[8], DL380(G2)[8], DL380(G3), DL580[8], DL580(G2)[8], ML350[8], ML370[8], ML370(G2), ML370(G3), ML530[8], ML530(G2)[8], ML570[8], ML750[9]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic: QLA2310F-E-SP[4, 5, 12], QLA2340-E-SP[4, 5, 12]	FC-AL, FC-SW	N	See[1, 2]
8	Netserver LH III	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic: QLA2310F-E-SP[4, 5, 12], QLA2340-E-SP[4, 5, 12]	FC-AL, FC-SW	N	
9	Proliant ML350(G2)[8]	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic: QLA2310F-E-SP[4, 5, 12], QLA2340-E-SP[4, 5, 12]	FC-AL, FC-SW	N	See[1]
10	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1, 2]
11	Proliant: DL740, DL760[8], DL760 (G2)	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	
12	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[16, 18, 19, 17]	QLogic: QLA2310F-E-SP[4, 5, 18, 19], QLA2340-E-SP[4, 5, 18, 19]	FC-AL, FC-SW	N	See[1, 2]
13	Proliant: DL740, DL760[8], DL760 (G2)	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[16, 18, 19, 17]	QLogic: QLA2310F-E-SP[4, 5, 18, 19], QLA2340-E-SP[4, 5, 18, 19]	FC-AL, FC-SW	N	
14	Proliant: DL560, DL560 (G2), ML570(G2)	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic: QLA2310F-E-SP[4, 5, 12], QLA2340-E-SP[4, 5, 12]	FC-AL, FC-SW	N	See[1, 2]
15	Proliant: DL740, DL760[8], DL760 (G2)	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic: QLA2310F-E-SP[4, 5, 12], QLA2340-E-SP[4, 5, 12]	FC-AL, FC-SW	N	
16	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1, 2]
17	Proliant DL580(G3)	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[16, 18, 19, 17]	QLogic QLA2310F-E-SP[4, 5, 18, 19], QLA2340-E-SP[4, 5, 18, 19]	FC-AL FC-SW	N	See[1, 2]
18	Proliant DL580(G3)	PCI PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[13, 14, 15]	QLogic QLA2310F-E-SP[4, 5, 12], QLA2340-E-SP[4, 5, 12]	FC-AL FC-SW	N	See[1, 2]

1. Linux v2.4.x Kernels support a maximum of 128 devices per system
2. Symmetrix 8000 Series 66-67 support at Red Hat kernel v2.4.x or later. 5568 support at Red Hat kernel v2.4.x or later
3. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
4. Host must be offline for interfamily Symmetrix microcode upgrade.
5. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
6. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
7. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.

8. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
9. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
10. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
11. Includes both Pentium PRO and XEON models
12. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
13. Requires QLogic driver v6.04.00 or above.
14. Requires QLogic v6.04.02 driver.
15. Requires rev3_sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
16. Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.
17. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
18. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
19. Single HBA zoning is required regardless of the switch being utilized.

IBM

IBM – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1, 2]
2	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600, 8500R, xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic: QLA2310F-E-SP[3, 4, 13, 14], QLA2340-E-SP[3, 4, 13, 14]	FC-AL, FC-SW	N	See[1, 2]
3	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[8], 7100, 7600, 8500R; xSeries: X330, X340 (4500R), X342, x230, x232, x240, x250, x255, x345, x350 (6000R), x370	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[9, 10, 11]	QLogic: QLA2310F-E-SP[3, 4, 12], QLA2340-E-SP[3, 4, 12]	FC-AL, FC-SW	N	See[1, 2]
4	xSeries x440	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic QLA2310F-E-SP[3, 4, 5]	FC-AL, FC-SW	N	
5	xSeries x440	PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1]
6	xSeries x440	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic QLA2310F-E-SP[3, 4, 13, 14]	FC-AL, FC-SW	N	
7	xSeries x440	PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic QLA2340-E-SP[3, 4, 13, 14]	FC-AL, FC-SW	N	See[1]
8	xSeries x440	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[9, 10, 11]	QLogic QLA2310F-E-SP[3, 4, 12]	FC-AL, FC-SW	N	
9	xSeries x440	PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[9, 10, 11]	QLogic QLA2340-E-SP[3, 4, 12]	FC-AL, FC-SW	N	See[1]
10	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic QLA2310F-E-SP[3, 4, 5]	FC-AL, FC-SW	N	
11	xSeries x445	PCI, PCI-X	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1]
12	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic QLA2310F-E-SP[3, 4, 13, 14]	FC-AL, FC-SW	N	
13	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[15, 16]	QLogic QLA2340-E-SP[3, 4, 13, 14]	FC-AL, FC-SW	N	See[1]
14	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[9, 10, 11]	QLogic QLA2310F-E-SP[3, 4, 12]	FC-AL, FC-SW	N	
15	xSeries x445	PCI, PCI-X	SuSE Linux SLES 8 v2.4.19-SuSE.175[9, 10, 11]	QLogic QLA2340-E-SP[3, 4, 12]	FC-AL, FC-SW	N	See[1]

1. Linux v2.4.x Kernels support a maximum of 128 devices per system.
2. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later.
3. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
4. Host must be offline for interfamily Symmetrix microcode upgrade.
5. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
6. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
7. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
8. This server only supports 5 Volt HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
9. Requires QLogic driver v6.04.00 or above.
10. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
11. Requires QLogic v6.04.02 driver.
12. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
13. Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65
14. Single HBA zoning is required regardless of the switch being utilized.
15. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
16. Requires rev1 sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.

NEC

NEC – SuSE Linux							
No	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Express 5800, 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[6, 7]	QLogic: QLA2310F-E-SP[3, 4, 5], QLA2340-E-SP[3, 4, 5]	FC-AL, FC-SW	N	See[1, 2]
2	Express 5800, 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[14, 15]	QLogic: QLA2310F-E-SP[4, 5, 12, 13], QLA2340-E-SP[4, 5, 12, 13]	FC-AL, FC-SW	N	See[1, 2]
3	Express 5800, 120Ra-2, 140Ha, 140Ma, 180Ha	PCI	SuSE Linux SLES 8 v2.4.19-SuSE.175[9, 10, 11]	QLogic: QLA2310F-E-SP[4, 5, 8], QLA2340-E-SP[4, 5, 8]	FC-AL, FC-SW	N	See[1, 2]

1. Linux v2.4.x Kernels support a maximum of 128 devices per system
2. Symmetrix 8000 Series: 66/67 support at Red Hat Kernel v2.4.x or later, 5568 support at Red Hat kernel v2.4.x or later
3. Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
4. Host must be offline for interfamily Symmetrix microcode upgrade.
5. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
6. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
7. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
8. Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.
9. Requires QLogic driver v6.04.00 or above.
10. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.
11. Requires QLogic v6.04.02 driver.

12. **Single HBA zoning is required regardless of the switch being utilized.**
13. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
14. **Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
15. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**

SUPERMICRO

SUPERMICRO – SuSE Linux							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Super: P3TDL3[7], S2DL3[7]**	PCI	**SuSE Linux SLES 7 updated with SuSE v2.4.18 rpm[5, 6]**	**QLogic: QLA2310F-E-SP[2, 3, 4], QLA2340-E-SP[2, 3, 4]**	FC-AL, FC-SW	N	**See[1]**
2	**Super: P3TDL3[7], S2DL3[7]**	**PCI**	**SuSE Linux SLES 8 SP2a (v2.4.19-SuSE.304)[12, 13]**	**QLogic: QLA2310F-E-SP[2, 3, 14, 15], QLA2340-E-SP[2, 3, 14, 15]**	**FC-AL, FC-SW**	**N**	**See[1]**
3	**Super: P3TDL3[7], S2DL3[7]**	PCI	**SuSE Linux SLES 8 v2.4.19-SuSE.175[8, 9, 10]**	**QLogic: QLA2310F-E-SP[2, 3, 11], QLA2340-E-SP[2, 3, 11]**	FC-AL, FC-SW	N	**See[1]**

1. Linux v2.4.x Kernels support a maximum of 128 devices per system.
2. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
3. **Host must be offline for interfamily Symmetrix microcode upgrade.**
4. **Requires QLogic driver v6.04.02 or v6.05.00and BIOS v1.83 for QLA2200F and BIOS v1.34 for QLA2310F, QLA2340-E-SP, and QLA2342-E-SP available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
5. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ**
6. **Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux**
7. **64-bit slots for 3.3v HBAs only.**
8. **Requires QLogic v6.04.02 driver.**
9. **Requires QLogic driver v6.04.00 or above.**
10. **Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.**
11. **Requires QLogic driver v6.04.02 and BIOS v1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65.**
12. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
13. **Requires rev1_sles8sp2a.patch for CLARiiON-attached hosts available from ftp://ftp.emc.com/pub/elab/linux.**
14. **Requires QLogic driver v6.04.02 and BIOS 1.34 available from http://www.qlogic.com/support/oem_detail_all.asp?oemid=65**
15. **Single HBA zoning is required regardless of the switch being utilized.**

Sun Solaris

Sun

Sun – Sun Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	PCI	Sun Solaris 2.6[17]	QLogic QLA2200F-EMC[8, 15]	FC-AL	N	See[1]
2	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	PCI	Sun Solaris: 7[3], 8[2], 9[4]	QLogic QLA2200F-EMC[8, 15]	FC-AL	Y[6]	See[1]
3	**Sun Fire 4810**	cPCI	**Sun Solaris 8[2]**	**Emulex LP9002C-E[10]**	FC-AL, FC-SW	N	
4	**Sun Fire: 3800, 4800, 6800**	cPCI	**Sun Solaris: 8[2], 9[4]**	**Emulex LP9002C-E[10]**	FC-AL, FC-SW	Y[11]	
5	**Sun Fire: 3800, 4800, 6800**	cPCI	**Sun Solaris: 8[2], 9[4]**	**QLogic QCP2202F-E[8, 15]**	FC-AL, FC-SW	Y	
6	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[16], 250, 420R[16], 450, 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris 2.6[17]	Emulex: LP8000-EMC[10, 14], LP9002-E (LP9002L-E)[10]	FC-AL, FC-SW	N	See[1]
7	**Sun Fire: 12K, 15K**	PCI	**Sun Solaris 8[2]**	**QLogic: QLA2200F-EMC[8, 13, 15], QLA2340-E-SP[8, 13], QLA2342-E-SP[8, 13]**	FC-AL, FC-SW	Y	See[1]
8	**Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[16], 250, 420R[16], 450, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500**	PCI	**Sun Solaris 9[4]**	**Emulex LP9002DC-E[10]**	FC-AL, FC-SW	Y	See[1]
9	**Ultra: 60, 80**	PCI	**Sun Solaris 9[4]**	**Emulex LP9002DC-E[10]**	FC-AL, FC-SW	N	See[1]
10	**Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[16], 250, 420R[16], 450, 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500**	PCI	**Sun Solaris 9[4]**	**QLogic QLA2200F-EMC[8, 12, 15]**	FC-AL, FC-SW	Y[6]	See[1]
11	**Ultra 30**	PCI	**Sun Solaris 9[4]**	**QLogic QLA2200F-EMC[8, 12, 15]**	FC-AL, FC-SW	N	See[1]
12	**Netra 20**	PCI	**Sun Solaris 9[4]**	**QLogic QLA2342-E-SP[8, 12]**	FC-AL, FC-SW	N	See[1]
13	**Sun Fire, 12K, 15K**	PCI	**Sun Solaris 9[4]**	**QLogic: QLA2200F-EMC[8, 15], QLA2340-E-SP[8], QLA2342-E-SP[8]**	FC-AL, FC-SW	Y	See[1]
14	Ultra 30	PCI	Sun Solaris: 2.6[17], 7[3], 8[2], 9[4]	Emulex: LP8000-EMC[10, 14], LP9002-E (LP9002L-E)[10]	FC-AL, FC-SW	N	See[1]
15	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[16], 250, 420R[16], 450, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[3], 8[2]	Emulex LP9002DC-E	FC-AL, FC-SW	Y	See[1]
16	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[16], 250, 450, 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[3], 8[2], 9[4]	Emulex LP8000-EMC[10, 14]	FC-AL, FC-SW	Y[6, 11]	See[1]
17	Ultra 30	PCI	Sun Solaris: 7[3], 8[2], 9[4]	Emulex LP9802-E[10], JNI FCE2-6412-E[5], FCX2-6562-E, QLogic: QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]	FC-AL, FC-SW	N	See[1]
18	Ultra 420R[16]	PCI	Sun Solaris: 7[3], 8[2], 9[4]	Emulex: LP8000-EMC[10, 14], LP9002-E (LP9002L-E)[10], LP9802-E[10]	FC-AL, FC-SW	Y[11]	See[1]
19	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[16], 250, 450, 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[3], 8[2], 9[4]	Emulex: LP9002-E (LP9002L-E)[10], LP9802-E[10]	FC-AL, FC-SW	Y[11]	See[1]

Sun – Sun Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
20	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[16], 250, 420R[16], 450, 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000. Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[3], 8[2], 9[4]	JNI FCE2-6412-E[5]	FC-AL, FC-SW	Y[6]	See[1]
21	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[16], 250, 420R[16], 450, 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[3], 8[2], 9[4]	JNI FCX2-6562-E	FC-AL, FC-SW	Y	See[1]
22	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[16], 250, 420R[16], 450, 60, 80, Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000. Enterprise 5500, Enterprise 6000, Enterprise 6500	PCI	Sun Solaris: 7[3], 8[2], 9[4]	QLogic: QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]	FC-AL, FC-SW	N	See[1]
23	**Sun Fire 4810**	PCI	**Sun Solaris**: 8[2], 9[4]	**Emulex LP9002C-E[10]**	FC-AL, FC-SW	Y[11]	
24	**Ultra 30**	PCI	**Sun Solaris**: 8[2], 9[4]	**Emulex LP9002DC-E[10]**	FC-AL, FC-SW	N	**See[1]**
25	**Sun Blade: 1000, 150, 2000; Sun Fire: 280R, 4800, 4810, 6800, V100**	PCI	**Sun Solaris**: 8[2], 9[4]	**Emulex LP9002DC-E[10]; JNI FCX2-6562-E**	FC-AL, FC-SW	Y	**See[1]**
26	**Netra: 120, 1280; Sun Fire: V1280, V210, V240, V480, V880**	PCI	**Sun Solaris**: 8[2], 9[4]	**Emulex LP9002DC-E[10]; JNI FCX2-6562-E; QLogic QLA2200F-EMC[8, 12, 15]**	FC-AL, FC-SW	Y	**See[1]**
27	**Sun Fire V120**	PCI	**Sun Solaris**: 8[2], 9[4]	**Emulex LP9002DC-E[10]; JNI FCX2-6562-E[7]**	FC-AL, FC-SW	Y	**See[1]**
28	**Sun Blade: 1000, 150, 2000; Sun Fire: 280R, 4800, 4810, 6800, V100, V120**	PCI	**Sun Solaris**: 8[2], 9[4]	**Emulex LP9802-E[10]**	FC-AL, FC-SW	Y[11]	**See[1]**
29	**Netra 20**	PCI	**Sun Solaris**: 8[2], 9[4]	**Emulex: LP8000-EMC[10, 14], LP9002-E (LP9002L-E)[10], LP9002DC-E[10], LP9802-E[10]; JNI FCX2-6562-E; QLogic: QLA2200F-EMC[8, 12, 15], QLA2340-E-SP[8, 12]**	FC-AL, FC-SW	N	**See[1]**
30	**Netra: 120, 1280; Sun Fire: V1280, V210, V240, V480, V880**	PCI	**Sun Solaris**: 8[2], 9[4]	**Emulex: LP8000-EMC[10, 14], LP9002-E (LP9002L-E)[10], LP9802-E[10]**	FC-AL, FC-SW	Y[11]	**See[1]**
31	**Sun Blade: 1000, 150, 2000; Sun Fire: 280R, 4800, 4810, 6800, V100, V120**	PCI	**Sun Solaris**: 8[2], 9[4]	**Emulex: LP8000-EMC[10, 14], LP9002-E (LP9002L-E)[10]; QLogic: QLA2200F-EMC[8, 12, 15], QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]**	FC-AL, FC-SW	N	**See[1]**
32	**Sun Fire: 12K, 15K**	PCI	**Sun Solaris**: 8[2], 9[4]	**Emulex: LP9002-E (LP9002L-E)[10], LP9802-E[10]**	FC-AL, FC-SW	Y	**See[1]**
33	**Netra: 120, 1280; Sun Fire: V1280, V210, V240, V480, V880**	PCI	**Sun Solaris**: 8[2], 9[4]	**QLogic: QLA2340-E-SP[8, 12], QLA2342-E-SP[8, 12]**	FC-AL, FC-SW	N	**See[1]**
34	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	SBUS	Sun Solaris 2.6[17]	Emulex LP9002S-E; JNI: **FC64-1063-EMC[18, 19]**, FCE-1063-E[5], FCE2-1063-E[5]	FC-AL, FC-SW	N	
35	Ultra Enterprise 10000	SBUS	Sun Solaris 2.6[17]	JNI: **FC64-1063-EMC[18, 19]**, FCE-1063-E[5], FCE2-1063-E[5]	FC-AL, FC-SW	N	
36	**Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000**	SBUS	**Sun Solaris 9[4]**	**Emulex LP9002S-E[10]**	FC-AL, FC-SW	Y[9]	
37	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000	SBUS	Sun Solaris: 7[3], 8[2]	Emulex LP9002S-E	FC-AL, FC-SW	Y[9]	
38	**Ultra Enterprise: 10000, 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500**	SBUS	**Sun Solaris**: 7[3], 8[2]	**JNI FC64-1063-EMC[18, 19]**	FC-AL, FC-SW	Y[6]	
39	Ultra Enterprise 6500	SBUS	Sun Solaris: 7[3], 8[2], 9[4]	Emulex LP9002S-E	FC-AL, FC-SW	Y[9]	
40	Ultra Enterprise 10000	SBUS	Sun Solaris: 7[3], 8[2], 9[4]	Emulex LP9002S-E[10]	FC-AL, FC-SW	Y[9]	
41	Ultra Enterprise 10000	SBUS	Sun Solaris: 7[3], 8[2], 9[4]	JNI FCE-1063-E[5]	FC-AL, FC-SW	Y	
42	Ultra Enterprise: 10000, 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	SBUS	Sun Solaris: 7[3], 8[2], 9[4]	JNI FCE2-1063-E[5]	FC-AL, FC-SW	Y[6]	
43	Ultra Enterprise 10000	SBUS	Sun Solaris: 7[3], 8[2], 9[4]	JNI FCE2-1473-E[7]; QLogic QLA2202FS-E[8]	FC-AL, FC-SW	N	
44	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	SBUS	Sun Solaris 7[3], 8[2], 9[4]	JNI: FCE-1063-E[5], FCE2-1473-E[7]; QLogic QLA2202FS-E[8]	FC-AL, FC-SW	Y	
45	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[16], 250, 420R[16], 450, 60, 80	PCI	Sun Solaris 2.6[17]	QLogic QLA2200F-EMC[8, 15]	FC-SW	N	See[1]
46	Ultra 30	PCI	Sun Solaris: 2.6[17], 7[3], 8[2]	QLogic QLA2200F-EMC[8, 15]	FC-SW	N	See[1]
47	Netra: 1120, 1125, 1400, 1405, T1 Ultra: 220R[16], 250, 420R[16], 450, 60, 80	PCI	Sun Solaris 7[3], 8[2]	QLogic QLA2200F-EMC[8, 15]	FC-SW	Y[6]	See[1]

1. For 'UltraEnterprise' servers with PCI I/O board, only the left slot can be utilized due to physical constraints of the Sun PCI/SCSI adapter
2. **EMC required Sun patches for Solaris 8:**
   108528-21 SunOS 5.8: kernel update patch.
   108974-30 SunOS 5.8: data, uata, dad, sd, and scsi patch.
   109657-09 SunOS 5.8: isp driver patch (for X1062A and X1065A HBAs only).
   109885-12 SunOS 5.8: glm driver patch (for X6541A HBA only).
3. EMC required Sun patches for Solaris 7: 106541-24 SunOS 5.7 kernel update patch.106924-11 SunOS 5.7: /kernel/drv/isp and /kernel/drv/sparcvg/isp patch (for X1062A and X1065A HBAs only). 106925-09 SunOS 5.7: glm driver patch (for X5641A HBA only)
4. **EMC required Sun patches for Solaris 9:**
   112233-06 Sun OS 5.9: kernel patch
   112834-02 Sun OS 5.9: patch SCSI
   113277-11 Sun OS 5.9: sd and ssd patch
5. JNI Emerald3 SBUS PCI requires driver version 4.1.4 and fcode 3.9. If PowerPath is installed, minimum revision of 3.0.4 is required for driver version 4.1.4. Supports SNIA HBA API
6. Direct connect only. Hub connection not supported for boot device
7. JNI Emerald4 SBUS and PCI adapters require driver 5.2.1 and Fcode 3.9. Supports SNIA HBA API
8. Requires driver 4.09. The QLA2200F-EMC/QCP2202F-E/QLA2300-E-SP/QLA2340-E-SP/QLA2342-E-SP requires fcode v2.00.06. The QLA2202FS-E requires fcode 2.00.01. Fcode should be loaded on all HBA's at the time of installation. All drivers and fcode can be downloaded from http://www.qlogic.com. Supports SNIA HBA API
9. Requires Emulex Open Boot Version 2.33a0
10.

Requires driver lpfc-SPARC V5.01e. Emulex LP8000-EMC/LP9002-E/LP9002L-E/LP9002C-E/LP9002DC-E/LP9002S-E requires firmware 1.00A4, all available at http://www.emulex.com. Supports SNIA HBA API.

11. Requires Emulex Open Boot Version 1.33a1.
12. Supports Dynamic Reconfiguration for Sun Fire 4800 and 6800 only.Minimum Solaris 8 recommended patch bundle 108528-21.Requires system controller firmware patch 112127-02 or higher.
13. **Supports DR on Sun 12K and 15K.**
14. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
15. Suns QLogic cards are not supported due to proprietary drivers, fcode and firmware Please see http://www.sun.com/service/servicelist/us/detail ww ss hba.html
16. 64-bit HBAs will not fit into the 32-bit slot due to a physical obstruction.
17. EMC required Sun patches for Solaris 2.6:
    105181-34 SunOS 5.6: kernel update patch
    105356-21 SunOS 5.6: /kernel/drv/ssd and /kernel/drv/sd patch.
    105580-19 SunOS 5.6: /kernel/drv/glm patch (for X6541 HBA only).
18. **JNI Tachyon 64 bit HBA: requires Driver revision 2.6.13 and Fcode 13.5.7 and Rev B, C, D, E, G, H and J. If VxVM is installed, version 3.2 or later is required for driver 2.6.13 or later. .(Driver revisions below 2.2.1.EMC will only support FC-AL, not switches.) Supports SNIA HBA API.**
19. **Mixing FC-SW and FC-AL on the same host using JNI HBAs is not supported.**

Unisys MCP
Unisys

Unisys – Unisys MCP						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	NX6830	Mainframe Bus	Unisys MCP 48.1 (HMP 7.0)	Unisys: FCA621-CU[4], FCA661-CU[2], FCA662-SW[1], FCA663-LW[3]	FC-AL	Y
2	**Libra Model 180[7, 8]**	Mainframe Bus	**Unisys MCP: 47.1 (HMP 6.0), 48.1 (HMP 7.0)**	**Unisys: FCA621-CU[4], FCA622-SW[5], FCA623-LW[9], FCA661-CU[2], FCA662-SW[1], FCA663-LW[3]**	FC-AL	Y
3	**Libra Model 185**	**Mainframe Bus, PCI**	**Unisys MCP 48.1 (HMP 7.0)**	**Unisys: FCA661-CU[2], FCA662-SW[1], FCA663-LW[3]**	**FC-AL**	Y
4	CS7101[7]	PCI	Unisys MCP 48.1 (HMP 7.0)	Emulex LP8000-F1	FC-AL	Y
5	NX6830	Mainframe Bus	Unisys MCP 48.1 (HMP 7.0)	Unisys: FCA622-C[5], FCA622-SW[5]	FC-AL, FC-SW	Y
6	CS7101[7]	PCI	Unisys MCP 48.1 (HMP 7.0)	Emulex: LP8000-EMC[10], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP982-E; QLogic QLA2340-E-SP	FC-AL, FC-SW	Y
7	CS7201[7]; **CS7211**	PCI	Unisys MCP 48.1 (HMP 7.0)[6]	Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1), FCH732213-P64 (LP9002L-F2)	FC-AL, FC-SW	Y
8	**Libra Model 185**	**Mainframe Bus, PCI**	**Unisys MCP 48.1 (HMP 7.0)**	**Unisys FCA1850-LC**	**FC-AL[11]**	Y

1. Hi Perform Short Wave
2. Hi Perform Fibre Copper
3. Hi Perform Long Wave
4. Fibre Copper
5. Fibre Short Wave
6. Multipath VSS requires Virtual Machine for Clearpath MCP Version 4.0 SR1 with PowerPath 3.0.0 B83 or higher and hardware Plateau 10.3 IC003.
7. Hardware and adapters similar to Unisys ES7000-100, ES7000-200.
8. **The Libra 18x includes native MCP,and Virtual Machine for MCP (Windows MCPvm) partitions**
9. **Fibre Long Wave**
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. **Minimum firmware level 01.016**

Unisys OS 2200
Unisys

Unisys – Unisys OS 2200						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Dorado Model: 110, 140, 180	Mainframe Bus	Unisys OS 2200 HMP 8.0	Unisys: FCA622-SW[1], FCA662-SW[2]	FC-AL	Y
2	CS7802	Mainframe Bus	Unisys OS 2200 HMP: 6.1, 7.0, 7.1, 8.0	Unisys FCA662-SW[2]	FC-AL	Y
3	CS7802	Mainframe Bus	Unisys OS 2200 HMP: 6.1, 7.0, 7.1, 8.0	Unisys FCA622-SW[1]	FC-AL, FC-SW	Y

1. Fibre Short Wave
2. Hi Perform Short Wave

Unisys SB7
Unisys

Unisys – Unisys SB7						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	IX4800; IX5600; IX5800; IX6600; IX6800	Mainframe Bus	Unisys SB7	Unisys: FCA621-CU[5] FCA622-SW[1], FCA623-LW[6], FCA661-CU[2] FCA662-SW[3] FCA663-LW[4]	FC-AL, FC-SW	Y

1. Fibre Short Wave
2. Hi Perform Fibre Copper
3. Hi Perform Short Wave
4. Hi Perform Long Wave
5. Fibre Copper
6. Fibre Long Wave

VMware ESX
Dell

Dell – VMware ESX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	PowerEdge 6450	PCI	VMware ESX v1.5.2 patch[2, 3, 4, 5]	QLogic QLA2340-E-SP[1] QLA2342-E-SP[1]	FC-AL, FC-SW	Y
2	PowerEdge 6450	PCI	VMware ESX v1.5.2 patch[3, 4, 5, 6]	QLogic QLA2340-E-SP[7] QLA2342-E-SP[7]	FC-AL, FC-SW	Y
3	PowerEdge 6650	PCI-X	VMware ESX v1.5.2 patch[2, 3, 4, 5]	QLogic QLA2340-E-SP[1] QLA2342-E-SP[1]	FC-AL, FC-SW	Y
4	PowerEdge 6650	PCI-X	VMware ESX v1.5.2 patch[3, 4, 5, 6]	QLogic QLA2340-E-SP[7] QLA2342-E-SP[7]	FC-AL, FC-SW	Y

1. Supported with QLogic driver v6.03.00b6 included in the VMware ESX v1.5.2 kernel and BIOS v1.34.
2. Windows 2000 SP3 and SP4 are qualified to run as Virtual Machines.

3. Path failover and load-balancing are not supported.
4. EMC software will function on neither the VMkernel nor the VMs as the currently-released versions of the SymAPI do not include support for VMware ESX.
5. Supported with VMFS.
6. Windows 2000 SP3 and SP4, Windows NT 4.0, and RedHat 2.1 Advanced Server are qualified to run as Virtual Machines.
7. Supported with QLogic driver v6.04.00-emc included in the VMware ESX v1.5.2 patch 3 release and BIOS v1.34.

HPQ

HPQ - VMware ESX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	Proliant DL380(G3)	PCI	VMware ESX v1.5.2 patch2[2, 3, 4, 5]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	Y
2	Proliant DL380(G3)	PCI	VMware ESX v1.5.2 patch3[3, 4, 5, 7]	QLogic: QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	Y
3	Proliant DL760 (G2)	PCI-X	VMware ESX v1.5.2 patch2[2, 3, 4, 5]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	Y
4	Proliant DL760 (G2)	PCI-X	VMware ESX v1.5.2 patch3[3, 4, 5, 7]	QLogic: QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	Y
5	Proliant: DL580(G2)[6], DL580(G3)	PCI, PCI-X	VMware ESX v1.5.2 patch2[2, 3, 4, 5]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	Y
6	Proliant: DL580(G2)[6], DL580(G3)	PCI, PCI-X	VMware ESX v1.5.2 patch3[3, 4, 5, 7]	QLogic: QLA2340-E-SP[8], QLA2342-E-SP[8]	FC-AL, FC-SW	Y

1. Supported with QLogic driver v6.03.00b6 included in the VMware ESX v1.5.2 kernel and BIOS v1.34.
2. Windows 2000 SP3 and SP4 are qualified to run as Virtual Machines.
3. EMC software will function on neither the VMkernel nor the VMs as the currently-released versions of the SymAPI do not include support for VMware ESX.
4. Path failover and load-balancing are not supported.
5. Supported with VMFS.
6. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
7. Windows 2000 SP3 and SP4, Windows NT 4.0, and RedHat 2.1 Advanced Server are qualified to run as Virtual Machines.
8. Supported with QLogic driver v6.04.00-emc included in the VMware ESX v1.5.2 patch 3 release and BIOS v1.34.

IBM

IBM - VMware ESX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	xSeries: x360, x440	PCI-X	VMware ESX v1.5.2 patch2[2, 3, 4, 5]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	Y
2	xSeries: x360, x440	PCI-X	VMware ESX v1.5.2 patch3[3, 4, 5, 6]	QLogic: QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	Y
3	xSeries x445	PCI, PCI-X	VMware ESX v1.5.2 patch2[2, 3, 4, 5]	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW	Y
4	xSeries x445	PCI, PCI-X	VMware ESX v1.5.2 patch3[3, 4, 5, 6]	QLogic: QLA2340-E-SP[7], QLA2342-E-SP[7]	FC-AL, FC-SW	Y

1. Supported with QLogic driver v6.03.00b6 included in the VMware ESX v1.5.2 kernel and BIOS v1.34.
2. Windows 2000 SP3 and SP4 are qualified to run as Virtual Machines.
3. Path failover and load-balancing are not supported.
4. Supported with VMFS.
5. EMC software will function on neither the VMkernel nor the VMs as the currently-released versions of the SymAPI do not include support for VMware ESX.
6. Windows 2000 SP3 and SP4, Windows NT 4.0, and RedHat 2.1 Advanced Server are qualified to run as Virtual Machines.
7. Supported with QLogic driver v6.04.00-emc included in the VMware ESX v1.5.2 patch 3 release and BIOS v1.34.

Clustered Host

EMC has qualified the following clustered hosts. No other clustered hosts are supported at this time. NOTE: Please refer to the appropriate vendor Base Connectivity table(s) for more information concerning HBA driver, firm-ware, cables, operating system requirements and other special notes.

Fujitsu Siemens Solaris

Fujitsu Siemens

Fujitsu Siemens - Fujitsu Siemens Solaris							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	PRIMEPOWER: 1500, 250, 2500, 450, 900	Fujitsu Siemens Solaris 8 02/02	Fujitsu Siemens PRIMECLUSTER 3.0[8]	HA: 4 [13]	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
2	PRIMEPOWER: 650, 850	Fujitsu Siemens Solaris 8 02/02	Fujitsu Siemens PRIMECLUSTER 3.0[8]	HA: 4 [13]	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	See[7]
3	PRIMEPOWER: 650, 850	Fujitsu Siemens Solaris 8 02/02	Fujitsu Siemens PRIMECLUSTER 4.0[15, 16]	HA: 4	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X)[11, 12], LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	See[7]
4	PRIMEPOWER: 1500, 2500	Fujitsu Siemens Solaris 8 02/02	Fujitsu Siemens PRIMECLUSTER 4.0[15, 16]	HA: 4	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	See[7]
5	PRIMEPOWER: 650, 850, GP7000F 1000, GP7000F 200, GP7000F 2000, GP7000F 400, GP7000F 600, GP7000F 800	Fujitsu Siemens Solaris 8 02/02	Legato Automated Availability Manager (LAAM) 5.0 (Base), Veritas Cluster Server (VCS) 3.5[1, 2]	HA: 8	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X), LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
6	PRIMEPOWER: 1500, 250, 2500, 450, 900	Fujitsu Siemens Solaris 8 02/02	Legato Automated Availability Manager (LAAM) 5.0 (Base), Veritas Cluster Server (VCS) 3.5[2]	HA: 8	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
7	PRIMEPOWER: 650, 850, GP7000F 1000, GP7000F 200, GP7000F 2000, GP7000F 400, GP7000F 600, GP7000F 800	Fujitsu Siemens Solaris 8 02/02	Veritas DBED/AC for 9iRAC 3.5[1, 2, 3, 4, 5]	RAC: 4 [6]	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X), LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
8	PRIMEPOWER: 1500, 250, 2500, 450, 900	Fujitsu Siemens Solaris 8 02/02	Veritas DBED/AC for 9iRAC 3.5[1, 2, 3, 4, 5]	RAC: 4 [6]	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	
9	PRIMEPOWER GP7000F, 1000, 200, 2000, 400, 600, 800	Fujitsu Siemens Solaris 8 02/02[10]	Fujitsu Siemens PRIMECLUSTER 3.0[8]	HA: 2, OPS: 2, RAC: 2	Fujitsu Siemens LP9802-E (GP70F-CF31)	FC-AL, FC-SW	See[7]
10	PRIMEPOWER 650, 850	Fujitsu Siemens Solaris 8 02/02[10]	Fujitsu Siemens PRIMECLUSTER 3.0[8]	HA: 4 [13]	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[11, 12]	FC-AL, FC-SW	See[7, 14]
11	PRIMEPOWER GP7000F 1000, 200, 2000, 400, 600, 800	Fujitsu Siemens Solaris 8 02/02[10]	Fujitsu Siemens PRIMECLUSTER 4.0[15, 16]	HA: 4	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X)[11, 12], LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	See[7]
12	PRIMEPOWER 250, 450, 900	Fujitsu Siemens Solaris 8 02/02[10]	Fujitsu Siemens PRIMECLUSTER 4.0[15, 16]	HA: 4	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	FC-AL, FC-SW	See[7]

Fujitsu Siemens – Fujitsu Siemens Solaris							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
13	**PRIMEPOWER GP7000F: 1000, 200, 2000, 400, 600, 800**	Fujitsu Siemens Solaris: 7 Nov 99[10], 8 02/02[10]	**Fujitsu Siemens PRIMECLUSTER 3.0[8]**	HA: 2, OPS: 2, RAC: 2	**Fujitsu Siemens LP9002-E (LP9002L-E) GP70F-CF30[9]**	FC-AL, FC-SW	See[7]
14	**PRIMEPOWER GP7000F: 1000, 200, 2000, 400, 600, 800**	Fujitsu Siemens Solaris: 7 Nov 99[10], 8 02/02[10]	**Fujitsu Siemens PRIMECLUSTER 3.0[8]**	HA: 4 [13]	**Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[11, 12]**	FC-AL, FC-SW	See[7]
15	**PRIMEPOWER: 650, 850**	Fujitsu Siemens Solaris: 8 02/02, 9 04/03	**Fujitsu Siemens PRIMECLUSTER 4.1[15, 17]**	**HA: 2, RAC: 2**	**Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X)[11, 12], LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)**	FC-AL, FC-SW	See[7]
16	**PRIMEPOWER: 1500, 2500**	Fujitsu Siemens Solaris: 8 02/02, 9 04/03	**Fujitsu Siemens PRIMECLUSTER 4.1[15, 17]**	**HA: 2, RAC: 2**	**Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)**	FC-AL, FC-SW	See[7]
17	**PRIMEPOWER GP7000F: 1000, 200, 2000, 400, 600, 800**	Fujitsu Siemens Solaris: 8 02/02[10], 9 04/03	**Fujitsu Siemens PRIMECLUSTER 4.1[15, 17]**	**HA: 2, RAC: 2**	**Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X)[11, 12], LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)**	FC-AL, FC-SW	See[7]
18	**PRIMEPOWER: 250, 450, 900**	Fujitsu Siemens Solaris: 8 02/02[10], 9 04/03	**Fujitsu Siemens PRIMECLUSTER 4.1[15, 17]**	**HA: 2, RAC: 2**	**Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)**	FC-AL, FC-SW	See[7]

1. For configurations with PowerPath 3.0.1 use native names only, and no power devices.
2. GAB disks (membership and service group heartbeat disks) are not supported.
3. Requires minimum microcode level of 5669.45.24 for support of TimeFinder and/or SRDF.
4. If all FC connectivity to the array is lost (without a server shutdown), then after connectivity is restored, the user must execute a vxdctl enable command, before the VCS Oracle 9iRAC service group is brought back online
5. Symmetrix SCSI-3 "PER" volume flag setting required for devices accessible through two or more paths.
6. Veritas MP1 is required for clusters with more than 2 servers
7. Also supports Fujitsu Technology Solutions Inc.
8. The PRIMECLUSTER V3.0 family of software products consists of:
   Cluster Foundation (CF) 1.5, Reliant Monitor Services (RMS) 3.1, Scalable Internet Services (SIS) 2.5, Parallel Application Services (PAS) 1.0, Wizard Tools WT 3.3.
9. FSC requires all patches for Solaris 7 be obtained through FSC in the form of a Solaris 7 PTF patch CD. The current patch CD is Solaris 7 PTF R03051.
10. Symmetrix 8000 Series: 66/67 support: Reliant UNIX 5.44,5.45 Solaris 2.6, 7, 8 or 9. Symmetrix 8000 Series:5568 support: Solaris 8.9.
11. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
12. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
13. 5-64 nodes on special release available via RPQ.
14. For use in US/Europe only. Refer to Fujitsu Base Connectivity information for Asia Pacific/Japan.
15. GDS in combination with SRDF is not supported.
16. The PRIMECLUSTER V4.0 family of software products consists of the following components: Reliant Monitor Services RMS 4.0A, Cluster Foundation CF 4.0A, Wizard Tools WT 4.0A and Application Wizards AW, Scalable Internet Services SIS 4.0A, Parallel Application Services PAS 4.0A, Global File Services GFS 4.0, Global Disk Services GDS 4.0, Global Link Services GLS 4.0
17. GDS requires Fujitsu PCL Fibre Channel driver PFCA2.2.1.

HPQ HP-UX

HPQ

HPQ – HPQ HP-UX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard OPS: 11.09[2, 3, 11], 11.12[3, 11]	OPS: 8	HPQ A5158A[1]	FC-AL, FC-SW	See[8, 22]
2	HP 9000: D270, D280, D290, D370, D380, D390, R380, R390	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard OPS: 11.09[2, 3, 11], 11.12[3, 11]	OPS: 8	HPQ A6684A[1]	FC-AL, FC-SW	See[8, 22]
3	HP 9000: K250, K260, K360, K370, K380, K450, K460, K570, K580	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard OPS: 11.09[2, 3, 11], 11.12[3, 11]	OPS: 8	HPQ A6685A[1]	FC-AL, FC-SW	See[8, 22]
4	HP 9000: N-Class (N4000), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5405, rp5430, rp5450 (L2000), rp5470 (L3000)[16], rp7400	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard OPS: 11.09[2, 3, 11], 11.12[3, 11]	OPS: 8	HPQ: A5158A[1], A6795A[1]	FC-AL, FC-SW	See[8, 22]
5	HP 9000: N-Class (N4000), V2200, V2250, V2500, V2600, rp2405[17], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp2470, rp5400 (L1000), rp5450 (L2000), rp7400	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard OPS: 11.13[2, 3, 11], 11.14[2, 3, 11]	OPS: 16, RAC: 8 [13]	HPQ A5158A[1]	FC-AL, FC-SW	See[8, 22]
6	HP 9000: D270, D280, D290, D370, D380, D390, R380, R390	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard OPS: 11.13[2, 3, 11], 11.14[2, 3, 11]	OPS: 16, RAC: 8 [13]	HPQ A6684A[1]	FC-AL, FC-SW	See[8, 22]
7	HP 9000: K250, K260, K360, K370, K380, K450, K460, K570, K580	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard OPS: 11.13[2, 3, 11], 11.14[2, 3, 11]	OPS: 16, RAC: 8 [13]	HPQ A6685A[1]	FC-AL, FC-SW	See[8, 22]
8	HP 9000: rp5405, rp5430, rp5470 (L3000)[16]	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard OPS: 11.13[2, 3], 11.14[2, 3, 11]	OPS: 16, RAC: 8 [13]	HPQ: A5158A[1], A6795A[1]	FC-AL, FC-SW	See[8, 22]
9	HP 9000: N-Class (N4000), rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5405, rp5430, rp5450 (L2000), rp5470 (L3000)[16], rp7400	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard: 11.09[2, 3], 11.12[3]	HA: 16	HPQ: A5158A[1], A6795A[1]	FC-AL, FC-SW	See[8, 22]
10	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard: 11.09[2, 3], 11.12[3], 11.13[2, 3], 11.14[2, 3]	HA: 16	HPQ A5158A[1]	FC-AL, FC-SW	See[8, 22]
11	HP 9000: D270, D280, D290, D370, D380, D390, R380, R390	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard: 11.09[2, 3], 11.12[3], 11.13[2, 3], 11.14[2, 3]	HA: 16	HPQ A6684A[1]	FC-AL, FC-SW	See[8, 22]
12	HP 9000: K250, K260, K360, K370, K380, K450, K460, K570, K580	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard: 11.09[2, 3], 11.12[3], 11.13[2, 3], 11.14[2, 3]	HA: 16	HPQ A6685A[1]	FC-AL, FC-SW	See[8, 22]
13	HP 9000: N-Class (N4000), rp2405[17], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp2470, rp5400 (L1000), rp5405, rp5430, rp5450 (L2000), rp5470 (L3000)[16], rp7400	HPQ HP-UX 11.0[4, 7, 8, 21]	HPQ MC/Service Guard: 11.13[2, 3], 11.14[2, 3]	HA: 16	HPQ A5158A[1], A6795A[1]	FC-AL, FC-SW	See[8, 22]
14	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4]	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A5158A	FC-AL, FC-SW	
15	HP 9000: N-Class (N4000), SUPERDOME, rp2405, rp2430, rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp2470, rp5400 (L1000), rp5405, rp5450 (L2000), rp5470 (L3000)[16], rp7400, rp7405[19], **rp7410[20]**, rp8400[18]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4]	Legato Automated Availability Manager (LAAM) 5.0 (Base)	HA: 8	HPQ A5158A, A6795A	FC-AL, FC-SW	
16	HP 9000 rp5430	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[23, 24], LAAM (Legato Cluster) 4.8.1[23, 24]	HA: 16	HPQ A5158A, A6795A	FC-AL, FC-SW	

HPQ – HPQ HP-UX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
17	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard 11.09[2, 3]	HA: 16 [6]	HPQ A5158A[1]	FC-AL, FC-SW	See[7, 8]
18	HP 9000: D270, D280, D290, D370, D380, D390, R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard 11.09[2, 3]	HA: 16 [6]	HPQ A6684A[1]	FC-AL, FC-SW	See[7, 8]
19	HP 9000: K220, K250, K260, K360, K370, K380, K420, K450, K460, K570, K580	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard 11.09[2, 3]	HA: 16 [6]	HPQ A6685A[1]	FC-AL, FC-SW	See[7, 8]
20	HP 9000: N-Class (N4000), SUPERDOME, rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5405, rp5430, rp5450 (L2000), rp5470 (L3000)[16], rp7400, rp8400[18]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard 11.09[2, 3]	HA: 16 [6]	HPQ: A5158A[1], A6795A[1]	FC-AL, FC-SW	See[7, 8]
21	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard 11.13[2, 3]	HA: 16 [9]	HPQ A5158A[1]	FC-AL, FC-SW	See[7, 8]
22	HP 9000: D270, D280, D290, D370, D380, D390, R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard 11.13[2, 3]	HA: 16 [9]	HPQ A6684A[1]	FC-AL, FC-SW	See[7, 8]
23	HP 9000: K220, K250, K260, K360, K370, K380, K420, K450, K460, K570, K580	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard 11.13[2, 3]	HA: 16 [9]	HPQ A6685A[1]	FC-AL, FC-SW	See[7, 8]
24	HP 9000: N-Class (N4000), SUPERDOME, rp2405[17], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp2470, rp5400 (L1000), rp5405, rp5430, rp5450 (L2000), rp5470 (L3000)[16], rp7400, rp7405[19], **rp7410**[20], rp8400[18]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard 11.13[2, 3]	HA: 16 [9]	HPQ: A5158A[1], A6795A[1]	FC-AL, FC-SW	See[7, 8]
25	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard 11.14[2, 3]	HA: 16 [10]	HPQ A5158A[1]	FC-AL, FC-SW	See[7, 8]
26	HP 9000: D270, D280, D290, D370, D380, D390, R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard 11.14[2, 3]	HA: 16 [10]	HPQ A6684A[1]	FC-AL, FC-SW	See[7, 8]
27	HP 9000: K220, K250, K260, K360, K370, K380, K420, K450, K460, K570, K580	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard 11.14[2, 3]	HA: 16 [10]	HPQ A6685A[1]	FC-AL, FC-SW	See[7, 8]
28	HP 9000: N-Class (N4000), SUPERDOME, rp2405[17], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp2470, rp5400 (L1000), rp5405, rp5430, rp5450 (L2000), rp5470 (L3000)[16], rp7400, rp7405[19], **rp7410**[20], rp8400[18]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard 11.14[2, 3]	HA: 16 [10]	HPQ: A5158A[1], A6795A[1]	FC-AL, FC-SW	See[7, 8]
29	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.09[2, 3, 11]	OPS: 8 [12]	HPQ A5158A[1]	FC-AL, FC-SW	See[7, 8]
30	HP 9000: D270, D280, D290, D370, D380, D390, R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.09[2, 3, 11]	OPS: 8 [12]	HPQ A6684A[1]	FC-AL, FC-SW	See[7, 8]
31	HP 9000: K220, K250, K260, K360, K370, K380, K420, K450, K460, K570, K580	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.09[2, 3, 11]	OPS: 8 [12]	HPQ A6685A[1]	FC-AL, FC-SW	See[7, 8]
32	HP 9000: N-Class (N4000), SUPERDOME, rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp5400 (L1000), rp5405, rp5430, rp5450 (L2000), rp5470 (L3000)[16], rp7400, rp8400[18]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.09[2, 3, 11]	OPS: 8 [12]	HPQ: A5158A[1], A6795A[1]	FC-AL, FC-SW	See[7, 8]
33	HP 9000: K220, K420	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.13[2, 3, 11]	OPS: 16 [14]	HPQ A6685A[1]	FC-AL, FC-SW	See[7, 8]
34	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.13[2, 3, 11]	OPS: 16 [14] RAC: 8 [13, 14]	HPQ A5158A[1]	FC-AL, FC-SW	See[7, 8]
35	HP 9000: D270, D280, D290, D370, D380, D390, R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.13[2, 3, 11]	OPS: 16 [14] RAC: 8 [13, 14]	HPQ A6684A[1]	FC-AL, FC-SW	See[7, 8]
36	HP 9000: K250, K260, K360, K370, K380, K450, K460, K570, K580	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.13[2, 3, 11]	OPS: 16 [14] RAC: 8 [13, 14]	HPQ A6685A[1]	FC-AL, FC-SW	See[7, 8]
37	HP 9000: N-Class (N4000), SUPERDOME, rp2405[17], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp2470, rp5400 (L1000), rp5405, rp5430, rp5450 (L2000), rp5470 (L3000)[16], rp7400, rp7405[19], **rp7410**[20], rp8400[18]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.13[2, 3, 11]	OPS: 16 [14] RAC: 8 [13, 14]	HPQ: A5158A[1], A6795A[1]	FC-AL, FC-SW	See[7, 8]
38	HP 9000: K220, K420	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.14[2, 3, 11]	OPS: 16 [15]	HPQ A6685A[1]	FC-AL, FC-SW	See[7, 8]
39	HP 9000: rp5400 (L1000), rp5450 (L2000)	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.14[2, 3, 11]	OPS: 16 [15] RAC: 8 [13]	HPQ A5158A[1], A6795A[1]	FC-AL, FC-SW	See[7, 8]
40	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.14[2, 3, 11]	OPS: 16 [15] RAC: 8 [13, 15]	HPQ A5158A[1]	FC-AL, FC-SW	See[7, 8]

HPQ – HPQ HP-UX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
41	HP 9000: D270, D280, D290, D370, D380, D390, R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.14[2, 3, 11]	OPS: 16[15] RAC: 8[13, 15]	HPQ A6684A[1]	FC-AL, FC-SW	See[7, 8]
42	HP 9000: K250, K260, K360, K370, K380, K450, K460, K570, K580	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.14[2, 3, 11]	OPS: 16[15] RAC: 8[13, 15]	HPQ A6685A[1]	FC-AL, FC-SW	See[7, 8]
43	HP 9000: N-Class (N4000), SUPERDOME, rp2405[17], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp2470, rp5405, rp5430, rp5470 (L3000)[16], rp7400, rp7405[19], **rp7410[20]**, rp8400[18]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	HPQ MC/Service Guard OPS 11.14[2, 3, 11]	OPS: 16[15] RAC: 8[13, 15]	HPQ: A5158A[1] A6795A[1]	FC-AL, FC-SW	See[7, 8]
44	HP 9000: V2200, V2250, V2500, V2600	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	Veritas Cluster Server (VCS) 3.5[25, 26]	HA: 8	HPQ A5158A[1]	FC-AL, FC-SW	See[7, 8]
45	HP 9000: D270, D280, D290, D370, D380, D390, R380, R390	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	Veritas Cluster Server (VCS) 3.5[25, 26]	HA: 8	HPQ A6684A[1]	FC-AL, FC-SW	See[7, 8]
46	HP 9000: K220, K250, K260, K360, K370, K380, K420, K450, K460, K570, K580	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	Veritas Cluster Server (VCS) 3.5[25, 26]	HA: 8	HPQ A6685A[1]	FC-AL, FC-SW	See[7, 8]
47	HP 9000: N-Class (N4000), SUPERDOME, rp2405[17], rp2450 (A500/440MHz), rp2450 (A500/550MHz), rp2470, rp5400 (L1000), rp5405, rp5430, rp5450 (L2000), rp5470 (L3000)[16], rp7400, rp7405[19], **rp7410[20]**, rp8400[18]	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[4, 5]	Veritas Cluster Server (VCS) 3.5[25, 26]	HA: 8	HPQ: A5158A[1] A6795A[1]	FC-AL, FC-SW	See[7, 8]

1. For driver versions refer to Base Connectivity Section
2. Can mix HP-UX 11.00 and HP-UX 11i in same cluster all nodes must be MC/SG 11.09, 11.13 or later.
3. Refer to MC/Service Guard Release Notes at www.docs.hp.com for patch requirements
4. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01 The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
5. Symm 6 is qualified with: HP-UX 11i Support Plus Sept '02 bundle = GOLDAPPS11i June '02, GOLDBASE11i June '02 & HWEnable11i Sept '02.
6. Volume Managers Supported: LVM
7. Symm6: 512 lun limit per FA port
8. FCAL on Symm 6 supported by direct attach only
9. Volume Managers Supported: LVM VxVM 3.2
10. Volume Managers Supported: LVM, VxVM 3.2, VxVM 3.5
11. Number of nodes supported is dependent upon LVM, SLVM, VxVM, and CVM. Refer to EMC Host Connectivity Guide for HP-UX.
12. Volume Managers Supported: LVM, SLVM
13. HP-UX 11.0 and 11i 64-bit only Oracle RAC9i (9.0.1, 9.2). PowerPath 2.1.x and 3.0 Support. A SAN implementation with ISLs will observe significant delay in failover times if link failures non-contiguous to host HBA occur
14. Volume Managers Supported: LVM, SLVM, VxVM 3.2
15. Volume Managers Supported: LVM, SLVM, VxVM 3.2, VxVM 3.5
16. PA-8700 processors: Initial support with HP-UX 11.0 Sept 2001, HP-UX 11i Sept 2001.
17. Supported in 2-CPU systems only (2-way).
18. Virtual Partitions (VPAR) is supported on the rp8400 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.
19. Virtual Partitions (VPAR) is supported on the rp7405 server with 4.x and 5.x Symmetrix models. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.
20. **Virtual Partitions (VPAR) is supported on the rp7405/7410 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.**
21. On HP-UX 11.00 LVM support only – no VxVM
22. Symm 6 is qualified with: HP-UX 11.00 Support Plus Sept '02 bundle = QPK1100 Sept '02 & HWE1100 Sept '02
23. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24, 5568.58.12 or 5x69
24. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
25. Review the single attach table for supported PowerPath versions and volume manager restrictions.
26. GAB disks (membership and service group heartbeat disks) are not supported.

HPQ Open VMS

HPQ

HPQ – HPQ Open VMS							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	AlphaServer DS25	HPQ Open VMS V7.3-1	HPQ VMS Cluster License only[2]	HA: 16, OPS: 4	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)[5]**, KGPSA-CA (168794-B21), KGPSA-DA (261329-B21), **KGPSA-EA[5, 6]**	FC-SW	See[1]
2	AlphaServer ES47, ES80, GS1280	HPQ Open VMS V7.3-1	HPQ VMS Cluster License only[2]	HA: 16, OPS: 4	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)[5]** KGPSA-DA (261329-B21), **KGPSA-EA[5, 6]**	FC-SW	See[1]
3	AlphaServer ES40	HPQ Open VMS: V7.2-2[3], V7.3[4] V7.3-1	HPQ VMS Cluster License only[2]	HA: 16, OPS: 4	HPQ: FCA2354 (LP9002) **FCA2384 (LP9802)**, KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21), **KGPSA-EA**	FC-SW	See[1]
4	AlphaServer GS160 GS320, GS80	HPQ Open VMS, V7.2-2[3] V7.3[4], V7.3-1	HPQ VMS Cluster License only[2]	HA: 16 OPS: 4	HPQ: FCA2354 (LP9002) **FCA2384 (LP9802)**, KGPSA-CA (168794-B21) KGPSA-DA (261329-B21), **KGPSA-EA**	FC-SW	See[1]
5	AlphaServer DS10 DS10L, DS20, DS20E GS60	HPQ Open VMS: V7.2-2[3], V7.3[4] V7.3-1	HPQ VMS Cluster License only[2]	HA: 16, OPS: 4	HPQ: FCA2354 (LP9002) KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)	FC-SW	See[1]
6	AlphaServer 1200, 4000, 4100, 8200, 8400, GS140	HPQ Open VMS, V7.2-2[3] V7.3[4], V7.3-1	HPQ VMS Cluster License only[2]	HA: 16 OPS: 4	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	FC-SW	See[1]
7	AlphaServer ES45	HPQ Open VMS: V7.3[4], V7.3-1	HPQ VMS Cluster License only[2]	HA: 16 OPS: 4	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)[5]** KGPSA-CA (168794-B21), KGPSA-DA (261329-B21), **KGPSA-EA[5, 6]**	FC-SW	See[1]

1. Refer to Base Connectivity Fibre Channel Connectivity HPQ sections for connectivity details
2. No specific clustering s/w required
3. Open VMS 7.2 – FC-SW requires console firmware 5.6 or later and patch VMS722 fibre SCSI-V0100
4. Open VMS 7.3 FC-SW requires console firmware 5.6 or later and patch VMS73 update-V0100 or patch VMS73 fibre SCSI-V0200
5. **KGPSA-EA(FCA2384): Latest qualified firmware revision 1-00X6.**
6. **KGPEA-EA(FCA2384): Latest qualified firmware revision 1-00X6.**

HPQ Tru64 UNIX
HPQ

HPQ – HPQ Tru64 UNIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	**AlphaServer: GS160, GS320, GS80**	**HPQ Tru64 UNIX V4.0G[12]**	**HPQ TruCluster Available Server V1.6[10]**	**HA: 4**	**HPQ KGPSA-CA (168794-B21)**	**FC-SW**	
2	**AlphaServer: GS160, GS320, GS80**	**HPQ Tru64 UNIX V4.0G[12]**	**HPQ TruCluster Production Server V1.6[10]**	**HA: 4, OPS: 8**	**HPQ KGPSA-CA (168794-B21)**	**FC-SW**	
3	**AlphaServer: DS10, DS10L, DS20, DS20E, ES40**	**HPQ Tru64 UNIX V5.1[1, 2]**	**HPQ TruCluster V5.1[3]**	HA: 8, OPS: 8, RAC: 8	**HPQ: FCA2354 (LP9002), KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	FC-SW	**See[4]**
4	**AlphaServer: GS160, GS320, GS80**	**HPQ Tru64 UNIX V5.1[1, 2]**	**HPQ TruCluster V5.1[3]**	HA: 8, OPS: 8, RAC: 8	**HPQ: FCA2354 (LP9002), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	FC-SW	**See[4]**
5	**AlphaServer: 1200, 4000, 4100, 8200, 8400, GS140, GS60**	**HPQ Tru64 UNIX V5.1[1, 2]**	**HPQ TruCluster V5.1[3]**	HA: 8, OPS: 8, RAC: 8	**HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)**	FC-SW	**See[4]**
6	AlphaServer DS20L	HPQ Tru64 UNIX V5.1A[1, 5]	HPQ TruCluster V5.1A[3]	HA: 8, OPS: 8, RAC: 8	HPQ KGPSA-CA (168794-B21)	FC-SW	See[4]
7	AlphaServer: DS10, DS20E, ES40	HPQ Tru64 UNIX V5.1A[1, 5]	HPQ TruCluster V5.1A[3]	HA: 8, OPS: 8, RAC: 8	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)[13, 14]**, KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)	FC-SW	See[4]
8	AlphaServer: DS25, ES45, GS160, GS320, GS80	HPQ Tru64 UNIX V5.1A[1, 5]	HPQ TruCluster V5.1A[3]	HA: 8, OPS: 8, RAC: 8	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)[13, 14]**, KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)	FC-SW	See[4]
9	AlphaServer: DS10L, DS20	HPQ Tru64 UNIX V5.1A[1, 5]	HPQ TruCluster V5.1A[3]	HA: 8, OPS: 8, RAC: 8	HPQ: FCA2354 (LP9002), KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)	FC-SW	See[4]
10	AlphaServer: 1200, 4000, 4100, 8200, 8400, GS140, GS60	HPQ Tru64 UNIX V5.1A[1, 5]	HPQ TruCluster V5.1A[3]	HA: 8, OPS: 8, RAC: 8	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	FC-SW	See[4]
11	AlphaServer: SC20[9], SC40[9], SC45[9]	HPQ Tru64 UNIX V5.1A[1, 5, 8]	HPQ TruCluster V5.1A[3, 8]		HPQ KGPSA-CA (168794-B21)	FC-SW	See[4]
12	**AlphaServer DS20L**	**HPQ Tru64 UNIX V5.1B[1, 6]**	**HPQ TruCluster V5.1B[3]**	HA: 8, OPS: 8, RAC: 8	**HPQ KGPSA-CA (168794-B21)**	FC-SW	**See[4]**
13	**AlphaServer: DS10, DS20E, ES40**	**HPQ Tru64 UNIX V5.1B[1, 6]**	**HPQ TruCluster V5.1B[3]**	HA: 8, OPS: 8, RAC: 8	**HPQ: FCA2354 (LP9002), FCA2384 (LP9802)[13, 14], KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	FC-SW	**See[4]**
14	**AlphaServer: DS25, ES45, GS160, GS320, GS80**	**HPQ Tru64 UNIX V5.1B[1, 6]**	**HPQ TruCluster V5.1B[3]**	HA: 8, OPS: 8, RAC: 8	**HPQ: FCA2354 (LP9002), FCA2384 (LP9802)[13, 14], KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	FC-SW	**See[4]**
15	**AlphaServer: DS10L, DS20**	**HPQ Tru64 UNIX V5.1B[1, 6]**	**HPQ TruCluster V5.1B[3]**	HA: 8, OPS: 8, RAC: 8	**HPQ: FCA2354 (LP9002), KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	FC-SW	**See[4]**
16	**AlphaServer: 1200, 4000, 4100, 8200, 8400, GS140, GS60**	**HPQ Tru64 UNIX V5.1B[1, 6]**	**HPQ TruCluster V5.1B[3]**	HA: 8, OPS: 8, RAC: 8	**HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)**	FC-SW	**See[4]**
17	**AlphaServer: ES47, ES80, GS1280**	**HPQ Tru64 UNIX V5.1B[1, 6, 7]**	**HPQ TruCluster V5.1B[3]**	HA: 8, OPS: 8, RAC: 8	**HPQ: FCA2354 (LP9002), FCA2384 (LP9802)[13, 14], KGPSA-DA (261329-B21)**	FC-SW	**See[4]**
18	**AlphaServer: 1200, 4000, 4100, 8200, 8400, DS10, DS10L, DS20, DS20E, ES40, GS140, GS60**	**HPQ Tru64 UNIX V4.0F[11], V4.0G[12]**	**HPQ TruCluster Available Server V1.6[10]**	**HA: 4**	**HPQ KGPSA-CA (168794-B21)**	**FC-SW**	
19	**AlphaServer: 1200, 4000, 4100, 8200, 8400, DS10, DS10L, DS20, DS20E, ES40, GS140, GS60**	**HPQ Tru64 UNIX, V4.0F[11], V4.0G[12]**	**HPQ TruCluster Production Server V1.6[10]**	**HA: 4, OPS: 8**	**HPQ KGPSA-CA (168794-B21)**	**FC-SW**	

V5.x: 255 LUNs/Symmetrix Fibre director port (LUNs 000-0FE valid) on Symmetrix DMX Series, requires OVMS director bit setting, LUN 000 must be mapped to a Symmetrix device. the LUN 000 device can be used as a normal disk device by the Tru64 host.

2. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
3. TruCluster V5.x Persistent Reservation support with 5669 microcode requires minimum 5669.45.24. Symm "PER" Volume flag, and "ubyte[0] = 8" in /etc/ddr.dbase EMC entry. Configurations that cannot support Persistent Reservation must set "ubyte[0] = 25" to enable alternate barrier patch and direct access devices.
4. TruCluster V5.x support with Symmetrix DMX requires minimum microcode version 5669.45.24
5. Tru64 V5 1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
6. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
7. **AlphaServer GS1280.ES80,ES47: Minimum Tru64 V5.1B with Patch Kit 1 (T64V51BB1AS0001-20021229)**
8. AlphaServer SC systems have special Tru64 UNIX operating system and AlphaServer SC System Software requirements
9. Requires RPQ
10. **TruCluster v1.6 SCSI requires shared buses with 'Y' cables or HPQ (Compaq) Ultra SCSI hubs DS-DWZZH-03, DS-DWZZH-05. Straight cables used only as interconnects Cables: 038-001-537 (6M), 038-001-538 (12M), 038-001-539(20M).Maximum bus length must not exceed 25 meters. Refer to Symmetrix High Availability Environment Product Guide, P/N 200-999-566, for more details.**
11. **Tru64 V4.0F BL13 Patch Kit 2 may introduce problems with KZPBA adapters. Tru64 V4.0F latest qualified Patch Kit-0007 (DUV40FB18AS0007-20020102).**
12. **Tru64 V4.0G latest qualified patch kit-0003 (T64V40GAS0003-20010613).**
13. **FCA2384(KGPSA-EA): Latest firmware revision 1.00X6**
14. **FCA2384(KGPSA-EA): Minimum firmware revision 1.00X2**

IBM AIX
Bull

Bull – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Escala: EPC400, S100, S120, T610	IBM AIX 4.3.3	IBM HACMP 4.4.1 HACMP/ES 4.4.1	HA: 8 OPS: 4	Bull MSCG023-0000		See[1]
2	Escala E250	IBM AIX 4.3.3	IBM HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG041-0000		See[1]
3	Escala: EPC1200, RL470	IBM AIX 4.3.3	IBM HACMP 4.4.1 HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull, MSCG030-0000, MSCG032-0000		See[1]

Bull – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
4	Escala T610	IBM AIX 4.3.3[4]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull DCCG141-0000[3, 4]		
5	Escala EPC450	IBM AIX 4.3.3[4]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull DCCG147-0000[4]		
6	Escala RL470	IBM AIX 4.3.3[4]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG141-0000[3, 4], DCCG147-0000[3, 4]		
7	Escala EPC400	IBM AIX 4.3.3[4]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG141-0000[3, 4], DCCG147-0000[3, 4], DCCG148-0000[3, 4]		
8	Escala: E250, T450	IBM AIX 4.3.3[4]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG141-0000[3, 4], DCCG147-0000[4]		
9	Escala: PL1600[3, 6], PL3200[3, 6]	IBM AIX 5.1[3, 5]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG147-0000[3, 4], DCCG148-0000[3, 4]		
10	Escala: PL1600[6], PL3200[6]	IBM AIX 5.1[5]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: MSCG043-0000, MSCG044-0000		See[1]
11	Escala E250	IBM AIX: 4.3.3, 5.1	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG023-0000		See[1]
12	Escala: EPC450, T450	IBM AIX: 4.3.3, 5.1	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: MSCG023-0000, MSCG041-0000		See[1]
13	Escala: EPC2400, EPC2450, EPC610, EPC810, PL220T, PL400T, PL600R, PL600T, PL800R, T610	IBM AIX: 4.3.3, 5.1	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: MSCG043-0000, MSCG044-0000		See[1]
14	Escala EPC440	IBM AIX: 4.3.3, 5.1[3]	IBM HACMP 4.4.1	HA: 8, OPS: 4	Bull: MSCG030-0000, MSCG032-0000		See[2]
15	Escala EPC1200A	IBM AIX: 4.3.3, 5.1[3]	IBM HACMP 4.4.1	HA: 8, OPS: 4	Bull: MSCG030-0000, MSCG032-0000, MSCG043-0000		See[2]
16	Escala EPC1200A	IBM AIX: 4.3.3, 5.1[3]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG043-0000		See[2]
17	Escala: EPC1200, RL470	IBM AIX: 4.3.3, 5.1[3]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull MSCG041-0000		See[1]
18	Escala: E230, EPC430, T430	IBM AIX: 4.3.3, 5.1[3]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: MSCG023-0000, MSCG041-0000		See[1]
19	Escala: EPC2400, EPC2450, EPC610, EPC810, PL220T, PL400T, PL600R, PL600T, PL800R, T610	IBM AIX: 4.3.3[4], 5.1[3, 4]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull DCCG147-0000[4]		
20	Escala: E230, EPC1200A, EPC430, T430	IBM AIX: 4.3.3[4], 5.1[3, 4]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG141-0000[3, 4], DCCG147-0000[3, 4]		
21	Escala: EPC1200, EPC440	IBM AIX: 4.3.3[4], 5.1[3, 4]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull: DCCG141-0000[3, 4], DCCG147-0000[3, 4], DCCG148-0000[3, 4]		
22	Escala E250	IBM AIX: 5.1, 5.2	IBM: HACMP 4.5, HACMP/ES 4.5		Bull MSCG023-0000		See[1]
23	Escala: EPC1200, RL470	IBM AIX: 5.1, 5.2	IBM: HACMP 4.5, HACMP/ES 4.5		Bull MSCG041-0000		See[1]
24	Escala: E230, EPC1200A, EPC430, T430	IBM AIX: 5.1, 5.2	IBM: HACMP 4.5, HACMP/ES 4.5		Bull: DCCG141-0000[3, 4], DCCG147-0000[3, 4]		
25	Escala: EPC1200, EPC440	IBM AIX: 5.1, 5.2	IBM: HACMP 4.5, HACMP/ES 4.5		Bull: DCCG141-0000[3, 4], DCCG147-0000[3, 4], DCCG148-0000[3, 4]		
26	Escala: E230, EPC430, EPC450, T430, T450	IBM AIX: 5.1, 5.2	IBM: HACMP 4.5, HACMP/ES 4.5		Bull: MSCG023-0000, MSCG041-0000		See[1]
27	Escala EPC440	IBM AIX: 5.1, 5.2	IBM: HACMP 4.5, HACMP/ES 4.5		Bull: MSCG030-0000, MSCG032-0000		See[2]
28	Escala EPC1200A	IBM AIX: 5.1, 5.2	IBM: HACMP 4.5, HACMP/ES 4.5		Bull: MSCG030-0000, MSCG032-0000, MSCG043-0000		See[2]
29	Escala: EPC2400, EPC2450, EPC610, EPC810, PL220T, PL400T, PL600R, PL600T, PL800R, T610	IBM AIX: 5.1, 5.2	IBM: HACMP 4.5, HACMP/ES 4.5		Bull: MSCG043-0000, MSCG044-0000		See[1]
30	Escala: EPC2400, EPC2450, EPC610, EPC810, PL220T, PL400T, PL600R, PL600T, PL800R, T610	IBM AIX: 5.1[3, 4], 5.2	IBM: HACMP 4.5, HACMP/ES 4.5		Bull DCCG147-0000[4]		
31	Escala: PL1600[3, 6], PL3200[3, 6]	IBM AIX: 5.1[3, 5], 5.2	IBM: HACMP 4.5, HACMP/ES 4.5		Bull: DCCG147-0000[3, 4], DCCG148-0000[3, 4]		
32	Escala: PL1600[6], PL3200[6]	IBM AIX: 5.1[5], 5.2	IBM: HACMP 4.5, HACMP/ES 4.5		Bull: MSCG043-0000, MSCG044-0000		See[1]
33	Escala RL470	IBM AIX 4.3.3[4]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull DCCG148-0000[3, 4]	FC-AL, FC-SW	
34	Escala: E250 EPC450 T450	IBM AIX 4.3.3[4]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull DCCG148-0000[4]	FC-AL, FC-SW	
35	Escala: E230, EPC1200A, EPC430, T430	IBM AIX 4.3.3[4], 5.1[3, 4]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull DCCG148-0000[3, 4]	FC-AL, FC-SW	
36	Escala: EPC2400, EPC2450, EPC610, EPC810, PL220T, PL400T, PL600R, PL600T PL800R, T610	IBM AIX: 4.3.3[4], 5.1[3, 4]	IBM: HACMP 4.4.1, HACMP/ES 4.4.1	HA: 8, OPS: 4	Bull DCCG148-0000[4]	FC-AL, FC-SW	
37	Escala E230 EPC1200A, EPC430 T430	IBM AIX: 5.1, 5.2	IBM: HACMP 4.5 HACMP/ES 4.5		Bull DCCG148-0000[3, 4]	FC-AL, FC-SW	
38	Escala: EPC2400 EPC2450 EPC610, EPC810 PL220T PL400T, PL600R PL600T, PL800R, T610	IBM AIX: 5.1[3, 4], 5.2	IBM: HACMP 4.5, HACMP/ES 4.5		Bull DCCG148-0000[4]	FC-AL, FC-SW	

1. Multi-port SCSI or Common SCSI Bus
2. Multi-port SCSI (preferred) or Common SCSI Bus.
3. Fibre Channel HBAs: DCCG141-0000: LP7000e copper DCCG147-0000: LP8000 copper DCCG148-0000: LP8000 fibre
4. Fibre Channel device driver distributed and supported by Bull.
5. AIX 5.1 32/64-bit kernel support.
6. Supported in SMP and LPAR mode

IBM

IBM – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node, 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node, SP2 9076 +: 06 50X[11], 07 55X[11], 08 T70[11]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node: p680 7017-S85 as SP2 node	IBM AIX 5.1	IBM PSSP 3.5 RVSD 3.5 and GPFS 2.1[12, 35, 36, 37]		IBM 6227[1, 2, 30, 31, 32, 33, 34]	FC-AL	
2	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node: 7015-S7A as SP2 node, 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node: 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[11], 07 55X[11], 08 T70[11]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node: p680 7017-S85 as SP2 node	IBM AIX 5.1[4, 18, 19, 22]	IBM HACMP/ES 4.5	HA: 32. OPS: 8, RAC: 8[5]	IBM 6227[3]	FC-AL	
3	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node: 7026-H80 as SP2 node: 7026-M80 as SP2 node; SP2 9076 +: 06 50X[11], 08 T70[11]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node	IBM AIX 5.1[4, 18, 19, 22]	IBM: HACMP/ES 4.4.1, PSSP 3.4 RVSD 3.4 and GPFS 1.5[12, 13, 29]	HA: 32. OPS: 8. RAC: 8[5]	IBM 6227[1, 3]	FC-AL	
4	7013-S7A; 7015-S7A; 7017-S7A; 7017-S80; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270	IBM AIX 4.3.3[4]	IBM HACMP 4.3.1	HA: 8, OPS: 8, RAC: 8[5]	IBM 6228[1, 2, 14, 15]	FC-AL, FC-SW	
5	7013-S7A; 7015-S7A; 7017-S7A; 7017-S80; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270; p620: 7025-6F0, 7025-6F1, p640 7026-B80; p660: 7026-6H0, 7026-6H1	IBM AIX 4.3.3[4]	IBM HACMP 4.4.0	HA: 8, OPS: 8, RAC: 8[5]	IBM 6228[1, 2, 14, 15]	FC-AL, FC-SW	
6	p610: 7028-6C1, 7028-6E1	IBM AIX 4.3.3[4]	IBM HACMP 4.4.0	HA: 8, OPS: 8, RAC: 8[5]	IBM 6228[1, 14, 15]	FC-AL, FC-SW	
7	7013-S7A, 7015-S7A; 7017-S7A; 7017-S80; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80, 7044-170; 7044-270; p610: 7028-6C1, 7028-6E1, p620: 7025-6F0; 7025-6F1; p640 7026-B80, p660: 7026-6H0, 7026-6H1; 7026-6M1, p680 7017-S85	IBM AIX 4.3.3[4]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[5]	IBM 6228[1, 2, 14, 15]	FC-AL, FC-SW	
8	p680 7017-S85	IBM AIX 4.3.3[4]	IBM HACMP/ES. 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[5]	IBM 6228[1, 2, 14, 15]	FC-AL, FC-SW	
9	7013-S7A as SP2 node, 7015-S7A as SP2 node; 7017-S7A as SP2 node, 7017-S80 as SP2 node: 7026-H80 as SP2 node 7026-M80 as SP2 node: SP2 9076 +: 06 50X[11], 07 55X[11], 08 T70[11] p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, p680 7017-S85 as SP2 node	IBM AIX 4.3.3[4]	IBM HACMP/ES: 4.3.1[9, 10], 4.4.0[9, 10], IBM PSSP 3.2 RVSD 3.2[9, 10]	HA: 32. OPS: 8, RAC: 8[5]	IBM 6228[1, 2, 14, 15]	FC-AL, FC-SW	
10	7013-S7A as SP2 node, 7015-S7A as SP2 node 7017-S7A as SP2 node, 7017-S80 as SP2 node: 7026-H80 as SP2 node 7026-M80 as SP2 node: SP2 9076 +: 06 50X[11], 07 55X[11], 08 T70[11] p680 7017-S85 as SP2 node	IBM AIX 4.3.3[4]	IBM PSSP 3.1.1 RVSD[9, 10]	HA: 32 OPS: 8 RAC: 8[5]	IBM 6228[1, 2, 14, 15]	FC-AL, FC-SW	
11	SP2 9076 +: 06 50X[11], 07 55X[11], 08 T70[11]	IBM AIX 4.3.3[4]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[12, 13]	HA: 32, OPS: 8, RAC: 8[5]	IBM 6228[1, 14, 15]	FC-AL, FC-SW	

IBM – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
12	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 4.3.3[4]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[12, 13]	HA: 8, OPS: 8, RAC: 8 [5]	IBM 6228[1, 2, 14, 16]	FC-AL, FC-SW	
13	p615, 7029-6C3, 7029-6E3	IBM AIX 5.1[17, 18, 19]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8 [5]	IBM 6239	FC-AL, FC-SW	
14	7013-S7A; 7015-S7A; 7017-S7A; 7017-S80; 7025-F80; 7025-H70; 7026-H80; 7026-M80; p680 7017-S85	IBM AIX 5.1[4, 17, 18]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6227[1, 2, 3], 6228[1, 2, 3]	FC-AL, FC-SW	
15	7044-270; p620: 7025-6F0, 7025-6F1; p660: 7026-6H0, 7026-6H1, 7026-6M1	IBM AIX 5.1[4, 17, 18]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6227[1, 2, 3], 6228[1, 2, 3], 6239	FC-AL, FC-SW	
16	p640 7026-B80	IBM AIX 5.1[4, 17, 18]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6227[1, 2, 3], 6228[1, 2], 6239	FC-AL, FC-SW	
17	p610: 7028-6C1, 7028-6E1	IBM AIX 5.1[4, 17, 18]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6228[1, 2], 6239	FC-AL, FC-SW	
18	7044-170	IBM AIX 5.1[4, 17, 18, 19]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6227[1, 3], 6228[1], 6239	FC-AL, FC-SW	
19	7013-S70; 7015-S70; 7017-S70	IBM AIX 5.1[4, 17, 18, 19]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8 [5]	IBM 6227[1, 3]	FC-AL, FC-SW	
20	7015-S7A; 7017-S7A; 7017-S80; 7025-F80; 7025-H70; 7026-H80; 7026-M80; p680 7017-S85	IBM AIX 5.1[4, 17, 18, 19]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6227[1, 3], 6228[1, 3]	FC-AL, FC-SW	
21	p670 7040-671, p690: 7040-61D, 7040-61R, 7040-681	IBM AIX 5.1[4, 17, 18, 19]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6228, 6239	FC-AL, FC-SW	
22	p610 7028-6E1	IBM AIX 5.1[4, 17, 18, 19]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6228[1], 6239	FC-AL, FC-SW	
23	p650 7038-6M2; p655 7039-651	IBM AIX 5.1[4, 17, 18, 19]	IBM HACMP: 4.4.1, 4.5; IBM HACMP/ES: 4.4.1, 4.5	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6228[23, 24], 6239	FC-AL, FC-SW	
24	7044-170; 7044-270; p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1	IBM AIX 5.1[4, 17, 18, 19]	IBM: HACMP 4.5, HACMP/ES 4.4.1, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6227[1, 3], 6228[1, 3], 6239	FC-AL, FC-SW	
25	7013-S70; 7015-S70; 7017-S70	IBM AIX 5.1[4, 17, 18, 19]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8 [5]	IBM 6227[3]	FC-AL, FC-SW	
26	7013-S7A; 7015-S7A; 7017-S7A; 7017-S80; 7025-F80; 7025-H70; 7026-H80; 7026-M80	IBM AIX 5.1[4, 17, 18, 19]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6227[1, 3], 6228[1, 3]	FC-AL, FC-SW	
27	p680 7017-S85	IBM AIX 5.1[4, 17, 18, 19]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6227[3], 6228[3]	FC-AL, FC-SW	
28	p610: 7028-6C1, 7028-6E1; p630: 7028-6C4, 7028-6E4	IBM AIX 5.1[4, 17, 18, 19]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6228[1, 3], 6239	FC-AL, FC-SW	
29	p670 7040-671; p690: 7040-61D, 7040-61R, 7040-681	IBM AIX 5.1[4, 17, 18, 19]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8 [5]	IBM: 6228[14], 6239	FC-AL, FC-SW	
30	7013-S70; 7015-S70; 7017-S70	IBM AIX 5.1[4, 17, 18, 19]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[20, 21]; Veritas Cluster Server (VCS) 2.0[25, 26, 27, 28]	HA: 8	IBM 6227[3]	FC-AL, FC-SW	
31	p670 7040-671, p690: 7040-61D, 7040-61R, 7040-681	IBM AIX 5.1[4, 17, 18, 19]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[20, 21]; Veritas Cluster Server (VCS) 2.0[25, 26, 27, 28]	HA: 8	IBM 6228[1]	FC-AL, FC-SW	
32	p610 7028-6C1; p630: 7028-6C4, 7028-6E4	IBM AIX 5.1[4, 17, 18, 19]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[20, 21]; Veritas Cluster Server (VCS) 2.0[25, 26, 27, 28]	HA: 8	IBM 6228[1, 3]	FC-AL, FC-SW	
33	p610 7028-6E1	IBM AIX 5.1[4, 17, 18, 19]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[20, 21]; Veritas Cluster Server (VCS) 2.0[25, 26, 27, 28]	HA: 8	IBM 6228[3]	FC-AL, FC-SW	
34	p650 7038-6M2; p655 7039-651	IBM AIX 5.1[4, 17, 18, 19]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[20, 21]; Veritas Cluster Server (VCS) 2.0[25, 26, 27, 28]	HA: 8	IBM 6228[23, 24]	FC-AL, FC-SW	

IBM – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
35	7013-S7A; 7015-S7A; 7017-S7A; 7017-S80; 7025-F80; 7025-H70; 7026-H80; 7026-M80; 7044-170; 7044-270; p620 7025-6F0; p640 7026-B80; p660: 7026-6H0. 7026-6H1, 7026-6M1; p680 7017-S85	IBM AIX 5.1[4, 17, 18, 19]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[20, 21]; Veritas Cluster Server (VCS) 2.0[25, 26, 27, 28]	HA: 8	IBM: 6227[1, 3], 6228[1, 3]	FC-AL, FC-SW	
36	p620 7025-6F1	IBM AIX 5.1[4, 17, 18, 19]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[20, 21]; Veritas Cluster Server (VCS) 2.0[25, 26, 27, 28]	HA: 8	IBM: 6227[3], 6228[3]	FC-AL, FC-SW	
37	7013-S7A	IBM AIX 5.1[4, 17, 18, 22]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[5]	IBM: 6227[1, 3], 6228[1]	FC-AL, FC-SW	
38	7026-H70	IBM AIX 5.1[4, 18, 19, 22]	IBM HACMP/ES 4.4.1	HA: 8. OPS: 8. RAC: 8[5]	IBM: 6227[1, 3], 6228[1]	FC-AL, FC-SW	
39	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[11], 07 55X[11], 08 T70[11]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	IBM AIX 5.1[4, 18, 19, 22]	IBM HACMP/ES 4.5	HA: 32. OPS: 8. RAC: 8[5]	IBM 6228[3]	FC-AL, FC-SW	
40	7025-F50; 7026-H50; 7026-H70	IBM AIX 5.1[4, 18, 19, 22]	IBM: HACMP 4.5, HACMP/ES 4.5	HA: 8, OPS: 8, RAC: 8[5]	IBM: 6227[3], 6228[3]	FC-AL, FC-SW	
41	7013-S7A as SP2 node, 7015-S7A as SP2 node; 7017-S7A as SP2 node, 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[11], 08 T70[11]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node	IBM AIX 5.1[4, 18, 19, 22]	IBM: HACMP/ES 4.4.1, PSSP 3.4 RVSD 3.4 and GPFS 1.5[12, 13, 29]	HA: 32. OPS: 8, RAC: 8[5]	IBM 6228[1, 3]	FC-AL, FC-SW	
42	7025-F50; 7026-H50; 7026-H70	IBM AIX 5.1[4, 18, 19, 22]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[20, 21]; Veritas Cluster Server (VCS) 2.0[25, 26, 27, 28]	HA: 8	IBM: 6227[3]. 6228[3]	FC-AL, FC-SW	
43	7025-F50; 7026-H50; 7026-H70	IBM AIX 5.1[4, 18, 22]	IBM HACMP 4.4.1	HA: 8, OPS: 8, RAC: 8[5]	IBM: 6227[1, 2, 3], 6228[1, 2]	FC-AL, FC-SW	
44	7025-F50; 7026-H50	IBM AIX 5.1[4, 18, 22]	IBM HACMP/ES 4.4.1	HA: 8, OPS: 8, RAC: 8[5]	IBM: 6227[1, 3], 6228[1]	FC-AL, FC-SW	
45	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node, SP2 9076 +: 06 50X[11], 07 55X[11], 08 T70[11]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node. p680 7017-S85 as SP2 node	IBM AIX 5.1[36, 38]	IBM PSSP 3.5 RVSD 3.5 and GPFS 2.1[12, 35, 36, 37]		IBM 6228[1, 2, 30, 32, 39]	FC-AL, FC-SW	
46	p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1	IBM AIX 4.3.3[4]	IBM HACMP 4.4.0	HA: 8, OPS: 8, RAC: 8[5]	IBM 6227[1, 2, 3]	FC-AL[6] FC-SW[7]	See[8]
47	7013-S70; 7013-S7A; 7015-S70; 7015-S7A, 7017-S70; 7017-S7A; 7017-S80; 7025-F50; 7025-F80, 7025-H70; 7026-H50 7026-H70; 7026-H80; 7026-M80, 7044-170; p620, 7025-6F0 7025-6F1; p640 7026-B80; p660, 7026-6H0, 7026-6H1, 7026-6M1, p680 7017-S85	IBM AIX 4.3.3[4]	IBM HACMP 4 4 1	HA: 8, OPS: 8, RAC: 8[5]	IBM 6227[1, 2, 3]	FC-AL[6] FC-SW[7]	
48	p680 7017-S85	IBM AIX 4.3.3[4]	IBM HACMP/ES 4 3.1 4 4 0	HA: 8, OPS: 8. RAC: 8[5]	IBM 6227[1, 2, 3]	FC-AL[6] FC-SW[7]	See[8]
49	7013-S70 as SP2 node; 7013-S7A as SP2 node, 7015-S70 as SP2 node; 7015-S7A as SP2 node, 7017-S70 as SP2 node; 7017-S7A as SP2 node, 7017-S80 as SP2 node; 702b-H80 as SP2 node 702b-M80 as SP2 node SP2 9076 +: 06 50X[11], 07 55X[11], 08 T70[11]	IBM AIX 4 3 3[4]	IBM HACMP/ES 4.3.1[9, 10], 4.4.0[9, 10], IBM PSSP. 3 1.1 RVSD[9, 10], 3.2 RVSD 3.2[9, 10]	HA: 32. OPS: 8. RAC: 8[5]	IBM 6227[1, 2, 3]	FC-AL[6] FC-SW[7]	

IBM – IBM AIX							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
50	7013-S70; 7013-S7A; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7017-S80; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270	IBM AIX 4.3.3[4]	IBM HACMP: 4.3.1, 4.4.0	HA: 8, OPS: 8, RAC: 8[5]	IBM 6227[1, 2, 3]	FC-AL[6] FC-SW[7]	
51	SP2 9076 +: 06 50X[11], 07 55X[11], 08 T70[11]	IBM AIX 4.3.3[4]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[12, 13]	HA: 32, OPS: 8, RAC: 8[5]	IBM 6227[1, 3]	FC-AL[6] FC-SW[7]	
52	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node p680 7017-S85 as SP2 node	IBM AIX 4.3.3[4]	IBM PSSP 3.4 RVSD 3.4 and GPFS 1.5[12, 13]	HA: 8, OPS: 8, RAC: 8[5]	IBM 6227[1, 2, 3]	FC-AL[6] FC-SW[7]	
53	p680 7017-S85 as SP2 node	IBM AIX 4.3.3[4]	IBM: HACMP/ES 4.3.1[9, 10], PSSP 3.1.1 RVSD[9, 10]	HA: 32, OPS: 8, RAC: 8[5]	IBM 6227[1, 2, 3]	FC-AL[6] FC-SW[7]	See[8]
54	p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, p680 7017-S85 as SP2 node	IBM AIX 4.3.3[4]	IBM: HACMP/ES 4.4.0[9, 10], PSSP 3.2 RVSD 3.2[9, 10]	HA: 32, OPS: 8, RAC: 8[5]	IBM 6227[1, 2, 3]	FC-AL[6] FC-SW[7]	See[8]

1. IBM Native Fibre Channel drivers with feature code 6227 and with feature code 6228 are supported on the same server. Feature 6228 and 6239 are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server. 6227 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f7.rte; 6228 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f9.diag, devices.pci.df1000f9.rte; 6239 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1080f9.diag, devices.pci.df1080f9.rte
2. For all PCI-based hosts only: See http://www-1.ibm.com/servers/eserver/pseries/library/hardware_docs/sa38/380538.pdf for appropriate HBA placement guidelines.
3. Requires minimum HACMP IY07313, concurrent resource groups not supported with HACMP 4.3 or 4.3.1; For HACMP 4.4.0 and 4.4.1 concurrent resource groups supported with APAR IY14528. Requires minimum AIX APAR IY08960, IY03872, IY06844. Requires minimum Symmetrix microcode level 5265.48.30.
4. Symmetrix 8000 Series:66/67 support: AIX 4.3.x, 5.1, 5568 support at AIX 4.3.3, 5.1
5. For IBM AIX 4.3.3: requires Oracle RAC9i (9.0.1), HACMP/ES 4.4.x, PowerPath 2.1 or greater is supported. Symmetrix microcode 5566/5567/5568. A SAN implementation with ISLs will observe significant delay in failover times if link failures non-contiguous to host HBA occur. For IBM AIX 5.1:requires Oracle RAC9i (9.2), HACMP/ES 4.4.x, PowerPath 3.0.1 or greater is supported. Symmetrix microcode 5566/5567/5568. A SAN implementation with ISLs will observe significant delay in failover times if link failures non-contiguous to host HBA occur.
6. Requires minimum AIX APAR IY05369. Requires minimum EMC ODM fileset support (4.3.3.0 IBM Fibre Channel interface support for Symmetrix). Supported adapter firmware, 3.22A1.
7. Requires minimum AIX APAR IY08960, IY03872. Requires minimum EMC ODM fileset support (4.3.3.1 IBM Fibre Channel interface support for Symmetrix). Supported adapter firmware, 3.22A1.
8. Requires minimum Symmetrix microcode level 5265.39.25. Requires minimum AIX APAR IY05369. Requires minimum EMC ODM fileset support (4.3.3.0 IBM Fibre Channel interface support for Symmetrix). Supported adapter firmware, 3.22A1.
9. Latest APAR for PSSP 3.2 is IY17872.
10. Latest APAR for PSSP 3.1.1 is IY17870.
11. The following link provides detailed data for all 9076-SP2 models and feature codes: http://www1.ibmlink.ibm.com/cgi-bin/master?request=salesmanual&parms=SMS&xh=NTZH*daEMSRi4n1USenGnN9332&xhi=usa.main%7Csalesmanual%5E&type=D&search=9076&title=T&product
12. Refer to Primus case #1.0 128870403.2749464 for configuration instructions.
13. Requires minimum AIX 4.3.3 with APAR IY22024. Requires PSSP 3.4 with APAR IY32625
14. Requires minimum AIX 4.3.3 with maintenance level 08 and adapter firmware 3.82a1. Requires minimum HACMP IY07313. Concurrent resource groups not supported with HACMP 4.3 or 4.3.1; For HACMP 4.4.0 and 4.4.1 concurrent resource groups supported with APAR IY14528. Requires minimum Symmetrix microcode level 5265.48.30.
15. Requires minimum EMC ODM fileset support (4.3.3.1 IBM Fibre Channel interface support for Symmetrix). Device driver df1000f9 is distributed by IBM.
16. Requires minimum EMC ODM fileset support (4.3.3.1 IBM Fibre Channel interface support for Symmetrix).
17. AIX 5.1 32/64 bit Kernel supported. Minimum PowerPath Version 2.1.2 supported . Requires minimum EMC ODM fileset support 5.0.0.0.
18. Minimum PowerPath 2.1.2 supported
19. AIX 5.1 supported with 32/64-bit kernel. Requires minimum EMC ODM fileset support 5.0.0.0.
20. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
21. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s
22. AIX 5.1 supported with 32-bit kernel. Requires minimum EMC ODM fileset support 5.0.0.0.
23. IBM 6227 and 6228 adapters are supported on the same server.Mixed FC-AL and FC-SW are supported on the same server.
24. Requires minimum HACMP APAR IY07313. Latest APAR for PSSP 3.1.1 is IY17870. Requires minimum RVSD APAR IY07130.
25. PowerPath is supported with LVM and JFS
26. GAB disks (membership and service group heartbeat disks) are not supported.
27. VxVM and VxFS are not currently supported in this configuration. Please review the Host Attach and Veritas Support sections for current listings of PowerPath, VxVM and VxFS support for Clariion storage arrays.
28. Minimum PowerPath 3.0.2 is supported
29. Requires minimum PSSP 3.4 APAR IY33448
30. See http://www.rs6000.ibm.com/resource/hardware_docs/sa38-0538/380538.pdf for appropriate HBA placement guidelines
31. Requires minimum HBA firmware 3.22A1
32. Requires minimum ODM fileset support (5.0.0.0 EMC Symmetrix Fibre Channel support software).
33. Requires adapter firmware 3.22A1, CLArraryS3.5.1 fileset support. Supports FC4700 with minimum flare code 8.46.xx.
34. IBM 6227 and IBM 6228 adapters are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server. 6227 Filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f7.rte ; 6228 Filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f9.diag, devices.pci.df1000f9.rte
35. Requires minimum PSSP APAR IY38509
36. Requires minimum AIX5.1 with maintenance level 03 APAR IY32749
37. AIX 5.1 supported with 32/64 bit kernel
38. AIX 5.1 32/64 bit Kernel supported. Requires minimum EMC ODM fileset support 5.0.0.0
39. Requires minimum HBA firmware 3.82A1

Microsoft Windows 2000

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.
DG

DG – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	AViiON: AV1400, AV2800, AV3800	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6, 7]	HA: 2	QLogic QLA2200F-EMC	FC-AL
2	AViiON: AV1400, AV2800, AV3800	Microsoft Windows 2000 Advanced Server: SP2[5], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[1, 2, 3]	HA: 4	QLogic QLA2200F-EMC	FC-AL
3	AViiON: AV1400, AV2800, AV3800	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6, 7]	HA: 2	Emulex: LP8000-EMC[4], LP850-EMC; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
4	AViiON: AV1400, AV2800, AV3800	Microsoft Windows 2000 Advanced Server: SP2[5], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[1, 2, 3]	HA: 4	Emulex: LP8000-EMC[4], LP850-EMC; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24, 5568.58.12 or 5x69
2. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
3. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
7. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.

Dell

Dell – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	**PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[7], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**		
2	**PowerEdge 8450**	**Microsoft Windows 2000 Datacenter: SP2[3], SP3[3]**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP**		
3	PowerVault: 750N, 755N	Microsoft Windows 2000 Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		
4	PowerEdge: 6300, 6350	Microsoft Windows 2000 Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP9802-E, LP9802DC-E		
5	PowerVault: 770N, 775N	Microsoft Windows 2000 Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP9802-E, LP9802DC-E; QLogic QLA2200F-EMC		
6	PowerEdge 2600	Microsoft Windows 2000 Advanced Server SP2[3]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[4, 5, 6] Veritas Cluster Server (VCS) 2.0[11]	HA: 4	QLogic QLA2200F-EMC	FC-AL	
7	PowerEdge 1550	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4. Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	QLogic QLA2200F-EMC	FC-AL	
8	PowerEdge 1550	Microsoft Windows 2000 Advanced Server SP2[3] SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[4, 5, 6] Veritas Cluster Server (VCS) 2.0[11]	HA: 4	QLogic QLA2200F-EMC	FC-AL	
9	PowerEdge 2600	Microsoft Windows 2000: Advanced Server SP2[3], Server SP4	Microsoft MSCS[1, 2]	HA: 2	QLogic QLA2200F-EMC	FC-AL	
10	PowerEdge 2600	Microsoft Windows 2000 Advanced Server SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[4, 5, 6] Veritas Cluster Server (VCS) 2.0[11]	HA: 4	QLogic QLA2200F-EMC	FC-AL, FC-SW	
11	PowerVault: 750N, 755N	Microsoft Windows 2000 Advanced Server SP2[3], SP3[3] SP4 Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	

Dell – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
12	PowerEdge: 6300, 6350	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP9802-E, LP9802DC-E	FC-AL, FC-SW	
13	PowerVault: 770N, 775N	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4. Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP9802-E, LP9802DC-E; QLogic QLA2200F-EMC	FC-AL, FC-SW	
14	**PowerEdge 8450**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[7], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
15	**PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[7], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
16	**PowerEdge 8450**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP**	FC-AL, FC-SW	
17	PowerEdge: 1650, 1750, 2400, 2450, 2500, 2550[8], 4400, 4600, 6400, 6450, 6600, 6650, 8450	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
18	PowerEdge: 1550, 2600	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
19	PowerEdge: 6300, 6350	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
20	PowerEdge: 2300, 6100	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP8000-EMC[7], LP850-EMC: QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
21	PowerVault: 770N, 775N	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP982-E, QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
22	PowerEdge 2650	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP QLA2342-E-SP	FC-AL, FC-SW	
23	PowerEdge: 1650, 1750, 2400, 2450, 2500, 2550[8], 4400, 4600, 6300, 6350, 6400, 6450, 6600, 6650, 8450. PowerVault: 750N, 755N, 770N, 775N	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[4, 5, 6]	HA: 4	Emulex: LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E. QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP QLA2342-E-SP	FC-AL, FC-SW	
24	PowerEdge: 1550, 2600	Microsoft Windows 2000 Advanced Server: SP2[3] SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[4, 5, 6]; Veritas Cluster Server (VCS) 2.0[11]	HA: 4	Emulex: LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
25	PowerEdge: 2300, 6100	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[4, 5, 6]; Veritas Cluster Server (VCS) 2.0[11]	HA: 4	Emulex: LP8000-EMC[7], LP850-EMC QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP QLA2342-E-SP	FC-AL, FC-SW	
26	PowerEdge 2650	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[4, 5, 6]; Veritas Cluster Server (VCS) 2.0[11]	HA: 4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E LP9802DC-E, LP982-E. QLogic: QLA2200F-EMC, QLA2310F-E-SP QLA2340-E-SP QLA2342-E-SP	FC-AL, FC-SW	
27	PowerEdge: 1650, 1750, 2600 2650, 4600, 6450, 6600, 6650	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Oracle 9i RAC 9.2.0.1.0[10]	RAC: 8	QLogic: QLA2310F-E-SP QLA2340-E-SP, QLA2342-E-SP		See[9]

Dell – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
28	PowerEdge: 1650, 1750, 2400, 2450, 2500, 2550[8], 4400, 4600, 6300, 6350, 6400, 6450, 6600, 6650, 8450	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Veritas Cluster Server (VCS) 2.0[11]	HA: 4	Emulex: LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E: QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
29	PowerVault: 750N, 755N, 770N, 775N	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Veritas Cluster Server (VCS) 2.0[11]	HA: 4	Emulex: LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
30	PowerEdge 2600	Microsoft Windows 2000 Advanced Server: SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[1, 2]	HA: 2	QLogic QLA2200F-EMC	FC-AL, FC-SW	
31	PowerEdge 8450	Microsoft Windows 2000: Advanced Server SP3[3], Datacenter SP2[3], Datacenter SP3[3], Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 4	Emulex LP8000-EMC[7]; QLogic QLA2340-E-SP	FC-AL, FC-SW	

1. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
2. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
5. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
6. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24, 5568.58.12 or 5x69
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
8. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
9. Symmetrix 8000 Series only.
10. Oracle Cluster File System not supported for 9i RAC 9.2.0.1.0
. VxVm not supported. PowerPath 3.0 supported.
11. GAB disks (membership and service group heartbeat disks) are not supported.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**Primergy N800**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP**	
2	**Primergy: B210, C200, E200, F200, H200, H250[8], H400, K400, L200, N200, N400, P200, P250, R450**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
3	**Primergy N800**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4,** **Microsoft Windows 2000 Server: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	
4	**Primergy: B210, C200, E200, F200, F250[8], H200, H250[8], H400, H450, K400, L200, N200, N400, P200, P250, R450, T850**	**Microsoft Windows 2000 Datacenter: SP2[5], SP3[5]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E**	
5	**Primergy: F250[8], H450, T850**	**Microsoft Windows 2000 Datacenter: SP2[5], SP3[5];** **Microsoft Windows 2000 Server SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	
6	Primergy: F250[8], H450, T850	Microsoft Windows 2000 Server SP4	Microsoft MSCS[6, 7]	HA: 2	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	
7	**Primergy: F250[8], H450, T850**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
8	Primergy: F250[8], H450, T850	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4, Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[6, 7]	HA: 2	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
9	**Primergy N800**	**Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4;** **Microsoft Windows 2000 Datacenter: SP2[5], SP3[5], SP4,** **Microsoft Windows 2000 Server SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E**	FC-AL, FC-SW
10	Primergy B210 C200 E200 F200 F250[8] H200 H250[8] H400 H450 K400 L200 N200 N400 P200 P250 R450 T850	Microsoft Windows 2000 Advanced Server SP2[5] SP3[5] SP4 Microsoft Windows 2000 Datacenter SP4, Server SP2[5] Server SP3[5], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL

Fujitsu Siemens – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
11	Primergy: H450[9], T850[9]	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6, 7]	HA: 2	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E)	FC-AL, FC-SW
12	Primergy: B210[9], C200[9], E200[9], F200[9], F250[8, 9], H250[8, 9], H400[9], K400[9], L200[9], N200[9], N400[9], N800[9], P200[9], P250[9], R450[9], RX100	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6, 7]	HA: 2	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW
13	Primergy: H450, RX200, RX300, T850, TX200, TX300	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6, 7]	HA: 2	Emulex: LP850-EMC, LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW
14	Primergy F250[8]	Microsoft Windows 2000 Advanced Server: SP2[5], SP3[5], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[6, 7]	HA: 2	Emulex: LP850-EMC, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW
15	Primergy: F250[8], H450, T850	Microsoft Windows 2000 Advanced Server: SP2[5], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[2, 3, 4]	HA: 4	Emulex: LP8000-EMC[1], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
16	Primergy: B210, C200, E200, F200, H250[8], H400, K400, L200, N200, N400, N800, P200, P250, R450, RX100	Microsoft Windows 2000 Advanced Server: SP2[5], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[2, 3, 4]	HA: 4	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW
7	Primergy: RX200, RX300, TX200, TX300	Microsoft Windows 2000 Advanced Server, SP2[5], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[2, 3, 4]; Veritas Cluster Server (VCS) 2.0[10]	HA: 4	Emulex: LP850-EMC, LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW
18	Primergy: B210[9], C200[9], E200[9], F200[9], F250[8, 9], H250[8, 9], H400[9], H450[9], K400[9], L200[9], N200[9], N400[9], N800[9], P200[9], P250[9], R450[9], RX100, T850[9]	Microsoft Windows 2000 Advanced Server: SP2[5], SP4	Veritas Cluster Server (VCS) 2.0[10]	HA: 4	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW
19	Primergy: F250[8], H450, T850	Microsoft Windows 2000 Advanced Server: SP2[5], SP4	Veritas Cluster Server (VCS) 2.0[10]	HA: 4	Emulex: LP850-EMC, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
20	**Primergy N800**	**Microsoft Windows 2000 Datacenter: SP2[5], SP3[5], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
21	Primergy N800	Microsoft Windows 2000: Advanced Server SP3[5], Datacenter SP2[5], Datacenter SP3[5], Datacenter SP4, Server SP4	Microsoft MSCS[6, 7]	HA: 4	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E)[5], LP9002DC-E	FC-AL, FC-SW
22	Primergy: RX200, RX300, TX200, TX300	Microsoft Windows 2000: Advanced Server SP3[5], Datacenter SP2[5], Datacenter SP3[5], Datacenter SP4, Server SP4	Microsoft MSCS[6, 7]	HA: 4	Emulex: LP850-EMC, LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
3. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
4. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24, 5568.58.12 or 5x69
5. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
6. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
7. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
8. Must use standard PCI 32bit/33MHz slot for SCSI
9. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
10. GAB disks (membership and service group heartbeat disks) are not supported.

HPQ

HPQ – Microsoft Windows 2000							
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	**Proliant**: BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), DL380[7], DL380(G2)[7], DL380(G3), DL560, DL580[7], DL580(G2)[7], DL580(G3), DL740, DL760[7], DL760 (G2), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), ML370(G3), ML530[7], ML530(G2)[7], ML570[7], ML570(G2), ML750[7]	**Microsoft Windows 2000 Advanced Server: SP2[3] SP3[3] SP4,** **Microsoft Windows 2000 Datacenter: SP2[3] SP3[3], SP4** **Microsoft Windows 2000 Server, SP2[3], SP3[3] SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)**		
2	**Proliant 8500**	**Microsoft Windows 2000 Datacenter SP3[3]**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E**		
3	Proliant: BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), DL380[7], DL380(G2)[7], DL560, DL580[7], DL580(G2)[7], DL580(G3), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), ML370(G3), ML530[7], ML530(G2)[7], ML570[7], ML570(G2), ML750[7]	Microsoft Windows 2000 Datacenter: SP2[3] SP3[3]	Microsoft MSCS	HA: 4	Emulex, LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		
4	Proliant 8500	Microsoft Windows 2000 Datacenter: SP2[3] SP3[3]	Microsoft MSCS	HA: 4	QLogic QLA2310F-E-SP		
5	**Proliant 8500**	Microsoft Windows 2000 Datacenter: SP2[3] SP3[3] SP4	Microsoft MSCS	HA: 4	HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)		

HPQ – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
6	Proliant 8000 Pro[7, 11]	Microsoft Windows 2000 Server SP4	Microsoft MSCS[1, 2]	HA: 2	QLogic QLA2200F-EMC		
7	Proliant: 8500, BL40p, DL360[7], **DL380[7]**, DL560, DL580[7], DL740, DL760[7], DL760 (G2)	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP[17, 18], QLA2340-E-SP[17, 18], QLA2342-E-SP[17, 18]	FC-AL, FC-SW	
8	Proliant BL20p (G2)[21, 22]	Microsoft Windows 2000 Advanced Server SP4	Oracle 9i RAC 9.2.0.1.0	RAC: 8	HPQ Dual-port mezzanine controller card[19, 20]	FC-AL, FC-SW	
9	Proliant: ML370(G2), **ML370(G3)**	Microsoft Windows 2000 Advanced Server: SP2[3, 12], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP8000-EMC[8], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[11]
10	Proliant: ML370(G2), **ML370(G3)**	Microsoft Windows 2000 Advanced Server: SP2[3, 12], SP4	Veritas Cluster Server (VCS) 2.0[23]	HA: 4	Emulex: LP8000-EMC[8], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	See[11]
11	Proliant 8000 Pro[7, 11]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[1, 2]	HA: 2	QLogic QLA2200F-EMC	FC-AL, FC-SW	
12	**Proliant: DL380(G3), DL740, DL760[7], DL760 (G2)**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
13	**Proliant 8500**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E, LP982-E;** **QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
14	**Proliant BL20p (G2)[21, 22]**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ Dual-port mezzanine controller card[19, 20]**	FC-AL, FC-SW	
15	**Proliant 8500**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter: SP2[3], SP4;** **Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E**	FC-AL, FC-SW	
16	**Proliant: BL40p, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), DL380[7], DL380(G2)[7], DL560, DL580[7], DL580(G2)[7], DL580(G3), ML350[7], ML350(G2)[7], ML370[7], ML370(G2), ML370(G3), ML530[7], ML530(G2)[7], ML570[7], ML570(G2), ML750[7]**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4,** **Microsoft Windows 2000: Datacenter SP4, Server SP2[3], Server SP3[3], Server SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E.** **QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
17	**Proliant 8500**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4;** **Microsoft Windows 2000 Datacenter SP4, Server SP2[3], Server SP3[3] Server SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP**	FC-AL, FC-SW	
18	Proliant DL580(G2)[7]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP8000-EMC[8], LP850-EMC	FC-AL, FC-SW	

HPQ – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
19	Proliant: 8500[7, 11], DL320[7, 11], DL360[7, 11] DL360(G2)[7, 11], DL360(G3), **DL380[7, 11], DL380(G2)[7, 11] DL380(G3)**, DL560, DL580[7, 11], **DL580(G3)**, DL740, DL760[7, 11] DL760 (G2), ML350[7, 11], ML370[7, 11], ML53[7, 11], ML530(G2)[7, 11], ML570[7, 11], ML570(G2)[11], ML750[9, 11]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP8000-EMC[8], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
20	Proliant: 3000[7, 11], 7000[7, 10, 11]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP8000-EMC[8], LP850-EMC; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
21	Proliant 8000 Pro[7, 11]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP8000-EMC[8], LP850-EMC: QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
22	Proliant BL40p	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
23	Netserver LC, 2000 U3, 2000r[15], Netserver LH, 3000, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA, 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW	See[11]
24	Proliant DL580(G2)[7, 11]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
25	Proliant BL20p (G2)[21, 22]	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	HPQ Dual-port mezzanine controller card[19, 20]	FC-AL, FC-SW	
26	Netserver LC: 2000 U3, 2000r[15], Netserver LH: 3000, 4, 6000; Netserver: LP 2000r, LT 6000R, LXR 8000, LXR 8500	Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4, Microsoft Windows 2000. Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 2	HPQ: D8602A (Agilent HHBA-5101B)[3, 16], D8602B (Agilent HHBA-5101C)[3, 13, 14]	FC-AL, FC-SW	
27	**Proliant DL380(G3)**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP4**	**Legato Automated Availability Manager (LAAM) 5.0 (Base)[4, 5]**	HA: 4	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
28	Proliant: 8500, DL320[7], DL360[7], DL360(G2)[7], DL360(G3), **DL380[7], DL380(G2)[7], DL380(G3)**, DL560, DL580[7], DL580(G2)[7] **DL580(G3)**, DL740, DL760[7], DL760 (G2), ML350[7], ML370[7], ML370(G2), ML370(G3) ML530[7] ML530(G2)[7], ML570[7], ML570(G2)[11], ML750[9]	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[4, 5, 6]	HA: 4	Emulex: LP8000-EMC[8], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC QLA2310F-E-SP QLA2340-E-SP QLA2342-E-SP	FC-AL, FC-SW	
29	Proliant, 3000[7] 6500[7, 10], 7000[7, 10], 8000[7, 10]	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[4, 5, 6]	HA, 4	Emulex: LP8000-EMC[8], LP850-EMC; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
30	Proliant BL40p	Microsoft Windows 2000 Advanced Server, SP2[3] SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[4, 5, 6], Veritas Cluster Server (VCS) 2.0[23]	HA: 4	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
31	Proliant BL20p (G2)[21, 22]	Microsoft Windows 2000 Advanced Server, SP2[3] SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[4, 5, 6] Veritas Cluster Server (VCS) 2.0[23]	HA, 4	HPQ Dual-port mezzanine controller card[19, 20]	FC-AL, FC-SW	

HPQ – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
32	Proliant DL580(G2)[7]	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Veritas Cluster Server (VCS) 2.0[23]	HA: 4	Emulex: LP8000-EMC[8], LP850-EMC	FC-AL, FC-SW	
33	Proliant: 8500[7, 11], DL320[7, 11], DL360[7, 11], DL360(G2)[7, 11], DL360(G3), **DL380[7, 11], DL380(G2)[7, 11], DL380(G3)**, DL560, DL580[7, 11], **DL580(G3)**, DL740, DL760[7, 11], DL760 (G2), ML350[7, 11], ML370[7, 11], ML530[7, 11], ML530(G2)[7, 11], ML570[7, 11], ML570(G2)[11], ML750[9, 11]	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Veritas Cluster Server (VCS) 2.0[23]	HA: 4	Emulex: LP8000-EMC[8], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
34	Proliant: 3000[7, 11], 7000[7, 10, 11], 8000 Pro[7, 11]	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Veritas Cluster Server (VCS) 2.0[23]	HA: 4	Emulex: LP8000-EMC[8], LP850-EMC: QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
35	Proliant DL580(G2)[7, 11]	Microsoft Windows 2000 Advanced Server: SP2[3], SP4	Veritas Cluster Server (VCS) 2.0[23]	HA: 4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
36	Proliant 8500	Microsoft Windows 2000: Advanced Server SP3[3], Datacenter SP2[3], Datacenter SP3[3], Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 4	Emulex: LP8000-EMC[8], LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW	
37	Proliant: DL740, DL760[7], DL760 (G2)	Microsoft Windows 2000: Advanced Server SP3[3], Datacenter SP2[3], Datacenter SP3[3], Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 4	Emulex: LP9002-E (LP9002L-E), LP9002DC-E; QLogic QLA2310F-E-SP	FC-AL, FC-SW	
38	Netserver LXR 8500	Microsoft Windows 2000: Advanced Server SP3[3], Datacenter SP2[3], Datacenter SP3[3], Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 4	HPQ D8602B (Agilent HHBA-5101C)[3, 14]	FC-AL, FC-SW	
39	Proliant BL20p (G2)[21, 22]	Microsoft Windows 2000: Advanced Server SP3[3], Datacenter SP2[3], Datacenter SP3[3], Datacenter SP4, Server SP4	Microsoft MSCS[1, 2]	HA: 4	HPQ Dual-port mezzanine controller card[19, 20]	FC-AL, FC-SW	
40	**Proliant 8500**	**Microsoft Windows 2000 Advanced Server: SP2[3], SP3[3], SP4; Microsoft Windows 2000 Server: SP2[3], SP3[3], SP4**	**Microsoft MSCS**	**HA: 4**	**HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC)**	**FC-SW**	

1. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
2. Best Practice configurations recommendations for MSCS Clusters are. Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24, 5568.58.12 or 5x69
5. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
6. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
7. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
8. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
9. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported
10. Includes both Pentium PRO and XEON models
11. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
12. Symmetrix 8000 Series: 66/67 support at Windows 2000 SP1, SP2 and SP3 5568 support at Windows 2000 SP1, SP2 and SP3.
13. Requires driver version 2.0.25.44 available at http://h20004.www2.hp.com/keeper_rnotes/bsdmatrix/matrix213991.html
14. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC HP part number D6975A, must be ordered separately from HP.
15. HP NetServer LC2000 is only supported with two processors Uni-Processor configurations are not supported
16. (HHBA-5101BK-01)
17. Requires QLogic driver v6.04.02 and BIOS v1.34.
18. If no firmware/BIOS/driver is specified, refer to Base Connectivity information for minimum revision details.
19. Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
20. Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to. http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
21. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
22. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings
23. GAB disks (membership and service group heartbeat disks) are not supported

IBM

IBM – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	xSeries x370	Microsoft Windows 2000 Datacenter SP3[1]	Microsoft MSCS	HA: 4	Emulex: LP9802-E, LP9802DC-E		
2	xSeries x235 x345	Microsoft Windows 2000 Datacenter SP2[1] SP3[1]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E LP9802-E, LP9802DC-E, LP982-E. IBM 19K1246(QLA2310)[6] QLogic: QLA2310F-E-SP QLA2340-E-SP QLA2342-E-SP		

IBM – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
3	xSeries: X342, x360	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]		
4	xSeries: X330, X335, X340 (4500R), x230, x232, x240, x250, x350 (6000R)	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP		
5	xSeries x255	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Microsoft MSCS	HA: 4	IBM 24P0960(QLA2340)[5]		
6	xSeries x370	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Microsoft MSCS	HA: 4	QLogic QLA2310F-E-SP		
7	xSeries: x235, x345, x360, x440, x445	Microsoft Windows 2000 Server SP4	Microsoft MSCS[11, 12]	HA: 2	QLogic QLA2200F-EMC		
8	xSeries: x235, x345, x360, x440, x445	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[11, 12]	HA: 2	QLogic QLA2200F-EMC	FC-AL, FC-SW	
9	xSeries x255	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM 19K1246(QLA2310)[6]; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
10	xSeries: x440, x445	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
11	xSeries x370	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP982-E; IBM: 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
12	xSeries: x235, x345	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Microsoft MSCS	HA: 4	IBM 24P0960(QLA2340)[5]	FC-AL, FC-SW	
13	xSeries: X342, x360	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Microsoft MSCS	HA: 4	QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
14	xSeries x370	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4, Microsoft Windows 2000 Datacenter: SP2[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Microsoft MSCS	HA: 4	Emulex: LP9802-E, LP9802DC-E	FC-AL, FC-SW	
15	xSeries x235, x345	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E LP9802-E, LP9802DC-E LP982-E; IBM 19K1246(QLA2310)[6], QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
16	xSeries: X342, x360	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4, Microsoft Windows 2000, Datacenter SP4, Server SP2[1] Server SP3[1], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E LP9802-E, LP9802DC-E, LP982-E. IBM: 19K1246(QLA2310)[6] 24P0960(QLA2340)[5]	FC-AL, FC-SW	
17	xSeries: X330, X335, X340 (4500R), x230, x232, x240, x250, x350 (6000R)	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[9], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM 19K1246(QLA2310)[6] 24P0960(QLA2340)[5]; QLogic: QLA2310F-E-SP QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
18	xSeries x255	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4 Microsoft Windows 2000 Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Microsoft MSCS	HA: 4	IBM 24P0960(QLA2340)[5]	FC-AL, FC-SW	

IBM – Microsoft Windows 2000							
No.	**Host System**	**Operating System**	**Cluster Software**	**Max # Nodes**	**Host Bus Adapter**	**Adapter Type**	**Comments**
19	**xSeries x370**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP**	FC-AL, FC-SW	
20	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[7], 7100	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[11, 12]	HA: 2	Emulex: LP8000-EMC[9], LP850-EMC; IBM: 00N6881 (QLA2200)[8], 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
21	Netfinity: 5600, 7600; xSeries: X330, X335, X340 (4500R), X342, x230, x240, x250, x350 (6000R)	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[11, 12]	HA: 2	Emulex: LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 00N6881 (QLA2200)[8], 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
22	Netfinity 8500R; **xSeries x255**	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[11, 12]	HA: 2	Emulex: LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 00N6881 (QLA2200)[8], 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
23	xSeries: x235, **x345**, **x360**, x440, **x445**	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[11, 12]	HA: 2	Emulex: LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 00N6881 (QLA2200)[8], 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
24	xSeries x370	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[11, 12]	HA: 2	Emulex: LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
25	xSeries x370[13]	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[11, 12]	HA: 2	IBM 00N6881 (QLA2200)[8]	FC-AL, FC-SW	
26	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[7], 7100	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[2, 3, 4]	HA: 4	Emulex: LP8000-EMC[9], LP850-EMC; IBM: 00N6881 (QLA2200)[8], 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
27	Netfinity: 5600, 7600, xSeries: X330, X335, X340 (4500R) X342, x230, x235, x240, x250, **x345** x350 (6000R), **x360** x370, x440 **x445**	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[2, 3, 4]	HA: 4	Emulex: LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 00N6881 (QLA2200)[8], 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
28	Netfinity 8500R; **xSeries x255**	Microsoft Windows 2000 Advanced Server: SP2[1] SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[2, 3, 4]	HA: 4	Emulex: LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E LP9802-E LP9802DC-E, LP982-E, IBM: 00N6881 (QLA2200)[8] 19K1246(QLA2310)[6] 24P0960(QLA2340)[5], QLogic: QLA2200F-EMC, QLA2340-E-SP QLA2342-E-SP	FC-AL, FC-SW	
29	xSeries: X330[13] X335 X340 (4500R)[13]	Microsoft Windows 2000 Advanced Server: SP2[1] SP4	Legato LAAM (Legato Cluster) 4.7	HA: 2	Emulex: LP8000-EMC[9] LP850-EMC; IBM 00N6881 (QLA2200)[8] 19K1246(QLA2310)[6] 24P0960(QLA2340)[5]	FC-AL FC-SW	
30	xSeries: X330[13] X335 X340 (4500R)[13] x440[13] **x445**	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Legato LAAM (Legato Cluster) 4.8	HA: 2	Emulex LP8000-EMC[9] LP850-EMC; IBM 00N6881 (QLA2200)[8] 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]	FC-AL FC-SW	

IBM – Microsoft Windows 2000							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
31	xSeries: X330[13], X335, X340 (4500R)[13], x440[13], **x445**	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Legato LAAM (Legato Cluster) 4.8.1		Emulex: LP8000-EMC[9], LP850-EMC; IBM: 00N6881 (QLA2200)[8], 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]	FC-AL, FC-SW	
32	xSeries x370	Microsoft Windows 2000 Advanced Server, SP2[1], SP4	Oracle 9i RAC 9.2.0.1.0[15, 16]	RAC: 8	IBM: 00N6881 (QLA2200)[8], 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]	FC-AL, FC-SW	See[14]
33	xSeries x370	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Oracle 9i RAC 9.2.0.1.0[16]	RAC: 8	QLogic QLA2200F-EMC	FC-AL, FC-SW	See[14]
34	xSeries: X330, X335, X340 (4500R), X342, x230, x235, x240, x250, **x345**, x350 (6000R), **x360**, x440, **x445**	Microsoft Windows 2000 Advanced Server, SP2[1], SP4	Veritas Cluster Server (VCS) 2.0[17]	HA: 4	Emulex: LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 00N6881 (QLA2200)[8], 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
35	**xSeries x255**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP4**	**Veritas Cluster Server (VCS) 2.0[17]**	HA: 4	**Emulex: LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E;** **IBM: 00N6881 (QLA2200)[8], 19K1246(QLA2310)[6], 24P0960(QLA2340)[5];** **QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW	
36	xSeries x370	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Veritas Cluster Server (VCS) 2.0[17]	HA: 4	Emulex: LP8000-EMC[9], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW	
37	xSeries x370[13]	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Veritas Cluster Server (VCS) 2.0[17]	HA: 4	IBM 00N6881 (QLA2200)[8]	FC-AL, FC-SW	
38	**xSeries x255**	**Microsoft Windows 2000 Datacenter: SP2[1], SP3[1];** **Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP**	FC-AL, FC-SW	
39	Netfinity 8500R; **xSeries x255**	Microsoft Windows 2000 Server SP4	Microsoft MSCS[11, 12]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
40	Netfinity 8500R; xSeries: x370, x440, **x445**	Microsoft Windows 2000: Advanced Server SP3[1], Datacenter SP2[1], Datacenter SP3[1], Datacenter SP4, Server SP4	Microsoft MSCS[11, 12]	HA: 4	IBM: 00N6881 (QLA2200)[8], 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]	FC-AL, FC-SW	
41	**xSeries x255**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4,** **Microsoft Windows 2000 Datacenter SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP**	FC-AL[10] FC-SW	
42	Netfinity 8500R; **xSeries x255**	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[11, 12]	HA: 2	QLogic QLA2310F-E-SP	FC-AL[10] FC-SW	
43	Netfinity 8500R; **xSeries x255**	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	Legato Automated Availability Manager (LAAM) 5.0 (Base)[2, 3, 4]	HA: 4	QLogic QLA2310F-E-SP	FC-AL[10] FC-SW	
44	**xSeries x255**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP4**	**Veritas Cluster Server (VCS) 2.0[17]**	HA: 4	**QLogic QLA2310F-E-SP**	FC-AL[10] FC-SW	
45	**eServer BladeCenter HS20 (Model 8678)[13, 18]**	**Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4** **Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4.** **Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4**	**Microsoft MSCS[11, 12, 19]**	HA: 4	**IBM HS20 FC Expansion card 48P7061[20]**	**FC-SW**	

1 EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46 24 or 5568.58 12
3 LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26 19s.
4 LAAM (Legato C uster) with SRDF integration requires minimum microcode level 5567 46.24, 5568 58 12 or 5x69
5 This HBA is equivalent to the qLogic QLA2340
6 This HBA is equivalent to the qLogic QLA2310
7. This server only supports 5 Volt HBAs qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable)
8 (QLA2200) For IBM xSeries and Netfinity servers only
9 The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
10 Supported by direct attach only
11. Best Practice configurations recommendations for MSCS Clusters are Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other use ESN Manager with Single HBA Zoning to provide additional LUN access control
12 MSCS multi cluster configurations supported If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN [illegible] minimum microcode: 5267 39 5567 46, 5568 39
13 Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http www microsoft com hwtest/hcl)
14 Symmetrix 8000 Series only
15 Oracle Cluster F le System not supported for 9i RAC 9.2 0 1 0
VxVM not supported
PowerPath 3 0 supported
16 Oracle Cluster F le System not supported for 9i RAC 9.2 0 1 0
VxVm not supported. PowerPath 3.0 supported
17 GAB disks (membership and service group heartbeat disks) are not supported

18. EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.
19. Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.
20. When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"

    This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.

NCR

NCR – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Worldmark: 4500, 45xx, 4700, 4850, 4900, 4950, 5100 Series, 5150, 5250, 5300, 5350, 8550	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E, QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	
2	Worldmark: 47XX, 48XX, 52XX, S50	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E: QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	
3	Worldmark: 47XX, 48XX, 52XX, S50	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[2], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

NEC

NEC – Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Express 5800: 120Rd-1, 120Rf-2, 140Hd, 140Rc-4	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Server: SP2[1], SP3[1], SP4	Microsoft MSCS	HA: 4	Emulex: LP9802-E, LP9802DC-E: QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	
2	Express 5800: 320La[3], 320La-R[3], 320Lb[3], 320Lb-R[3], 330Ma-R[3], 330Mb-R[3], 340Ha-R[3]	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	NEC Cluster-Pro V6.0	HA: 2	Emulex LP850-EMC; NEC: N8190-105[2], N8503-200, N8803-031 (QLA2310F)	
3	Express 5800 180Rc-4	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	
4	Express 5800: 120Rd-1, 120Rf-2, 140Hd, 140Rc-4	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP982-E	
5	Express 5800 180Rc-4	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
6	Express 5800: 120Rd-1, 120Rf-2, 140Hd, 140Rc-4	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP982-E	FC-AL, FC-SW
7	Express 5800: 120Md, 120Ra-2, 120Rc-2, 120Rd-1, 120Rd-2, 120Rf-2, 140Ha, 140Hb, 140Hd, 140Ma, 140Ra-4, 140Ra-7, 140Rb-4, 140Rc-4, 180Ha, 180Rb-7, 180Rc-4	Microsoft Windows 2000 Advanced Server: SP2[1], SP4	NEC Cluster-Pro V6.0	HA: 2	Emulex LP850-EMC; NEC: N8190-105[2], N8503-200	FC-AL, FC-SW
8	Express 5800 180Rc-4	Microsoft Windows 2000 Server SP2[1], SP3[1], SP4	Microsoft MSCS	HA: 4	QLogic QLA2310F-E-SP	FC-SW
9	Express 5800 180Rc-4	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4, Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS	HA: 4	QLogic QLA2310F-E-SP	FC-AL, FC-SW

1 EMC strongly recommends that HBAs of different vendors not be used in the same host server

2. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.
3. **Bus Enumeration Issue Causes Problems using SYMCLI SCSI bus enumeration of disks will change depending on cold boot or warm boot. This causes symcli commands to fail because the path is changed and SYMCLI can no longer communicate with the Symmetrix.**

   By "shutdown" and booting system, internal disks are assigned first, followed by Symmetrix disks.
   By "restart" the system, Symmetrix disks are assigned first, followed by internal disks. Drive letter are not changed in both cases.
   The workaround is to perform "symcfg discover" after rebooting.
4. **The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.**
5. Supported by direct attach only

Unisys

Unisys - Microsoft Windows 2000						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**ES7000/100; ES7000/200; ES7000/230; ES7000/500**	**Microsoft Windows 2000 Advanced Server: SP2[4] SP3[4] SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4 Microsoft Windows 2000 Server, SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic QLA2310F-E-SP**	
2	**ES7000/100; ES7000/200**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E; QLogic: QLA2340-E-SP, QLA2342-E-SP**	
3	**ES7000/230; ES7000/500**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Server, SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	
4	ES2025[5]	Microsoft Windows 2000 Server SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[4], FCH20113-P64 (LP8000-EMC, LP8000-F1)[4]	
5	ES2024[5]; ES2043[5]; ES2045[5]; ES2085[5]; ES5024[5]; ES5043[5]; ES5044[5]; ES5045[5]; ES5085[5]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[4], FCH20113-P64 (LP8000-EMC, LP8000-F1)[4]	FC-AL
6	ES2025[5]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[4], FCH20113-P64 (LP8000-EMC, LP8000-F1)[4]	FC-AL, FC-SW
7	**ES7000/230; ES7000/500**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4] SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4, Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E**	FC-AL, FC-SW
8	**ES7000/100; ES7000/200**	**Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Server: SP2[4], SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E, LP982-E**	FC-AL, FC-SW
9	ES7000/500; ES7000/520; ES7000/530; ES7000/540	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4; Microsoft Windows 2000 Datacenter SP4, Server SP2[4], Server SP3[4] Server SP4	Microsoft MSCS	HA: 2	Unisys FCH732213-P64 (LP9002L-F2)	FC-AL, FC-SW
10	ES7000/100[5], ES7000/200[5]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4, Microsoft Windows 2000 Datacenter SP4, Server SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW
11	ES7000/500	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[4], FCH20113-P64 (LP8000-EMC, LP8000-F1)[4]	FC-AL, FC-SW
12	ES7000/230[5]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[4], FCH20113-P64 (LP8000-EMC, LP8000-F1)[4], FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW
13	**ES7000/100, ES7000/200**	**Microsoft Windows 2000 Datacenter: SP2[4] SP3[4], SP4**	**Microsoft MSCS**	**HA: 4**	**Emulex: LP9802-E, LP9802DC-E, QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
14	**ES7000/230 ES7000/500**	**Microsoft Windows 2000 Datacenter, SP2[4], SP3[4] SP4**	**Microsoft MSCS**	**HA: 4**	**QLogic, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
15	ES7000/100, ES7000/200, ES7000/230, ES7000/500	Microsoft Windows 2000 Advanced Server SP3[4], Datacenter SP2[4], Datacenter SP3[4], Datacenter SP4 Server SP4	Microsoft MSCS[2, 3]	HA: 4	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E, Unisys FCH732213-P64 (LP9002L-F2)[4]	FC-AL, FC-SW
16	ES7000/100[5], ES7000/200[5]	Microsoft Windows 2000 Advanced Server: SP2[4], SP3[4] SP4 Microsoft Windows 2000 Datacenter SP4, Server SP4	Microsoft MSCS[2, 3]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[4], FCH20113-P64 (LP8000-EMC, LP8000-F1)[4]	FC-AL[6] FC-SW

1 The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2 MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
3 Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control
4 EMC strongly recommends that HBAs of different vendors not be used in the same host server
5 Refer to Microsoft HCL for updated Windows 2000 SCSI clusters: http://www.microsoft.com/hwtest/hcl/
6 Supported by direct attach only

Microsoft Windows 2003

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.

3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Dell

Dell – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	PowerEdge: 2600, 2650, 4600, 6400, 6450, 6600, 6650, 8450	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Primergy: B210, C200, E200, F200, F250[5], H200, H250[5], H400, H450, K400, L200, N200, N400, N800, P200, P250, R450, T850	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. Must use standard PCI 32bit/33MHz slot for SCSI

HPQ

HPQ – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Proliant: **8500**, BL40p, DL320[5], DL360[5], DL360(G2)[5], DL360(G3), **DL380[5]**, **DL380(G2)[5]**, **DL380(G3)**, DL560, DL580[5], DL580(G2)[5], **DL580(G3)**, DL740, DL760[5], DL760 (G2), ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML570(G2), ML750[5]	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
2	Proliant BL20p (G2)[8, 9]	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	HPQ Dual-port mezzanine controller card[6, 7]	FC-AL, FC-SW
3	Proliant: **8500**, BL40p, DL320[5], DL360[5], DL360(G2)[5], DL360(G3), **DL380[5]**, **DL380(G2)[5]**, **DL380(G3)**, DL560, DL580[5], DL580(G2)[5], **DL580(G3)**, DL740, DL760[5], DL760 (G2), ML350[5], ML350(G2)[5], ML370[5], ML370(G2), ML370(G3), ML530[5], ML530(G2)[5], ML570[5], ML570(G2), ML750[5]	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	HPQ: FCA2354 (LP9002). FCA2355 (LP9002DC)	FC-SW

PowerPath is not supported
EMC strongly recommends that HBAs of different vendors not be used in the same host server
3. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
6 Requires driver 8.2.1.20, and bios 1.34. Supports SNIA HBA API. Driver and BIOS available at http://www.qlogic.com.
7 Requires STORPort driver version 8.2.2.20, and BIOS 1.34. Available at http://www.qlogic.com. This driver requires Microsoft STORPort hotfix Q817789 available from Microsoft. Refer to: http://support.microsoft.com/default.aspx?scid=kb;[LN];817789
8 Booting off of an EMC storage array is not currently supported with the HPQ BL20P
9 BIOS must be obtained from HP at http://h18000 www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.

IBM

IBM – Microsoft Windows 2003						
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	xSeries: X330, X335, X340 (4500R), X342, x230, x232, x235, x240, x250, **x255**, **x345**, x350 (6000R), **x360**, x370, x440, **x445**	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; IBM: 19K1246(QLA2310)[6], 24P0960(QLA2340)[5]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA234[illegible]	FC-AL, FC-SW
2	**eServer BladeCenter HS20 (Model 8678)[11]**	**Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]**	**Microsoft MSCS[7, 8, 9]**	HA: 4	**IBM HS20 FC Expansion card: 48P7061[10]**	[illegible]

1 PowerPath is not supported
2 EMC strongly recommends that HBAs of different vendors not be used in the same host server
3 Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only
4 The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
5 This HBA is equivalent to the qLogic QLA2340

6. This HBA is equivalent to the qLogic QLA2310.
7. **MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.**
8. **Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.**
9. **Microsoft Cluster Server (MSCS) is the native cluster service available with Windows 2000 Advanced Server.**
10. **When flashing HBA bios on the HS20 FC Expansion card, you may receive the error message: "Error erasing flash at I/O address 2600 (this is the second port on the HBA)"**

This is a known issue as the expansion card only has one flashable port. IBM is working to resolve this and this message can be ignored.

11. **EMC VolumeLogix Software required for multiple BladeServers when direct-attached to EMC Symmetrix storage.**

NCR

NCR – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Worldmark: 4500, 45xx, 4700, 47XX, 4850, 48XX, 4900, 4950, 5100 Series, 5150, 5250, 52XX, 5300, 5350, 8550, S50	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

NEC

NEC – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Express 5800: 120Rd-1, 120Rf-2, 140Hd, 140Rc-4, 180Rc-4	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E: QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Unisys

Unisys – Microsoft Windows 2003						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	ES7000/100; ES7000/200; ES7000/230; ES7000/500	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Microsoft MSCS	HA: 4	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

1. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. PowerPath is not supported.
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.

Microsoft Windows NT

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:
1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes.
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.NOTE: Windows NT installation will fail immediately after installing Network Services for hosts that use an Intel Network Interface Card (NIC).

DG

DG – Microsoft Windows NT							
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	AViiON: AV8900, AV8950R	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4]	HA: 2	Emulex LP9002-E (LP9002L-E); QLogic QLA2310F-E-SP	FC-AL, FC-SW	
2	AViiON: AV1400, AV2800, AV3704, AV8600	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
3	AViiON: AV1400, AV2800, AV3704R, AV8600, AV8900, AV8950R	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4]; NCR LifeKeeper Windows NT 1.0[7], 2.0	HA: 2	Emulex: LP8000-EMC[6], LP850-EMC	FC-AL, FC-SW	See[5]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server
2. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node
3. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
4. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
5. HP LXR-PRO6 support has been discontinued
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support
7. V1.0 is only qualified on Windows NT 4.0 SP3

Dell

Dell – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	PowerEdge: 1550, 1650, 1750, 2400, 2450, 2500, 2550[10], 2600, 2650, 4600, 6300, 6350, 6400, 6450, 6600, 6650, 8450	Microsoft Windows NT 4.0 SP6A[3, 4]	Microsoft MSCS[6, 7]	HA: 2	Emulex LP9002-E (LP9002L-E); QLogic QLA2310F-E-SP	FC-AL, FC-SW	
2	PowerEdge: 2300, 6100	Microsoft Windows NT 4.0 SP6A[3, 4]	Microsoft MSCS[6, 7]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
3	PowerEdge: 1550, 1650, 1750, 2300, 2400, 2500, 2550[10], 2600, 6100, 6300, 6350, 6400, 6450, 6600, 6650, 8450	Microsoft Windows NT 4.0 SP6A[3, 4]	Microsoft MSCS[6, 7]; NCR LifeKeeper Windows NT: 1.0[5], 2.0	HA: 2	Emulex: LP8000-EMC[2], LP850-EMC; HPQ: A5246A (Agilent HHBA-5000A)[3], D8602A (Agilent HHBA-5101B)[3, 9], D8602B (Agilent HHBA-5101C)[3, 8]; QLogic QLA2200F-EMC	FC-AL, FC-SW	See[1]
4	PowerEdge 2650	Microsoft Windows NT 4.0 SP6A[3, 4]	Microsoft MSCS[6, 7]; NCR LifeKeeper Windows NT: 1.0[5], 2.0	HA: 2	HPQ: A5246A (Agilent HHBA-5000A)[3], D8602A (Agilent HHBA-5101B)[3, 9], D8602B (Agilent HHBA-5101C)[3, 8]; QLogic QLA2200F-EMC	FC-AL, FC-SW	See[1]

1. HP LXR-PRO8 support has been discontinued.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
4. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
5. V1.0 is only qualified on Windows NT 4.0 SP3.
6. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
7. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
8. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
9. (HHBA-5101BK-01)
10. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.

Fujitsu Siemens

Fujitsu Siemens – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Primergy: H400, H450, K400, N400, N800, R450	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4]	HA: 2	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW	
2	Primergy: B210, C200, E200, F200, F250[8], H400, H450, K400, L200, N200, N400, N800, P200, P250, RX100	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4]; NCR LifeKeeper Windows NT: 1.0[7], 2.0	HA: 2	Emulex LP8000-EMC[6]	FC-AL, FC-SW	See[5]
3	Primergy: RX200, RX300, TX200, TX300	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4]; NCR LifeKeeper Windows NT: 1.0[7], 2.0	HA: 2	Emulex: LP850-EMC, LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E	FC-AL, FC-SW	See[5]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
3. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
4. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
5. HP LXR-PRO8 support has been discontinued.
6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. V1.0 is only qualified on Windows NT 4.0 SP3.
8. Must use standard PCI 32bit/33MHz slot for SCSI

HPQ

HPQ – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	**Proliant DL380(G3)**	**Microsoft Windows NT 4.0 SP6A[2, 3]**	**Microsoft MSCS[4, 5]; NCR LifeKeeper Windows NT: 1.0[6] 2.0**	**HA: 2**	**HPQ: A5246A (Agilent HHBA-5000A)[2], D8602A (Agilent HHBA-5101B)[2, 12], D8602B (Agilent HHBA-5101C)[2, 13]**		**See[1]**
2	Netserver LC, 2000 U3, 2000r, Netserver LH, 3000, 6000 Netserver LP 2000r, LT 6000R, LXR 8000, LXR 8500, Proliant, 2500[7], 6400R[7], 8500[7] DL320[7], DL360[7], DL360(G2)[7], DL360(G3), **DL380[7], DL380(G2)[7], DL380(G3)**, DL560, DL580[7] DL580(G2)[7], **DL580(G3)**, DL740, DL760[7], DL760 (G2), ML350[7], ML370[7], ML370(G2)[7], **ML370(G3)**, ML530[7], ML530(G2)[7], ML570[7] ML570(G2)[14]	Microsoft Windows NT 4.0 SP6A[2, 3]	Microsoft MSCS[4, 5]	HA: 2	Emulex LP9002-E (LP9002L-E), QLogic QLA2310F-E-SP	FC-AL, FC-SW	
3	Netserver LH (LH Pro) 3, 4, II, Netserver LX PRO, LXR PRO, LXR PRO8, Proliant 1600[7, 9], 1850[7], 3000[7], 5000[7], 5500[7, 8] 6000[7, 8] 6500[7, 8], 7000[7, 8], 8000[7, 8], 850[7]	Microsoft Windows NT 4.0 SP6A[2, 3]	Microsoft MSCS[4, 5]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
4	**Proliant DL380(G3)**	**Microsoft Windows NT 4.0 SP6A[2, 3]**	**Microsoft MSCS[4, 5]; NCR LifeKeeper Windows NT: 1.0[6] 2.0**	HA: 2	**Emulex: LP8000-EMC[10] LP850-EMC HPQ 176479-B21; QLogic QLA2200F-EMC**	FC-AL, FC-SW	**See[1]**
5	Proliant, 1850[7], 2500[7], 3000[7], 5000[7], 5500[7, 8] 6000[7, 8], 6400R[7] 6500[7, 8], 7000[7, 8], 8000[7, 8], 850[7] 8500[7] DL320[7] DL360[7] DL360(G2)[7], DL360(G3), **DL380[7] DL380(G2)[7]**, DL580[7], DL580(G2)[7], **DL580(G3)** DL760[7], DL760 (G2), ML350[7] ML370[7], ML370(G2)[7], **ML370(G3)** ML530[7] ML530(G2)[7] ML570[7], ML570(G2)[14] ML750[11]	Microsoft Windows NT 4.0 SP6A[2, 3]	Microsoft MSCS[4, 5] NCR LifeKeeper Windows NT: 1.0[6], 2.0	HA: 2	Emulex: LP8000-EMC[10] LP850-EMC. HPQ: 176479-B21, A5246A (Agilent HHBA-5000A)[2], D8602A (Agilent HHBA-5101B)[2, 12], D8602B (Agilent HHBA-5101C)[2, 13]. QLogic QLA2200F-EMC	FC-AL, FC-SW	See[1]

HPQ – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
6	Proliant 1600[7, 9]	Microsoft Windows NT 4.0 SP6A[2, 3]	Microsoft MSCS[4, 5]; NCR LifeKeeper Windows NT: 1.0[6], 2.0	HA: 2	Emulex: LP8000-EMC[10], LP850-EMC; HPQ: 176479-B21, A5246A (Agilent HHBA-5000A)[2]; QLogic QLA2200F-EMC	FC-AL, FC-SW	See[1]
7	Netserver LC, 2000 U3, 2000r; Netserver LH: (LH Pro), 3, 3000, 4, 6000, II; Netserver: LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8	Microsoft Windows NT 4.0 SP6A[2, 3]	Microsoft MSCS[4, 5]; NCR LifeKeeper Windows NT: 1.0[6], 2.0	HA: 2	Emulex: LP8000-EMC[10], LP850-EMC; HPQ: A5246A (Agilent HHBA-5000A)[2], D8602A (Agilent HHBA-5101B)[2, 12], D8602B (Agilent HHBA-5101C)[2, 13]; QLogic QLA2200F-EMC	FC-AL, FC-SW	See[1]
8	Proliant: DL560, DL740	Microsoft Windows NT 4.0 SP6A[2, 3]	Microsoft MSCS[4, 5]; NCR LifeKeeper Windows NT: 1.0[6], 2.0	HA: 2	Emulex: LP8000-EMC[10], LP850-EMC; QLogic QLA2200F-EMC	FC-AL, FC-SW	See[1]

1. HP LXR-PRO8 support has been discontinued.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
3. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
4. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
5. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
6. V1.0 is only qualified on Windows NT 4.0 SP3.
7. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
   Includes both Pentium PRO and XEON models
   This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.
12. (HHBA-5101BK-01)
13. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
14. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).

IBM

IBM – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Netfinity: 6000R, 8500; xSeries: x440, **x445**	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4]	HA: 2	Emulex LP9002-E (LP9002L-E); IBM: 00N6881 (QLA2200)[8], 19K1246(QLA2310)[11] 24P0960(QLA2340)[12]; QLogic QLA2310F-E-SP	FC-AL, FC-SW	
2	Netfinity: 5600, 7600, 8500R, xSeries: X330, X335, X340 (4500R), X342, x230, x240, x250, x350 (6000R), **x360**, x370	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4]	HA: 2	Emulex LP9002-E (LP9002L-E); QLogic QLA2310F-E-SP	FC-AL, FC-SW	
3	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 7000, 7000 M10[5], 7100	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
4	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[5], 7100, 7600, 8500R; xSeries: X330, X335, X340 (4500R), X342, x230, x240, x250, x350 (6000R), **x360**, x370	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4]; NCR LifeKeeper Windows NT: 1.0[10], 2.0	HA: 2	Emulex: LP8000-EMC[7], LP850-EMC; IBM: 00N6881 (QLA2200)[8, 9], 19K1246(QLA2310)[11] 24P0960(QLA2340)[12]; QLogic QLA2200F-EMC	FC-AL, FC-SW	See[6]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
   Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
4. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
5. This server only supports 5 Volt HBAs. qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable).
6. HP LXR-PRO8 support has been discontinued.
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
8. (QLA2200) For IBM xSeries and Netfinity servers only
9. For IBM Netfinity and xSeries Intel servers only
10. V1.0 is only qualified on Windows NT 4.0 SP3.
11. This HBA is equivalent to the qLogic QLA2310.
12. This HBA is equivalent to the qLogic QLA2340.

NCR

NCR – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Worldmark 4300, 4380, 4400	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4]	HA: 2	QLogic QLA2310F-E-SP	FC-AL, FC-SW	
2	Worldmark 4300, 4380, 4400	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4], NCR LifeKeeper Windows NT: 1.0[7], 2.0	HA: 2	Emulex: LP8000-EMC[6], LP850-EMC, HPQ: A5246A (Agilent HHBA-5000A)[1], D8602A (Agilent HHBA-5101B)[1, 9], D8602B (Agilent HHBA-5101C)[1, 8], QLogic QLA2200F-EMC	FC-AL, FC-SW	See[5]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
3. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
4. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39
5. HP LXR-PRO8 support has been discontinued.

6. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
7. V1.0 is only qualified on Windows NT 4.0 SP3.
8. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
9. (HHBA-5101BK-01)

NEC

NEC – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	**Express 5800: 320La[7], 320La-R[7], 320Lb[7], 320Lb-R[7], 330Ma-R[7], 330Mb-R[7], 340Ha-R[7]**	**Microsoft Windows NT 4.0 SP6A[1, 2]**	**NEC Cluster-Pro V6.0**	**HA: 2**	**Emulex LP850-EMC; NEC: N8190-105[6], N8503-200, N8803-031 (QLA2310F)**		**See[5]**
2	Express 5800: 140Hb, 140Ra-4	Microsoft Windows NT 4.0 SP6A[1, 2]	Microsoft MSCS[3, 4]	HA: 2	Emulex LP9002-E (LP9002L-E); NEC N8190-105[6]; QLogic QLA2310F-E-SP	FC-AL, FC-SW	
3	Express 5800: **120Md, 120Ra-2, 120Rc-2, 120Rd-1, 120Rf-2, 140Ha**, 140Hb, **140Hd, 140Ma**, 140Ra-4, **140Rc-4**	Microsoft Windows NT 4.0 SP6A[1, 2]	NEC Cluster-Pro V6.0	HA: 2	Emulex LP850-EMC; NEC: N8190-105[6], N8503-200	**FC-AL, FC-SW**	See[5]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
3. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.
4. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
5. HP LXR-PRO8 support has been discontinued.
6. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.63a1. Emulex drivers are available at http://www.emulex.com. Supports SNIA HBA API.
7. **Bus Enumeration Issue Causes Problems using SYMCLI SCSI bus enumeration of disks will change depending on cold boot or warm boot. This causes symcli commands to fail because the path is changed and SYMCLI can no longer communicate with the Symmetrix.**

   By "shutdown" and booting system, internal disks are assigned first, followed by Symmetrix disks.
   By "restart" the system, Symmetrix disks are assigned first, followed by internal disks. Drive letter are not changed in both cases.
   The workaround is to perform "symcfg discover" after rebooting.

Unisys

Unisys – Microsoft Windows NT							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	DR/2; DS/2; ES2024; ES2025; ES2043; ES2045; ES2085; ES5024; ES5043; ES5044; ES5045; ES5085; ES7000/100; ES7000/200; ES7000/230; ES7000/500; QR/2; QS/2	Microsoft Windows NT 4.0 SP6A[2, 3]	Microsoft MSCS[4, 5]	HA: 2	Unisys: FCH20111-P64 (LP8000-D1)[2], FCH20113-P64 (LP8000-EMC, LP8000-F1)[2]	FC-AL, FC-SW	See[1]

1. HP LXR-PRO8 support has been discontinued.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server
3. Tested with Symmetrix 8000 Series, Connectrix ED-1032 3.0.1, and PowerPath 2.0 and above on each node.
4. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
5. Best Practice configurations recommendations for MSCS Clusters are: Single HBA Zoning for each server or for each node in any given cluster, separate FA storage ports for each separate cluster to properly isolate the clusters from each other, use ESN Manager with Single HBA Zoning to provide additional LUN access control.

NCR UNIX SVR4 MPRAS

NCR

NCR – NCR UNIX SVR4 MPRAS					
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter
1	Worldmark 4850, 4900, 4950	NCR UNIX SVR4 MPRAS 3.02	NCR TW 7.0 version V2R5.0	HA: 4	LSI ITI7004G2[2]; QLogic QLA2204F[1]
2	Worldmark 5250, 5300, 5350	NCR UNIX SVR4 MPRAS 3.02	NCR TW 7.0 version V2R5.0	HA: 512	LSI ITI7004G2[2]; QLogic QLA2204F[1]

1. Requires driver version 1.08 and BIOS version 1.76, available at http://www.qlogic.com. Packages PKERN302 and PS MBAS302 available from NCR
2. Requires package PSCSI302 Ver 02.10.10.09 or higher available from NCR

Novell Netware

Dell

Dell – Novell Netware							
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	PowerEdge 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[7], 2600, 2650, 4300, 4400, 4600, 6100, 6300, 6350, 6450, 6600, 6650, 8450	Novell Netware 6.0: SP1[2, 3, 4], SP2[2, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6		QLogic: QLA2200F-EMC[6], QLA2310F-E-SP[5], QLA2340-E-SP	FC-AL, FC-SW	See[1]
2	PowerEdge 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[7], 2600, 2650, 4300, 4400, 4600, 6100, 6300, 6350, 6450, 6600, 6650, 8450	Novell Netware 5.00 SP6A[3, 8], 5.10 SP2A[3], 5.10 SP5[2, 3, 4], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW,	See[1]

1. Multi-port SCSI preferred
2. Powerpath & ATF supported
3. Maximum number of NWFS volumes that can be mounted is 64
4. Novell Storage Services supported
5. Requires driver 6.50v, BIOS 1.34 available from Qlogic
6. Requires HBA firmware 1.79 and driver 6.50v
7. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts
8. Requires NWPA.NLM V 3.07A update from Novell website

Fujitsu Siemens

Fujitsu Siemens – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Primergy: 700, H250[5], H400, K400, N400, N800	Novell Netware 6.0 SP1[2, 3, 4], SP2[2, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6		QLogic: QLA2200F-EMC[6], QLA2310F-E-SP[7], QLA2340-E-SP	FC-AL, FC-SW	See[1]
2	Primergy: 700, H250[5], H400, K400, N400, N800	Novell Netware 5.00 SP6A[3, 8], 5.10 SP2A[3] 5.10 SP5[2, 3, 4], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic QLA2200F-EMC	FC-AL, FC-SW	See[1]

1. Multi-port SCSI (preferred)
2. Novell Storage Services supported
3. Maximum number of NWFS volumes that can be mounted is 64
4. Powerpath & ATF supported.
5. Must use standard PCI 32bit/33MHz slot for SCSI
6. Requires HBA firmware 1.79 and driver 6.50v
7. Requires driver 6.50v, BIOS 1.34 available from Qlogic.
8. Requires NWPA.NLM V.3.07A update from Novell website.

HPQ

HPQ – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	Proliant DL740	Novell Netware 5.10: SP2A[3], SP5[2, 3, 4], SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	See[1]
2	Netserver: LC 2000 U3, LH (LH Pro), LH 3, LH 3000, LH 4, LH 6000, LH II, LH III, LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[10, 12], 1850[10], 2500[10], 3000[10], 5000[10], 5500[10, 11], 6000[10, 11], 6400R[10], 6500[10, 11], 7000[10, 11], 8000[10, 11], 850[10], 8500, DL320[10], DL360[10], DL360(G2)[10], DL360(G3). **DL380[10]**, **DL380(G2)[10]**, **DL380(G3)**, DL560, DL580[10], DL580(G2)[10], **DL580(G3)**, DL740, DL760[10], DL760 (G2), ML350[10], ML350(G2)[10], ML370[10], ML370(G2), **ML370(G3)**, ML530[10], ML530(G2)[10], ML570[10], ML570(G2)[9]	Novell Netware 6.0: SP1[2, 3, 4], SP2[2, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6		QLogic: QLA2200F-EMC[8], QLA2310F-E-SP[7], QLA2340-E-SP	FC-AL, FC-SW	See[1]
3	**Proliant DL380(G3)**	**Novell Netware 6.0: SP1[2, 3, 4], SP2[2, 3, 4], SP3**	**Novell Netware Cluster Services Server (NCS) v1.6**	HA: 16	**QLogic: QLA2200F-EMC[8], QLA2310F-E-SP[7], QLA2340-E-SP**	FC-AL, FC-SW	**See[1]**
4	Netserver LC: 2000 U3[5], 2000r[5] Netserver LH: (LH Pro), 3, 3000, 4, 6000 II, III, Netserver: LP 2000r, LT 6000R, LX PRO, LXR 8000, LXR 8500, LXR PRO, LXR PRO8; Proliant: 1600[10, 12], 1850[10], 2500[10], 3000[10], 5000[10], 5500[10, 11], 6000[10, 11], 6400R[10], 6500[10, 11], 7000[10, 11], 8000[10, 11], 850[10], 8500, DL320[10], DL360[10], DL360(G2)[10] DL360(G3), **DL380[10]**, **DL380(G2)[10]**, **DL380(G3)**, DL560, DL580[10], DL580(G2)[10] **DL580(G3)**, DL760[10], DL760 (G2), ML350[10], ML350(G2)[10], ML370[10], ML370(G2). **ML370(G3)**, ML530[10], ML530(G2)[10], ML570[10], ML570(G2)[9], ML750[13]	Novell Netware: 5.00 SP6A[3, 6], 5.10 SP2A[3] 5.10 SP5[2, 3, 4], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	FC-AL, FC-SW	See[1]

1. Multi-port SCSI (preferred)
2. Powerpath & ATF supported
3. Maximum number of NWFS volumes that can be mounted is 64
4. Novell Storage Services supported
5. HP NetServer LC2000 is only supported with two processors.Uni-Processor configurations are not supported
6. Requires NWPA.NLM V.3.07A update from Novell website.
7. Requires driver 6.50v, BIOS 1.34 available from Qlogic.
8. Requires HBA firmware 1.79 and driver 6.50v.
9. Refer to Microsoft HCL for updated Windows 2000 SCSI clusters (http://www.microsoft.com/hwtest/hcl).
10. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
11. Includes both Pentium PRO and XEON models
12. This server is equipped with plastic shielding around the PCI slots. Since the PCI slots are 32-bit, this shielding prohibits 64-bit HBAs from properly seating in the PCI slots. To accomodate 64-bit HBAs, this shielding must be removed, or modified to allow the 64-bit HBA to fully seat in the 32-bit slots.
13. HPQ Proliant servers that are rack-mountable (designated with an "R") are supported.

IBM

IBM – Novell Netware							
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type	Comments
1	xSeries X335	Novell Netware 5.10 SP5[2, 3, 4], SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2310F-E-SP, QLA2340-E-SP	FC-AL FC-SW	See[1]
2	Netfinity: 5000, 5500, 5500 M10, 5500 M20, 5600, 7000, 7000 M10[6], 7100, 7600, 8500R, xSeries: X330, X340 (4500R), X342, x230, x240, x250, x350 (6000R) **x360** x370, x440 **x445**	Novell Netware 6.0: SP1[2, 3, 4], SP2[2, 3, 4], SP3	Novell Netware Cluster Services Server (NCS) v1.6		QLogic: QLA2200F-EMC[7], QLA2310F-E-SP[5], QLA2340-E-SP	FC-AL, FC-SW	See[1]
3	xSeries X335	Novell Netware 6.0: SP1[2, 3, 4] SP2[2, 3, 4] SP3	Novell Netware Cluster Services Server (NCS) v1.6		QLogic: QLA2310F-E-SP[5], QLA2340-E-SP	FC-AL, FC-SW	See[1]
4	Netfinity: 5000, 5500, 5500 M10, 5500 M20 5600, 7000, 7000 M10[6], 7100, 7600, 8500R, xSeries: X330, X340 (4500R), X342, x230, x240, x250 **x255** x350 (6000R) **x360** x370, x440, **x445**	Novell Netware: 5.00 SP6A[4, 8], 5.10 SP2A[4], 5.10 SP5[2, 3, 4], 5.10 SP6	Novell Netware Cluster Services Server (NCS) v1.01 SP4	HA: 8	QLogic: QLA2200F-EMC, QLA2310F-E-SP QLA2340-E-SP	FC-AL, FC-SW	See[1]

1. Multi-port SCSI (preferred)
2. Powerpath & ATF supported
3. Novell Storage Services supported
4. Maximum number of NWFS volumes that can be mounted is 64
5. Requires driver 6.50v, BIOS 1.34 available from Qlogic
6. This server only supports 2 Vol HBAs: qLogic 22XX family (if applicable), qLogic 23XX family, Emulex LP8000, and Emulex LP850 (if applicable)
7. Requires HBA firmware 1.79 and driver 6.50v
8. Requires NWPA.NLM V.3.07A or later from Novell website

Red Hat Linux

Dell

Dell – Red Hat Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 14, 16]	Oracle 9i RAC 9.2.0.1.0[11, 12, 13]	RAC: 8	QLogic: QLA2310F-E-SP[1, 15], QLA2342-E-SP[1, 15]	FC-AL, FC-SW
2	PowerEdge: 1650[9, 10], 1750, 2600[9, 10], 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 14, 16]	Oracle 9i RAC 9.2.0.1.0[11, 12, 13]	RAC: 8	QLogic: QLA2340-E-SP[1, 2, 15], QLA2342-E-SP[1, 15]	FC-AL, FC-SW
3	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[6, 14, 16]	Oracle 9i RAC 9.2.0.1.0[8, 11, 12, 13]	RAC: 8	QLogic QLA2340-E-SP[1, 15]	FC-AL, FC-SW
4	PowerEdge: 1650[9, 10], 1750, 2600[9, 10], 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[6, 14]	Oracle 9i RAC 9.2.0.1.0[11, 12, 13]	RAC: 8	QLogic QLA2340-E-SP[1, 2]	FC-AL, FC-SW
5	PowerEdge: 1650[9, 10], 1750, 2600[9, 10], 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[6, 14]	Oracle 9i RAC 9.2.0.1.0[8, 11, 12, 13]	RAC: 8	QLogic QLA2342-E-SP[1]	FC-AL, FC-SW
6	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[6, 14]	Oracle 9i RAC 9.2.0.1.0[8, 11, 12, 13]	RAC: 8	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW
7	PowerEdge: 1650[9, 10], 1750, 2600[9, 10], 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[6, 14]	Veritas Cluster Server (VCS) 2.0[18, 19, 20]	HA: 8	QLogic: QLA2310F-E-SP[1, 2, 15], QLA2340-E-SP[1, 2], QLA2342-E-SP[1]	FC-AL, FC-SW
8	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[6, 14]	Veritas Cluster Server (VCS) 2.0[18, 19, 20]	HA: 8	QLogic: QLA2310F-E-SP[1], QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW
9	**PowerEdge: 1650[9, 10], 1750, 2600[9, 10], 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]**	**Red Hat Linux 2.1 Advanced Server** v2.4.9-E.3[3, 4, 5, 6, 7]	**Oracle 9i RAC 9.2.0.1.0[8]**	RAC: 8	**QLogic QLA2310F-E-SP[1, 2]**	FC-AL, FC-SW
10	**PowerEdge 8450[9, 10]**	**Red Hat Linux 2.1 Advanced Server** v2.4.9-E.3[3, 4, 5, 6, 7, 17]	**Oracle 9i RAC 9.2.0.1.0[8]**	RAC: 8	**QLogic QLA2340-E-SP[1]**	FC-AL, FC-SW
11	**PowerEdge: 1650[9, 10], 1750, 2600[9, 10], 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]**	**Red Hat Linux 2.1 Advanced Server** v2.4.9-E.3[3, 4, 6, 7]	**Oracle 9i RAC 9.2.0.1.0**	RAC: 8	**QLogic QLA2340-E-SP[1, 2]**	FC-AL, FC-SW
12	PowerEdge: 1650[9, 10], 1750, 2600[9, 10], 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[6, 14]	Oracle 9i RAC 9.2.0.1.0[11, 12, 13]	RAC: 8	QLogic: QLA2310F-E-SP[1], QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW
13	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[6, 14]	Oracle 9i RAC 9.2.0.1.0[11, 12, 13]	RAC: 8	QLogic: QLA2340-E-SP[1], QLA2342-E-SP[1]	FC-AL, FC-SW
14	PowerEdge: 1650[9, 10], 1750, 2600[9, 10], 2650[9, 10], 4600[9, 10], 6450[9, 10], 6600[9, 10], 6650[9, 10]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[6, 14, 16], v2.4.9-E.12[6, 14]	Oracle 9i RAC 9.2.0.1.0[8, 11, 12, 13]	RAC: 8	QLogic QLA2310F-E-SP[1, 2, 15]	FC-AL, FC-SW
15	PowerEdge 8450[9, 10]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[6, 14], v2.4.9-E.9[6, 14]	Oracle 9i RAC 9.2.0.1.0[11, 12, 13]	RAC: 8	QLogic QLA2310F-E-SP[1]	FC-AL, FC-SW
16	**PowerEdge: 1750, 2600, 4600, 6450, 8450**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[6, 21], ES v2.4.9-e.24[6, 21]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2342-E-SP**	**FC-AL, FC-SW**
17	**PowerEdge: 2650, 6600, 6650**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[6, 21], ES v2.4.9-e.24[6, 21]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	**FC-AL, FC-SW**
18	**PowerEdge: 1750, 2600, 4600, 6450, 8450**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[6, 21], ES v2.4.9-e.24[6, 21]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2340-E-SP**	**FC-AL, FC-SW[22, 23]**

1. Requires QLogic driver v6.04.02 and BIOS v1.34
2. Host must be offline for interfamily Symmetrix microcode upgrade.
3. **Supported with QLogic driver v6.04.02.**
4. **Watchdog Timer should be disabled in ocmargs.ora**
5. **OCFS (Oracle Cluster File System) is not supported.**
6. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
7. **Supported with QLogic driver v6.04.02 or v6.05.00.**
8. Configuration information available on EMC PowerLink and Avatar: See the Case Study "Oracle 9i RAC on Linux Red Hat 7.1 and Red Hat 2.1 Advanced Server with CLARiiON Storage Arrays" in the EMC Networked Storage Topology Guide.
9. An RPM from Dell may be used to install the QLogic v6.X driver. RPM may be obtained from the QLogic website.
10. QLogic driver is available with Dell/Oracle CC kit.
11. Oracle Cluster File System v1.0 supported with Linux v2.4.9-E9 through E12.
12. Requires patch p2646914_9202_LINUX.zip (Private Network Fix).
13. requires patch p2632931_9202_LINUX.zip (9.2.0.2 patch set).
14. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath Booting from EMC storage arrays is NOT supported with PowerPath.
15. Driver v6.04.00 or above must be used with Qlogic HBAs for direct attach configurations.
16. OCFS (Oracle Cluster File System) is supported. Requires patch mount-2.11g-6i386.rpm (ocfs mount support).
17. **PowerPath is not supported.**
18. GAB disks (membership and service group heartbeat disks) are not supported.
19. Review single attach VxVM notes for PowerPath and DMP restrictions.
20. When VxVM is used, EMC recommends VxVM 3.2 update 2, VxFS 3.4 update 1 and above
21. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
22. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
23. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**

Fujitsu Siemens

Fujitsu Siemens – Red Hat Linux					
No	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter
1	**Primergy: 460, 470, 670, 700, 870, B210, C200, E200, F200, F250[7], H200, H250[7], H400, H450, K400, L200, N200, N400, N800, P200, P250, R450, RX100, RX200, RX300, T850, TX200, TX300**	**Red Hat Linux 2.1 Advanced Server** v2.4.9-E.3[5]	**Fujitsu Siemens PRIMECLUSTER 4.0a2**	HA: 4	**Emulex: LP9002-E (LP9002L-E)[1, 2, 3, 4], LP9802-E[1, 2, 4, 6]**

1. **Single HBA zoning is required regardless of the switch being utilized.**
2. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
3. **Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.**
4. **Host must be offline for interfamily Symmetrix microcode upgrade.**
5. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
6. **Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.**
7. **Must use standard PCI 32bit/33MHz slot for SCSI**

HPQ

HPQ – Red Hat Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[4, 5, 6]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic QLA2342-E-SP[2, 3]	FC-AL, FC-SW
2	Proliant: DL360[9], **DL380[9]**, DL560, DL580[9], DL740, DL760[9], DL760 (G2)	Red Hat Linux 2.1 Advanced Server v2.4.9-E.10[4, 5, 6]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic: QLA2340-E-SP[2, 3], QLA2342-E-SP[2, 3]	FC-AL, FC-SW
3	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E 10[4, 5, 6]	Oracle 9i RAC 9.2.0.1.0[1, 7]	RAC: 8	QLogic QLA2340-E-SP[2, 3, 8]	FC-AL, FC-SW
4	Proliant DL740	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[5, 6]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW
5	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[5, 6]	Oracle 9i RAC 9.2.0.1.0[1, 7]	RAC: 8	QLogic: QLA2340-E-SP[2, 8], QLA2342-E-SP[2, 3, 8]	FC-AL, FC-SW
6	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[5, 6]	Veritas Cluster Server (VCS) 2.0[15, 16, 17]	HA: 8	QLogic: QLA2310F-E-SP[2, 8], QLA2340-E-SP[2, 8] QLA2342-E-SP[2, 3, 8]	FC-AL, FC-SW
7	Proliant: 6500[9, 14], DL360[9], **DL380[9]**, DL560, DL580[9], DL740, DL760[9], DL760 (G2)	Red Hat Linux 2.1 Advanced Server v2.4.9-E.12[5, 6]	Veritas Cluster Server (VCS) 2.0[15, 16, 17]	HA: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW
8	**Proliant 8500**	**Red Hat Linux 2.1 Advanced Server v2.4.9-E.3[6, 10, 11, 12, 13]**	**Oracle 9i RAC 9.2.0.1.0[7]**	RAC: 8	**QLogic: QLA2310F-E-SP[2, 8], QLA2340-E-SP[2, 8]**	FC-AL, FC-SW
9	Proliant 8500	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[5, 6]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW
10	Proliant 8500	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 5, 6], v2.4.9-E.12[5, 6]	Oracle 9i RAC 9.2.0.1.0[1, 7]	RAC: 8	QLogic QLA2310F-E-SP[2, 8]	FC-AL, FC-SW
11	Proliant 6500[9, 14]	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 5, 6], v2.4.9-E.12[5, 6], v2.4.9-E.9[5, 6]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW
12	Proliant: DL360[9], **DL380[9]**, DL560, DL580[9], DL760[9], DL760 (G2)	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[5, 6], v2.4.9-E.9[5, 6]	Oracle 9i RAC 9.2.0.1.0[1]	RAC: 8	QLogic: QLA2340-E-SP[2], QLA2342-E-SP[2]	FC-AL, FC-SW
13	**Proliant: DL360(G3), DL380(G3), DL580(G3), ML370(G3)**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[6, 18], ES v2.4.9-e.24[6, 18]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2342-E-SP**	**FC-AL, FC-SW**
14	**Proliant DL760 (G2)**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[6, 18], ES v2.4.9-e.24[6, 18]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	**FC-AL, FC-SW**
15	**Proliant: DL360(G3), DL380(G3), DL580(G3), ML370(G3)**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[6, 18], ES v2.4.9-e.24[6, 18]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2340-E-SP**	**FC-AL, FC-SW[19] 20**

1. Oracle Cluster File System v1.0 supported with Linux v2.4.9-E9 through E12.
2. Requires QLogic driver v6.04.02 and BIOS v1.34
3. Driver v6.04.00 or above must be used with Qlogic HBAs for direct attach configurations.
4. OCFS (Oracle Cluster File System) is supported. Requires patch mount-2.11g-6i386.rpm (ocfs mount support).
5. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
6. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
7. Configuration information available on EMC PowerLink and Avatar: See the Case Study "Oracle 9i RAC on Linux Red Hat 7.1 and Red Hat 2.1 Advanced Server with CLARiiON Storage Arrays" in the EMC Networked Storage Topology Guide.
8. Host must be offline for interfamily Symmetrix microcode upgrade.
9. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
10. **OCFS (Oracle Cluster File System) is not supported.**
11. **Supported with QLogic driver v6.04.02.**
12. **Watchdog Timer should be disabled in ocmargs.ora**
13. **Supported with QLogic driver v6.04.02 or v6.05.00.**
14. Includes both Pentium PRO and XEON models
15. GAB disks (membership and service group heartbeat disks) are not supported.
16. Review single attach VxVM notes for PowerPath and DMP restrictions.
17. When VxVM is used. EMC recommends VxVM 3.2 update 2, VxFS 3.4 update 1 and above.
18. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
19. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
20. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**

IBM

IBM – Red Hat Linux						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	**xSeries: X335, X342, x345, x360 x370, x440, x445**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 2], ES v2.4.9-e.24[1, 2]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2342-E-SP**	**FC-AL, FC-SW**
2	**xSeries: X335, X342, x345, x360, x370, x440, x445**	**Red Hat Linux 2.1: Advanced Server v2.4.9-e.24[1, 2], ES v2.4.9-e.24[1, 2]**	**Red Hat Enterprise Linux 2.1 Cluster**	**HA: 2**	**QLogic QLA2340-E-SP**	**FC-AL, FC-SW[3, 4]**

1. **This kernel is supported with the Qlogic v6.04.01 driver included in the kernel.**
2. **EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.**
3. **FC-AL and FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.**
4. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**

SuSE Linux

Fujitsu Siemens

Fujitsu Siemens – SuSE Linux					
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter
1	**Primergy: 460, 470, 670, 700, 870, B210, C200, E200, F200, F250[9], H200, H250[9], H400, H450, K400, L200, N200, N400, N800, P200, P250, R450, RX100, RX200 RX300, T850, TX200, TX300**	**SuSE Linux SLES 7: (v2.4.7)[5], updated with SuSE v2.4.18 rpm[7, 8]**	**Fujitsu Siemens PRIMECLUSTER 4.0a2**	**HA: 4**	**Emulex LP9002-E (LP9002L-E)[1, 2, 3, 4] LP9802-E[1, 2, 4, 6]**

1. Single HBA zoning is required regardless of the switch being utilized.
2. Host must be offline for interfamily Symmetrix microcode upgrade.
3. Requires Emulex drivers v4.20Q and firmware v3.90a7. Available from http://www.emulex.com.
4. QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.
5. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
6. Requires Emulex driver v4.20Q and firmware v1.00a4. Available from http://www.emulex.com.
7. Requires rev2 sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
8. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
9. Must use standard PCI 32bit/33MHz slot for SCSI

Sun Solaris
Sun

Sun – Sun Solaris						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
1	Ultra: 60, 80	Sun Solaris 8	Legato Automated Availability Manager (LAAM) 5.0 (Base)[10]	HA: 8	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW
2	Ultra Enterprise 10000	Sun Solaris 8	Legato Automated Availability Manager (LAAM) 5.0 (Base)[10]	HA: 8	Emulex LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW
3	Netra: 1120, 1125, 1400, 1405, T1; Ultra: 220R[8], 250, 30, 420R[8], 450	Sun Solaris 8	Legato Automated Availability Manager (LAAM) 5.0 (Base)[10]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E	FC-AL, FC-SW
4	Ultra Enterprise: 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500	Sun Solaris 8	Legato Automated Availability Manager (LAAM) 5.0 (Base)[10]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW
5	Sun Fire 15K	Sun Solaris 8	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 4[14], RAC: 4[14]	QLogic QLA2200F-EMC[9]	FC-AL, FC-SW
6	Sun Fire: 12K, 15K	Sun Solaris 8 Update 6	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 4, RAC: 4	Emulex LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
7	Netra 1280; Sun Fire: 280R, 4800, 4810, 6800, V1280, V240, V480, V880; Ultra: 220R[8], 250, 420R[8], 450	Sun Solaris 8 Update 6	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 4, RAC: 4	Emulex: LP9002DC-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
8	Sun Fire 280R; Ultra: 220R[8], 250, 420R[8], 450	Sun Solaris 8 Update 6	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 4[14], RAC: 4[14]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW
9	Netra 1280; Sun Fire: 15K, V1280, V240, V480, V880	Sun Solaris 8 Update 6	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 4[14], RAC: 4[14]	Emulex LP9002-E (LP9002L-E); QLogic QLA2200F-EMC	FC-AL, FC-SW
10	Sun Fire 12K	Sun Solaris 8 Update 6	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 4[14], RAC: 4[14]	Emulex LP9002-E (LP9002L-E); QLogic QLA2200F-EMC[9]	FC-AL, FC-SW
11	Sun Fire 3800	Sun Solaris 8 Update 6	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 4[14], RAC: 4[14]	Emulex LP9002C-E; QLogic QCP2202F-E[9]	FC-AL, FC-SW
12	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris 8 Update 6	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 4[14], RAC: 4[14]	Emulex LP9002S-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW
13	Sun Fire 4810	Sun Solaris 8 Update 6	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 4[14], RAC: 4[14]	Emulex: LP9002-E (LP9002L-E), LP9002C-E; QLogic QLA2200F-EMC	FC-AL, FC-SW
14	Sun Fire: 4800, 6800	Sun Solaris 8 Update 6	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 4[14], RAC: 4[14]	Emulex: LP9002-E (LP9002L-E), LP9002C-E; QLogic: QCP2202F-E, QLA2200F-EMC	FC-AL, FC-SW
15	**Sun Fire 3800**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[18]**	**HA: 16, OPS: 4, RAC: 4**	**Emulex LP9002C-E; QLogic QCP2202F-E[9]**	FC-AL, FC-SW
16	**Ultra Enterprise: 10000, 3500 4500, 5500, 6500**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[18]**	**HA: 16, OPS: 4, RAC: 4**	**Emulex LP9002S-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E**	FC-AL, FC-SW
17	**Sun Fire: 4800, 6800**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[18]**	**HA: 16, OPS: 4, RAC: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
18	**Sun Fire 4810**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[18]**	**HA: 16, OPS: 4, RAC: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
19	**Netra 1280; Sun Fire: V1280 V240, V480, V880**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[18]**	**HA: 16, OPS: 4, RAC: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2200F-EMC QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
20	**Sun Fire 280R, Ultra: 220R[8], 250 420R[8], 450**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[18]**	**HA: 16, OPS: 4, RAC: 4**	**Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E QLogic: QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
21	**Sun Fire: 12K, 15K**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[18]**	**HA: 16, OPS: 4, RAC: 4**	**Emulex: LP9002-E (LP9002L-E), LP9802-E: QLogic: QLA2200F-EMC[9], QLA2340-E-SP QLA2342-E-SP**	FC-AL FC-SW
22	Ultra 420R[8]	Sun Solaris 8[1]	Veritas Cluster Server (VCS) 2.0[2, 17]	HA: 8	Emulex LP9002-E (LP9002L-E)	FC-AL FC-SW
23	Sun Fire 3800	Sun Solaris 8[1]	Veritas Cluster Server (VCS) 2.0[2, 17]	HA: 8	Emulex LP9002C-E, QLogic QCP2202F-E[9]	FC-AL FC-SW
24	Ultra Enterprise: 10000 3500 4500, 5500, 6500	Sun Solaris 8[1]	Veritas Cluster Server (VCS) 2.0[2, 17]	HA: 8	Emulex LP9002S-E: JNI FC64-1063-EMC FCE-1063-E FCE2-1063-E, FCE2-1473-E: QLogic QLA2202FS-E	FC-AL FC-SW
25	Sun Fire 4800 6800	Sun Solaris 8[1]	Veritas Cluster Server (VCS) 2.0[2, 17]	HA: 8	Emulex LP9002-E (LP9002L-E) LP9002C-E LP9002DC-E LP9802-E. QLogic: QCP2202F-E, QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL FC-SW

Sun – Sun Solaris						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
26	Sun Fire 4810	Sun Solaris 8[1]	Veritas Cluster Server (VCS) 2.0[2, 17]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
27	Netra 1280; Sun Fire: V1280, V240, V480, V880	Sun Solaris 8[1]	Veritas Cluster Server (VCS) 2.0[2, 17]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E. QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
28	Sun Fire 280R; Ultra: 220R[8], 250, 450	Sun Solaris 8[1]	Veritas Cluster Server (VCS) 2.0[2, 17]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
29	Sun Fire 15K	Sun Solaris 8[1]	Veritas Cluster Server (VCS) 2.0[2, 17]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
30	Sun Fire 12K	Sun Solaris 8[1]	Veritas Cluster Server (VCS) 2.0[2, 17]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2200F-EMC[9], QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
31	Sun Fire 4810	Sun Solaris 8[1]	Veritas Cluster Server (VCS) 3.5[2, 11]	HA: 8	Emulex LP9002C-E	FC-AL, FC-SW
32	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris 8[1]	Veritas Cluster Server (VCS) 3.5[2, 11]	HA: 8	JNI FC64-1063-EMC	FC-AL, FC-SW
33	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris 8[1]	Veritas DBED/AC for 9iRAC 3.5[2, 3, 4, 5, 6]	RAC: 4 [7]	JNI FC64-1063-EMC	FC-AL, FC-SW
34	Ultra: 220R[8], 250, 420R[8], 450	Sun Solaris 9	Veritas Cluster Server (VCS) 3.5[2, 11]	HA: 8	QLogic QLA2200F-EMC	FC-AL, FC-SW
35	Ultra: 220R[8], 250, 420R[8], 450	Sun Solaris 9	Veritas DBED/AC for 9iRAC 3.5[2, 3, 4, 5, 6]	RAC: 4 [7]	QLogic QLA2200F-EMC	FC-AL, FC-SW
36	Sun Fire 3800	Sun Solaris 9 12/02[16]	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 2, RAC: 2	Emulex LP9002C-E; QLogic QCP2202F-E	FC-AL, FC-SW
37	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris 9 12/02[16]	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 2, RAC: 2	Emulex LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW
38	Sun Fire: 4800, 6800	Sun Solaris 9 12/02[16]	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 2, RAC: 2	Emulex: LP8000-EMC[15], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
39	Netra 1280; Sun Fire: 4810, V1280, V240, V480, V880	Sun Solaris 9 12/02[16]	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 2, RAC: 2	Emulex: LP8000-EMC[15], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
40	Sun Fire: 12K, 15K	Sun Solaris 9 12/02[16]	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 2, RAC: 2	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
41	**Sun Fire 3800**	Sun Solaris 9 12/02[16]	**Sun Sun Cluster 3.1[19]**	HA: 16, OPS: 2, RAC: 2	**Emulex LP9002C-E; QLogic QCP2202F-E**	FC-AL, FC-SW
42	**Ultra Enterprise: 10000, 3500, 4500, 5500, 6500**	Sun Solaris 9 12/02[16]	**Sun Sun Cluster 3.1[19]**	HA: 16, OPS: 2, RAC: 2	**Emulex LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E**	FC-AL, FC-SW
43	**Sun Fire: 4800, 6800**	Sun Solaris 9 12/02[16]	**Sun Sun Cluster 3.1[19]**	HA: 16, OPS: 2, RAC: 2	**Emulex: LP8000-EMC[15], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
44	**Netra 1280; Sun Fire: 4810, V1280, V240, V480, V880**	Sun Solaris 9 12/02[16]	**Sun Sun Cluster 3.1[19]**	HA: 16, OPS: 2, RAC: 2	**Emulex: LP8000-EMC[15], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
45	**Sun Fire: 12K, 15K**	Sun Solaris 9 12/02[16]	**Sun Sun Cluster 3.1[19]**	HA: 16, OPS: 2, RAC: 2	**Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP**	FC-AL, FC-SW
46	Ultra 420R[8]	Sun Solaris 8[1], 9	Veritas Cluster Server (VCS) 3.5[2, 11]	HA: 8	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW
47	Sun Fire 3800	Sun Solaris 8[1], 9	Veritas Cluster Server (VCS) 3.5[2, 11]	HA: 8	Emulex LP9002C-E, QLogic QCP2202F-E[9]	FC-AL, FC-SW
48	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris 8[1], 9	Veritas Cluster Server (VCS) 3.5[2, 11]	HA: 8	Emulex LP9002S-E, JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW
49	Sun Fire: 4800, 6800	Sun Solaris 8[1], 9	Veritas Cluster Server (VCS) 3.5[2, 11]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E, QLogic: QCP2202F-E, QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
50	Netra 1280, Sun Fire: 4810, V1280, V240, V480, V880	Sun Solaris 8[1], 9	Veritas Cluster Server (VCS) 3.5[2, 11]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
51	Sun Fire 280R Ultra: 220R[8], 250, 450	Sun Solaris 8[1], 9	Veritas Cluster Server (VCS) 3.5[2, 11]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW

Sun – Sun Solaris						
No.	Host System	Operating System	Cluster Software	Max # Nodes	Host Bus Adapter	Adapter Type
52	Sun Fire 15K	Sun Solaris: 8[1], 9	Veritas Cluster Server (VCS) 3.5[2, 11]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
53	Sun Fire 12K	Sun Solaris: 8[1], 9	Veritas Cluster Server (VCS) 3.5[2, 11]	HA: 8	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2200F-EMC[9], QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
54	Ultra 420R[8]	Sun Solaris: 8[1], 9	Veritas DBED/AC for 9iRAC 3.5[2, 3, 4, 5, 6]	RAC: 4 [7]	Emulex LP9002-E (LP9002L-E)	FC-AL, FC-SW
55	Sun Fire 3800	Sun Solaris: 8[1], 9	Veritas DBED/AC for 9iRAC 3.5[2, 3, 4, 5, 6]	RAC: 4 [7]	Emulex LP9002C-E; QLogic QCP2202F-E[9]	FC-AL, FC-SW
56	Ultra Enterprise: 10000, 3500, 4500, 5500, 6500	Sun Solaris: 8[1], 9	Veritas DBED/AC for 9iRAC 3.5[2, 3, 4, 5, 6]	RAC: 4 [7]	Emulex LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E; QLogic QLA2202FS-E	FC-AL, FC-SW
57	Sun Fire: 4800, 6800	Sun Solaris: 8[1], 9	Veritas DBED/AC for 9iRAC 3.5[2, 3, 4, 5, 6]	RAC: 4 [7]	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
58	Sun Fire 4810	Sun Solaris: 8[1], 9	Veritas DBED/AC for 9iRAC 3.5[2, 3, 4, 5, 6]	RAC: 4 [7]	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
59	Netra 1280; Sun Fire: V1280, V240, V480, V880	Sun Solaris: 8[1], 9	Veritas DBED/AC for 9iRAC 3.5[2, 3, 4, 5, 6]	RAC: 4 [7]	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
[illegible]0	Sun Fire 280R; Ultra: 220R[8], 250, 450	Sun Solaris: 8[1], 9	Veritas DBED/AC for 9iRAC 3.5[2, 3, 4, 5, 6]	RAC: 4 [7]	Emulex: LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E; QLogic: QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
61	Sun Fire 15K	Sun Solaris: 8[1], 9	Veritas DBED/AC for 9iRAC 3.5[2, 3, 4, 5, 6]	RAC: 4 [7]	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2200F-EMC, QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
62	Sun Fire 12K	Sun Solaris: 8[1], 9	Veritas DBED/AC for 9iRAC 3.5[2, 3, 4, 5, 6]	RAC: 4 [7]	Emulex: LP9002-E (LP9002L-E), LP9802-E; QLogic: QLA2200F-EMC[9], QLA2340-E-SP, QLA2342-E-SP	FC-AL, FC-SW
63	Ultra: 220R[8], 250, 420R[8], 450	Sun Solaris 8 Update 6	Sun Sun Cluster 3.0 Update 3[12, 13]	HA: 8, OPS: 4 [14], RAC: 4 [14]	QLogic QLA2200F-EMC	FC-SW
64	**Ultra: 220R[8], 250, 420R[8], 450**	Sun Solaris 8 Update 7	**Sun Sun Cluster 3.1[18]**	**HA: 16, OPS: 4, RAC: 4**	**QLogic QLA2200F-EMC**	FC-SW
65	Ultra: 220R[8], 250, 420R[8], 450	Sun Solaris 8[1]	Veritas Cluster Server (VCS): 2.0[2, 17], 3.5[2, 11]	HA: 8	QLogic QLA2200F-EMC	FC-SW
66	Ultra: 220R[8], 250, 420R[8], 450	Sun Solaris 8[1]	Veritas DBED/AC for 9iRAC 3.5[2, 3, 4, 5, 6]	RAC: 4 [7]	QLogic QLA2200F-EMC	FC-SW

1. Update 6.
2. GAB disks (membership and service group heartbeat disks) are not supported.
3. For configurations with PowerPath 3.0.1 use native names only, and no power devices.
4. Symmetrix SCSI-3 "PER" volume flag setting required for devices accessible through two or more paths.
5. Requires minimum microcode level of 5669 45.24 for support of TimeFinder and/or SRDF.
6. If all FC connectivity to the array is lost (without a server shutdown), then after connectivity is restored, the user must execute a vxdctl enable command, before the VCS Oracle 9iRAC service group is brought back online.
7. Veritas MP1 is required for clusters with more than 2 servers
8. 64-bit HBAs will not fit into the 32-bit slot due to a physical obstruction.
9. Requires driver 4.09. The QLA2200F-EMC/QCP2202F-E/QLA2300-E-SP/QLA2340-E-SP/QLA2342-E-SP requires fcode v2.00.06. The QLA2202FS-E requires fcode 2.00.01. Fcode should be loaded on all HBA's at the time of installation. All drivers and fcode can be downloaded from http://www.qlogic.com. Supports SNIA HBA API.
10. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
11. For configurations with PowerPath 3.0.1 (or above)use native names only, and no power devices.
12. For all Sun Cluster 3.0 configurations where TimeFinder or SRDF are being used, please refer to the white papers EMC Symmetrix with Sun Cluster 3.0 on Avatar and PowerLink
13. Requires Symmetrix DMX series, ucode revision 5669.44.23 PowerPath 3.0.4 or later, VxVM 3.2. Symmetrix "PER" volume flag for Persistent Reservation support for devices accessible through more than two paths.
14. OPS and RAC configurations running VxVM 3.2 VxVM 3.2 P03.
15. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
16. Requires Sun patch 113277 -09
17. Review single attach VxVM notes for PowerPath and DMP coexistence rules and restrictions.
18. **Requires Symmetrix DMX series, ucode revision 5669.45.24. PowerPath 3.0.4, VxVM 3.5 or later, Symmetrix "PER" volume flag for Persistent Reservation support for devices accessible through more than two paths.**
19. **Requires Symmetrix DMX series, ucode revision 5669.45.24. PowerPath 3.0.4, VxVM 3.2 or 3.5, Symmetrix "PER" volume flag for Persistent Reservation support for devices accessible through more than two paths.**

Fibre Connectivity: Switch

DG DG/UX

DG DG/UX								
No	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	LUNs/HBA	Host[illegible]
1	DG DG/UX R4 20MU07	Emulex LP8000-F1	Brocade Silkworm 2400[1] 2800[1] 6400[1] EMC Connectrix DS-16B[1, 2] DS-16B2[3] DS-8B[1]	6	28	128	50[illegible]	[illegible]

1. For Switch Firmware leve s and other fabric parameters, see Switched Fabric Topology parameters.
2. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized

3. EMC DS-16B2 for "Extended Fabric License" use minimum 3.0.2f firmware. 1 ISL per quad only.[7]

EMC NAS

EMC NAS									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	EMC NAS: **5.1.15**, 5.1.9	EMC 201-712-900	Brocade Silkworm: 2400[1] 2800[1], 3800, 3900[1]. Cisco MDS 9216[1], 9509[1]; EMC Connectrix DS-16B[1, 5] DS-16B2[7], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[1, 6], DS-32M[1] DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 6] ED-140M[1] ED-64M[1]. Fujitsu Siemens PSFS-B161[1] McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	28	512	4096[4]	N[3]	See[2]
2	EMC NAS: **5.1.15**, 5.1.9	EMC 250-736-900	Brocade Silkworm: 2400, 2800, 3800, 3900[1]. Cisco MDS, 9216[1] 9509[1]. EMC Connectrix DS-16B[5], DS-16B2[7] DS-16M DS-16M2[1], DS-24M2[1], DS-32B2[1, 6] DS-32M, DS-32M2[1], DS-8B, ED-1032, ED-12000B[1, 6], ED-140M[1] ED-64M; Fujitsu Siemens PSFS-B161; McDATA ED-5000 ED-6064, ED-6140[1] ES-2500, ES-3016, ES-3032, ES-3216[1] ES-3232[1] ES-4500[1]	6	28	512	4096[4]	N[3]	See[2]
3	EMC NAS: **5.1.15**, 5.1.9	EMC: 250-734-902, 250-735-900	Brocade Silkworm 2400, 2800, 3800, 3900[1]. Cisco MDS 9216[1] 9509[1]. EMC Connectrix DS-16B[1, 5], DS-16B2[7], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[1, 6], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032, ED-12000B[1, 6], ED-140M[1], ED-64M[1]; Fujitsu Siemens PSFS-B161[1] McDATA, ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	6	28	512	4096[4]	N[3]	See[2]

1. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
2. For the DMX1000 and DMX2000, the only supported board in this configuration is the DMX-FCD8M02. For the DMX800, the only supported boards are the DMX-FE-8M02 and DMX-FE-4M02.
3. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information. 4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information. 5. Microcode level 5x66 and above.
4. Addressable from Data Mover Constrained by the number of targets addressable through a Symmetrix FA port.
5. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
6. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
7. EMC DS-16B2 for "Extended Fabric License" . use minimum 3.0.2f firmware. 1 ISL per quad only.

Fujitsu Siemens BS2000/OSD

Fujitsu Siemens BS2000/OSD								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Fujitsu Siemens BS2000/OSD V5.0	Fujitsu Siemens. GS214FC05, GS216FC05, GS8551C05 GS8951C05	Brocade Silkworm: 12000, 2400, 2800, 3200, 3800, 6400; EMC Connectrix: DS-16B[2], DS-16B2[3], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[1], ED-140M, ED-64M: McDATA: ED-5000 ED-6064, ED-6140, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500	4	4	256	256	N

1. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only
2. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
3. EMC DS-16B2 for "Extended Fabric License" use minimum 3.0.2f firmware. 1 ISL per quad only

Fujitsu Siemens Solaris

Fujitsu Siemens Solaris									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	Fujitsu Siemens Solaris 2.6 May 98	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1] EMC Connectrix, DS-16B[1, 5], DS-16M[1], DS-16M2[1] DS-24M2[1], DS-32B2[1, 6], DS 32M[1] DS-32M2[1] DS-8B[1] ED-1032[1] ED-12000B[1, 6], ED-64M[1] McDATA, ED-5000[1], ED-6064[1], ES-3016[1] ES-4032[1] ES-3216[1] ES-3232[1] ES-4500[1]	12	28	256[4]	128 Sol 6. 256 Sol 7,8,9	Y	

Fujitsu Siemens Solaris									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
2	Fujitsu Siemens Solaris 2.6 May 98	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X)[2, 3], LP9002-E (LP9002L-E) GP70F-CF30	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 5], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[1, 6], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 6], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	28	256[4]	256	Y	
3	Fujitsu Siemens Solaris 7 Nov 99	Fujitsu Siemens LP9002-E (LP9002L-E) GP70F-CF30	Brocade Silkworm 3900[1]; EMC Connectrix: DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1]; McDATA ES-4500[1]	12	28	256[4]	256	Y	
4	Fujitsu Siemens Solaris 7 Nov 99	Fujitsu Siemens LP9002-E (LP9002L-E) GP70F-CF30	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 6400[1]; EMC Connectrix: DS-16B[1, 5], DS-32B2[1, 6], DS-8B[1], ED-1032[1], ED-12000B[1, 6], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	12	28	256[4]	256	Y	See[7]
5	Fujitsu Siemens Solaris 8: 02/02, 850/650; Fujitsu Siemens Solaris 9 04/03	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 5], DS-32B2[1, 6], DS-8B[1], ED-1032[1], ED-12000B[1, 6], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	28	256[4]	256	Y	See[7]
6	Fujitsu Siemens Solaris 8: 02/02, 850/650; Fujitsu Siemens Solaris 9 04/03	Fujitsu Siemens: LP9002-E (LP9002L-E) GP70F-CF30, LP9802-E (GP70F-CF31)	EMC Connectrix: DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1]	12	28	256[4]	256	Y	
7	Fujitsu Siemens Solaris: 7 Nov 99, 8 02/02, 8 850/650, 9 04/03	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 5], DS-32B2[1, 6], DS-8B[1], ED-1032[1], ED-12000B[1, 6], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	28	256[4]	128 Sol 6, 256 Sol 7,8,9	Y	See[7]
8	Fujitsu Siemens Solaris: 7 Nov 99, 8 02/02, 8 850/650, 9 04/03	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)	EMC Connectrix: DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1]	12	28	256[4]	128 Sol 6, 256 Sol 7,8,9	Y	
9	Fujitsu Siemens Solaris: 7 Nov 99, 8 02/02, 8 850/650, 9 04/03	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[2, 3]	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; EMC Connectrix: DS-16B[1, 5], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32B2[1, 6], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 6], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	28	256[4]	256	Y	
10	Fujitsu Siemens Solaris: 8 850/650, 9 04/03	Fujitsu Siemens LP8000-EMC (GP70F-CF10) (PP028FC1X)[2, 3]	EMC Connectrix DS-32B2[1, 6]	12	28	256[4]	128(Sol 2.6), 256(Sol 7,8)	Y	

1. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
2. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
3. EMC strongly recommends that HBAs of different vendors not be used in the same host server
4. The Sun Solaris sd driver is unable to configure a lun addresses greater than 255
5. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
6. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
7. See Switched Fabric Topology Parameters for switch firmware levels.

HPQ HP-UX

HPQ HP-UX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	HPQ HP-UX 11.0 Dec 2002[11]	HPQ A6795A[30]	Cisco MDS: 9216, 9509[32]	12	28	512	32[16] 512[17, 18]	Y[19]
2	HPQ HP-UX 11.0 March 2003[11]	HPQ A6795A	Cisco MDS: 9216[32] 9509[32]	12	28	512	512	Y
3	HPQ HP-UX 11.0[7, 8, 9, 10, 11, 12, 13, 14, 15]	HPQ A6795A[1, 2]	Brocade Silkworm: 12000[3, 5, 21, 22] 2400[3, 5, 6, 20] 2800[3, 5, 6, 20] 3200[3, 4, 5, 6] 3800[3, 4, 5, 6] 3900[3, 5, 22]; Cisco MDS 9509[32]; EMC Connectrix: DS-16B[3, 5, 6, 20, 23], DS-16B2[3, 4, 5, 6, 24] DS-16M[3, 5, 25], DS-16M2[3, 5, 25] DS-24M2[3, 5, 25] DS-32B2[3, 5, 22, 26] DS-32M[3, 5, 25] DS-32M2[3, 5, 25] DS-8B[3, 5, 6, 20] ED-1032[3, 5, 25] ED-12000B[3, 5, 22, 26] ED-140M[3, 5, 25] ED-64M[3, 5, 25]; McDATA: ED-5000[3, 5, 25] ED-6064[3, 5, 25] ED-6140[3, 5, 25] ES-3016[3, 5, 25], ES-3032[3, 5, 25] ES-3216[3, 5, 25] ES-3232[3, 5, 25]	12	28	512	32[16] 512[17, 18]	Y[19]

HPQ HP-UX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
4	HPQ HP-UX 11.0[7, 8, 9, 10, 11, 12, 13, 14, 15]	HPQ: A5158A[1, 2], A6684A[1, 2], A6685A[1, 2]	Brocade Silkworm: 12000[3, 5, 21, 22], 2400[3, 5, 6, 20], 2800[3, 5, 6, 20], 3200[3, 4, 5, 6], 3800[3, 4, 5, 6], 3900[3, 5, 22]; EMC Connectrix: DS-16B[3, 5, 6, 20, 23], DS-16B2[3, 4, 5, 6, 24], DS-16M[3, 5, 25], DS-16M2[3, 5, 25], DS-24M2[3, 5, 25], DS-32B2[3, 5, 22, 26], DS-32M[3, 5, 25], DS-32M2[3, 5, 25], DS-8B[3, 5, 6, 20], ED-1032[3, 5, 25], ED-12000B[3, 5, 22, 26], ED-140M[3, 5, 25], ED-64M[3, 5, 25]; McDATA: ED-5000[3, 5, 25], ED-6064[3, 5, 25], ED-6140[3, 5, 25], ES-3016[3, 5, 25], ES-3032[3, 5, 25], ES-3216[3, 5, 25], ES-3232[3, 5, 25]	12	28	512	320[16] 512[17, 18]	Y[19]
5	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2002[11]	HPQ A6795A	Cisco MDS: 9216, 9509[32]	12	28	512	512	Y
6	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2003[11]	HPQ A6795A[31]	Cisco MDS: 9216, 9509[32]	12	28	512	512[17]	Y
7	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[8, 9, 10, 11, 13, 15, 27, 28, 29]	HPQ A6795A[1, 2]	Brocade Silkworm: 12000[3, 5, 22], 2400[3, 5, 6, 20], 2800[3, 5, 6, 20], 3200[3, 4, 5, 6], 3800[3, 4, 5, 6], 3900[3, 5, 22]; Cisco MDS 9509[32]; EMC Connectrix: DS-16B[3, 5, 6, 20, 23], DS-16B2[3, 4, 5, 6, 24], DS-16M[3, 5, 25], DS-16M2[3, 5, 25], DS-24M2[3, 5, 25], DS-32B2[3, 5, 22, 26], DS-32M[3, 5, 25], DS-32M2[3, 5, 25], DS-8B[3, 5, 6, 20], ED-1032[3, 5, 25], ED-12000B[3, 5, 22, 26], ED-140M[3, 5, 25], ED-64M[3, 5, 25]; McDATA: ED-5000[3, 5, 25], ED-6064[3, 5, 25], ED-6140[3, 5, 25], ES-3016[3, 5, 25], ES-3032[3, 5, 25], ES-3216[3, 5, 25], ES-3232[3, 5, 25]	12	28	512	320[16] 512[17, 18]	Y[19]
8	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[8, 9, 10, 11, 13, 15, 27, 28, 29]	HPQ: A5158A[1, 2], A6684A[1, 2], A6685A[1, 2]	Brocade Silkworm: 12000[3, 5, 22], 2400[3, 5, 6, 20], 2800[3, 5, 6, 20], 3200[3, 4, 5, 6], 3800[3, 4, 5, 6], 3900[3, 5, 22]; EMC Connectrix: DS-16B[3, 5, 6, 20, 23], DS-16B2[3, 4, 5, 6, 24], DS-16M[3, 5, 25], DS-16M2[3, 5, 25], DS-24M2[3, 5, 25], DS-32B2[3, 5, 22, 26], DS-32M[3, 5, 25], DS-32M2[3, 5, 25], DS-8B[3, 5, 6, 20], ED-1032[3, 5, 25], ED-12000B[3, 5, 22, 26], ED-140M[3, 5, 25], ED-64M[3, 5, 25]; McDATA: ED-5000[3, 5, 25], ED-6064[3, 5, 25], ED-6140[3, 5, 25], ES-3016[3, 5, 25], ES-3032[3, 5, 25], ES-3216[3, 5, 25], ES-3232[3, 5, 25]	12	28	512	320[16] 512[17, 18]	Y[19]
9	HPQ HP-UX, 11.0 March 2003[11], 11i v1.0 (HP-UX 11.11) Dec 2002[11]	HPQ A5158A	Cisco MDS 9216[32]	12	28	512	512	Y
10	HPQ HP-UX: 11.0 March 2003[11], 11i v1.0 (HP-UX 11.11) Dec 2002[11]	HPQ: A6684A, A6685A	Cisco MDS 9509[32]	12	28	512	512	Y

1. Minimum driver revision for HP-UX 11i v1.0 (HP-UX 11.11) is PCI/HSC Fibre Channel Driver B.11.11.09.
2. Minimum driver revision for HP-UX 11.0 is PCI/HSC Fibre Channel Driver B.11.00.10.
3. Domain value 8 can not be utilized when attaching HP-UX initiators (hba's)
4. minimum firmware revision v3.0.2m or later EMC qualified firmware revision
5. Single initiator zoning recommended.
6. The switch port a hba is attached to which is utilized for HP-UX boot or dump processes must be configured for G_port lock.
7. HP-UX Tachyon TL Fibre Channel Driver patch PHSS_26798 required
8. Execute "ioscan -fn" following zone configuration changes on all affected servers in order for the changes to be recognized by the servers.
9. Boot device can not be located more than two hops from initiator utilized for booting
10. Initiators from servers running HP-UX 11.0 and initiators from servers running HP-UX 11i v1.0 (HP-UX 11.11)may share the same FA port.
11. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
12. Maximum LUNs per server 4096
13. The Powerpath path must be removed from the Powerpath configuration for all paths deleted from a zone configuration utilizing non-hardware enforced WWN zoning in order to prevent accessibility to the paths deleted from the zone configuration.
14. Maximum devices per server 2048
15. Maximum of two hops between any two nodes belonging to the same Service Guard Cluster
16. Maximum of 320 visible LUNs per hba supported with HP-UX 11.0 HA configurations
17. Maximum of 512 visible LUNs per hba supported with HP-UX 11i v1.0 (HP-UX 11.11) HA and non-HA configurations
18. Maximum of 512 visible LUNs supported with HP-UX 11.0 non-HA configurations
19. HP-UX initiators currently support only Volume Set Addressing method. Volume Logix required to set Volume Set Addressing for HP-UX initiators if port sharing configured with non-HP-UX initiators
20. minimum firmware revision v2.6.0d or later EMC qualified firmware revision
21. Boot support Minimum fw v4.0.2a
22. minimum firmware revision v4.0.2a or later EMC qualified firmware revision
23. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
24. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
25. minimum firmware revision 04.01.00 or later EMC qualified firmware revision
26. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
27. HP-UX Tachyon TL Fibre Channel Driver patch PHSS_26799 required
28. Maximum devices per server 4096
29. Maximum LUNs per server 8192
30. Supported server models: rp7400 PDC 42.06
31. Supported server model: rp7400 PDC 43.08
32. During initial switch configuration, the Persistent FC ID's must be enabled on the Vsan that contains any HPUX HBAs. If Persistent FC IDs are enabled to an existing Vsan containing non HPUX HBAs, the process may be disruptive. See MDS 9000 Family Configuration Guild for details.

HPQ Open VMS

HPQ Open VMS								
No	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	HPQ Open VMS V7.2-2[2, 5]	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	Brocade Silkworm: 12000[3], 3800[3], 3900[3]; EMC Connectrix: DS-16B[3, 6], DS-16M[3], DS-16M2[3], DS-32B2[3, 4], DS-32M[3], DS-32M2[3], DS-8B[3], ED-1032[3], ED-12000B[3, 4], ED-140M[3], ED-64M[3]	12	28	128,255	255	N
2	HPQ Open VMS V7.2-2[2, 5], V7.3[1, 2], V7.3-1[2]	HPQ: FCA2354 (LP9002), KGPSA-DA (261329-B21)	Brocade Silkworm: 12000[3], 3800[3], 3900[3]; EMC Connectrix: DS-16B[6, 8], DS-16M[8], DS-16M2[8], DS-32B2[3, 4], DS-32M[8], DS-32M2[8], DS-8B[8], ED-1032[8], ED-12000B[4, 8], ED-140M[3], ED-64M[8]	12	28	128,255	255	N

HPQ Open VMS								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
3	HPQ Open VMS: V7.3[1, 2], V7.3-1[2]	HPQ: KGPSA-BC (380574-001), KGPSA-CA (168794-B21)	Brocade Silkworm: 12000[3], 3800[3], 3900[3]; EMC Connectrix: DS-16B[3, 6, 7], DS-16M[3, 7], DS-16M2[3, 7], DS-32B2[3, 4], DS-32M[3, 7], DS-32M2[3, 7], DS-8B[3, 7], ED-1032[3, 7], ED-12000B[3, 4, 7], ED-140M[3], ED-64M[3, 7]	12	28	128,255	255	N

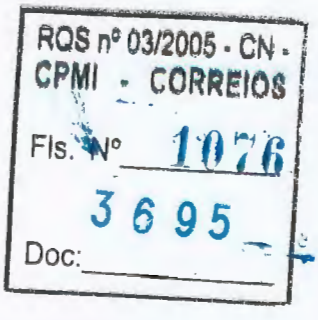
1. Open VMS 7.3 FC-SW requires console firmware 5.6 or later and patch VMS73_update-V0100 or patch VMS73_fibre_SCSI-V0200.
2. Open VMS is supported as of April 17, 2000, and requires a minimum Symmetrix microcode level of 5265.48.30, 5266.23.19s, or 5566.26.19s.
3. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
4. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
5. Open VMS 7.2-2 FC-SW requires console firmware 5.6 or later and patch VMS722_fibre_SCSI-V0100.
6. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
7. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
8. See Switched Fabric Topology Parameters for switch firmware levels.

HPQ Tru64 UNIX

HPQ Tru64 UNIX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	**HPQ Tru64 UNIX V5.1[1, 2]**	**HPQ: FCA2354 (LP9002), KGPSA-DA (261329-B21)**	**Brocade Silkworm: 12000[3], 2400[3], 2800[3], 3200[3], 3800[3], 3900[3];** **Cisco MDS: 9216[3], 9509[3];** **EMC Connectrix: DS-16B[3, 8], DS-16B2[3, 9], DS-16M[3], DS-16M2[3], DS-24M2[3], DS-32B2[3, 5], DS-32M[3], DS-32M2[3], DS-8B[3], ED-1032[3], ED-12000B[3, 5], ED-140M[3], ED-64M[3];** **McDATA: ED-5000[3], ED-6064[3], ED-6140[3], ES-3016[3], ES-3032[3], ES-3216[3], ES-3232[3], ES-4500[3]**	8	28	255[1]	512	Y[4]
2	**HPQ Tru64 UNIX: V4.0F[11], V4.0G[14]**	**HPQ KGPSA-CA (168794-B21)**	**Brocade Silkworm: 12000[3], 2400[3], 2800[3], 3200[3], 3800[3], 3900[3];** **EMC Connectrix: DS-16B[3, 8], DS-16B2[3, 9], DS-16M[3], DS-16M2[3], DS-24M2[3], DS-32B2[3, 5], DS-32M[3], DS-32M2[3], DS-8B[3], ED-1032[3], ED-12000B[3, 5], ED-140M[3], ED-64M[3];** **McDATA: ED-5000[3], ED-6064[3], ED-6140[3], ES-3016[3], ES-3032[3], ES-3216[3], ES-3232[3], ES-4500[3]**	6	28	8[12]	48	Y[13]
3	HPQ Tru64 UNIX: **V5.1[1, 2]**, V5.1A[1, 6], **V5.1B[1, 7]**	HPQ KGPSA-BC (380574-001)	Brocade Silkworm: 12000[3], 2400[3], 2800[3], 3200[3], 3800[3], 3900[3]; Cisco MDS: 9216[3], 9509[3]; EMC Connectrix: DS-16B[3, 8], DS-16B2[3, 9], DS-16M[3], DS-16M2[3], DS-24M2[3], DS-32B2[3, 5], DS-32M[3], DS-32M2[3], DS-8B[3], ED-1032[3], ED-12000B[3, 5], ED-140M[3], ED-64M[3]; McDATA: ED-5000[3], ED-6064[3], ED-6140[3], ES-3016[3], ES-3032[3], ES-3216[3], ES-3232[3], ES-4500[3]	8	28	255[1]	255	Y[4]
4	HPQ Tru64 UNIX: **V5.1[1, 2]**, V5.1A[1, 6], **V5.1B[1, 7]**	HPQ KGPSA-CA (168794-B21)	Brocade Silkworm: 12000[3], 2400[3], 2800[3], 3200[3], 3800[3], 3900[3]; EMC Connectrix: DS-16B[3, 8], DS-16B2[3, 9], DS-16M[3], DS-16M2[3], DS-24M2[3], DS-32B2[3, 5], DS-32M[3], DS-32M2[3], DS-8B[3], ED-1032[3], ED-12000B[3, 5], ED-140M[3], ED-64M[3]; McDATA: ED-5000[3], ED-6064[3], ED-6140[3], ES-3016[3], ES-3032[3], ES-3216[3], ES-3232[3], ES-4500[3]	8	28	255[1]	255	Y[4]
5	HPQ Tru64 UNIX: **V5.1[1, 2]**, V5.1A[1, 6], **V5.1B[1, 7]**	HPQ KGPSA-CA (168794-B21)[10]	Cisco MDS: 9216[3], 9509[3]	8	28	255[1]	255	Y[4]
6	HPQ Tru64 UNIX: V5.1A[1, 6], **V5.1B[1, 7]**	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)**, KGPSA-DA (261329-B21)	Brocade Silkworm: 12000[3], 2400[3], 2800[3], 3200[3], 3800[3], 3900[3]; Cisco MDS: 9216[3], 9509[3]; EMC Connectrix: DS-16B[3, 8], DS-16B2[3, 9], DS-16M[3], DS-16M2[3], DS-24M2[3], DS-32B2[3, 5], DS-32M[3], DS-32M2[3], DS-8B[3], ED-1032[3], ED-12000B[3, 5], ED-140M[3], ED-64M[3]; McDATA: ED-5000[3], ED-6064[3], ED-6140[3], ES-3016[3], ES-3032[3], ES-3216[3], ES-3232[3], ES-4500[3]	8	28	255[1]	512	Y[4]

1. V5.x: 255 LUNs/Symmetrix Fibre director port (LUNs 000-0FE valid) on Symmetrix DMX Series, requires OVMS director bit setting, LUN 000 must be mapped to a Symmetrix device, the LUN 000 device can be used as a normal disk device by the Tru64 host.
2. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
3. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
4. Requires the Heterogeneous Host Configuration feature in EMC Solutions Enabler SYMCLI Device Masking Component Version 5.x
5. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
6. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
7. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
8. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
9. EMC DS-16B2 for "Extended Fabric License", use minimum 3.0.2f firmware, 1 ISL per quad only.
10. KGPSA-CA / Cisco MDS 9xxx: Tru64 host bootup may fail if switch port speed is hard-set to 1 Gb/s. Switch port should be set to Auto-Negotiate.
11. **Tru64 V4.0F BL13 Patch Kit 2 may introduce problems with KZPBA adapters. Tru64 V4.0F latest qualified Patch Kit-0007 (DUV40FB18AS0007-20020102).**
12. **V4.0F, V4.0G: 8 LUNs/Symmetrix Fibre director port (LUNs 000-007 valid).**
13. **If sharing port with Tru64 UNIX V5 hosts, use the Heterogeneous Host Configuration feature in EMC Solutions Enabler SYMCLI Device Masking Component V5.x (minimum 5568 microcode), or use Tru64 UNIX V5 director bit settings (with OVMS director bit set, the resulting LUN 000 array controller device will not be usable as a disk device by the Tru64 hosts).**
14. **Tru64 V4.0G latest qualified patch kit-0003 (T64V40GAS0003-20010613).**

IBM AIX



IBM AIX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	**IBM AIX 4.3.3**	**IBM: 6227, 6228**	**Brocade Silkworm: 3200[2], 3800[2];** **EMC Connectrix DS-16B2[4, 8]**	**12**	**28**	**512**	**512**	Y
2	**IBM AIX 4.3.3**	**IBM: 6227, 6228**	**EMC Connectrix ED-140M[4]**	**10**	**10**	**512**	**512**	Y
3	**IBM AIX 4.3.3**	**IBM: 6227[1], 6228[1]**	**Brocade Silkworm: 12000[2, 3], 2400[2, 3], 2800[2, 3], 3900[2, 3], 6400[2, 3];** **EMC Connectrix: DS-16B[2, 3, 6], DS-16M[2, 3], DS-16M2[2, 3], DS-24M2[2, 3], DS-32M[2, 3], DS-32M2[2, 3], DS-8B[2, 3], ED-1032[2, 3], ED-12000B[2, 3, 9], ED-64M[2, 3];** **IBM: 2032-001[2, 3, 5], 2109[2, 3], 6064[2, 3];** **McDATA: ED-5000[2, 3], ED-6064[2, 3], ES-3016[2, 3], ES-3032[2, 3], ES-3216[2, 3], ES-3232[2, 3], ES-4500[2, 3]**	**12**	**28**	**512**	**512**	Y
4	**IBM AIX 4.3.3**	**IBM: 6227[1], 6228[1]**	**EMC Connectrix DS-32B2[2, 9]**	**10, 12**	**10, 28**	**512**	**512**	Y
5	IBM AIX 5.1	IBM: 6227, 6228, **6239**	**Brocade Silkworm: 12000[4], 2400[4], 2800[4], 3200[2], 3800[2], 3900[4], 6400[4];** Cisco MDS: 9216[4], 9509[4]; **EMC Connectrix: DS-16B[4, 6], DS-16B2[4, 8], DS-16M[4], DS-16M2[4], DS-24M2[4], DS-32M[4], DS-32M2[4], DS-8B[4], ED-1032[4], ED-12000B[4, 9], ED-64M[4];** **IBM: 2032-001[2, 5], 2109[2, 7], 6064[4];** **McDATA: ED-5000[4], ED-6064[4], ES-3016[4], ES-3032[4], ES-3216[4], ES-3232[4], ES-4500[4]**	12	28	512	512	Y
6	**IBM AIX 5.1**	**IBM: 6227, 6228, 6239**	**EMC Connectrix DS-32B2[9]**	**10, 12**	**10, 28**	**512**	**512**	Y
7	**IBM AIX 5.2**	**IBM: 6227, 6228**	**EMC Connectrix DS-32B2[9]**	**10, 12**	**10, 28**	**512**	**512**	Y
8	IBM AIX 5.2	IBM: 6227, 6228, **6239**	**Brocade Silkworm: 12000[4], 2400[4], 2800[4], 3200[2], 3800[2];** Cisco MDS: 9216[4], 9509[4]; **EMC Connectrix: DS-16B[4, 6], DS-16B2[4, 8], DS-16M[4], DS-16M2[4], DS-24M2[4], DS-32M2[4], ED-1032[4], ED-12000B[4, 9], ED-64M[4];** **IBM: 2032-001[2, 5], 6064[4];** **McDATA: ED-5000[4], ED-6064[4], ES-3016[4], ES-3032[4], ES-3216[4], ES-3232[4], ES-4500[4]**	12	28	512	512	Y
9	**IBM AIX: 5.1, 5.2**	**Bull: DCCG147-0000[10], DCCG148-0000[10], DCCG154-0000, DCCG155-0000**	**Bull: MSKG008-0000[11, 12], SMDF007-B000[12, 13], SMDF009-B000[12, 14]**	**12**	**28**	**512**	**512**	Y
10	**IBM AIX: 5.1, 5.2**	**IBM: 6227, 6228, 6239**	**EMC Connectrix ED-140M[4]**	**10**	**10**	**512**	**512**	Y

1. For all PCI-based hosts only: See http://www-1.ibm.com/servers/eserver/pseries/library/hardware_docs/sa38/380538.pdf for appropriate HBA placement guidelines.
2. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
3. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
4. See Switched Fabric Topology Parameters for switch firmware levels.
5. The IBM 2032-001 is the McData ED-5000.
6. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
7. IBM SAN FC S08 (8-port) and S16 (16-port). Firmware level is 2.1.3. S08SAN FC switch includes four shortwave optical GBIC ports. and the option to add an additional 4 (8 total) longwave or shortwave ports to the S08. The S08 8-port switch is a single power entry. S16 SAN FC switch includes four shortwave optical GBIC ports, and the option to add an additional 12 (16 total) longwave or sortwave ports to the S16. The S16 is dual-powered. S08 & S16: 1) Shortwave GBIC: Feature Code=2010; 2) Longwave GBIC: Feature Code=2020: 3) Fibre Channel Cable Multimode optical 50.0u, 5m: Feature Code=5805; 4) Fibre Chanel Cable Multimode optical 50.0u, 25m: Feature Code=5825
8. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
9. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
10. Fibre Channel device driver distributed and supported by Bull.
11. This is a Brocade Silkworm 2800 (16 ports)
12. Firmware revision levels distributed and supported by Bull. Please see appropriate Bull documentation.
13. This is a Brocade Silkworm 3800 (16 port, 2 Gb/s)
14. This is a Brocade Silkworm 3200 (8 ports, 2 Gb/s)

Microsoft Windows 2000

Microsoft Windows 2000								
No	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Microsoft Windows 2000 Advanced Server SP2[1], SP3[1]. Microsoft Windows 2000 Datacenter SP2[1] SP3[1] Microsoft Windows 2000 Server SP2[1], SP3[1]	Emulex LP8000-EMC[3] LP850-EMC LP9002-E (LP9002L-E), LP9002DC-E LP9802-E LP9802DC-E, LP982-E QLogic QLA2310F-E-SP, QLA2340-E-SP QLA2342-E-SP	Brocade Silkworm, 12000[2], 2400[2] 2800[2], 3200[2] 3800[2], 3900[2], 6400[2]; Cisco MDS. 9216[2] 9509[2], EMC Connectrix DS-16B[2, 6] DS_16B2[2, 5], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2], DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 7], ED-140M ED-64M[2], McDATA. ED-5000[2], ED-6064[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	28	128, 256[8]	256	Y[9]

Microsoft Windows 2000								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
2	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]; Microsoft Windows 2000 Server: SP2[1], SP3[1]	Emulex: LP8000-EMC[3], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2], 3800[2], 3900[2], 6400[2]; Cisco MDS: 9216[2], 9509[2]; EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 5], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2] DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 7], **ED-140M**, ED-64M[2]; McDATA: ED-5000[2], ED-6064[2], ES-3016[2] ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	28	256	256	Y
3	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1]; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]; Microsoft Windows 2000 Server: SP2[1], SP3[1]	IBM 00N6881 (QLA2200)[4]	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2], 3800[2], 3900[2], 6400[2]; Cisco MDS: 9216[2], 9509[2]; EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 5], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2] DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 7], **ED-140M**[2], ED-64M[2]; McDATA: ED-5000[2], ED-6064[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	28	256	256	Y
4	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], **SP4**; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], **SP4**; Microsoft Windows 2000 Server: SP2[1], SP3[1], **SP4**	HPQ Dual-port mezzanine controller card[10]	EMC Connectrix: DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2], DS-32M2[2], ED-1032[2], ED-140M, ED-64M[2]; McDATA: ED-5000[2], ED-6064[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	28	128, 256[8]	256	Y[9]
5	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], **SP4**; Microsoft Windows 2000 Datacenter: SP2[1], SP3[1], **SP4**; Microsoft Windows 2000 Server: SP2[1], SP3[1], **SP4**	HPQ Dual-port mezzanine controller card[10]	EMC Connectrix: DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2], DS-32M2[2], ED-1032[2], **ED-140M**, ED-64M[2]; McDATA: ED-5000[2], ED-6064[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	28	256	256	Y
6	**Microsoft Windows 2000: Advanced Server SP4, Datacenter SP4, Server SP4**	**HPQ Dual-port mezzanine controller card[10]**	**EMC Connectrix: DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2], DS-32M2[2], ED-140M[2], ED-64M[2];** **McDATA: ED-5000[2], ED-6064[2], ED-6140[2], ES-2500[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]**	**12**	**28**	**128**	**128**	**Y**
7	**Microsoft Windows 2000: Advanced Server SP4, Datacenter SP4, Server SP4**	**IBM 00N6881 (QLA2200)[4]**	**EMC Connectrix ED-140M[2]**	**12**	**28**	**256**	**256**	**Y**

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
3. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
4. (QLA2200) For IBM xSeries and Netfinity servers only.
5. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
6. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
7. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
8. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
9. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information. 4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information. 5. Microcode level 5x66 and above.
10. FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.

Microsoft Windows 2003

Microsoft Windows 2003								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Microsoft Windows 2003 DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3], Standard Edition (Server)[1, 2, 3]	Emulex: LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; HPQ: FCA2354 (LP9002), FCA2355 (LP9002DC); IBM: 19K1246(QLA2310)[12], 24P0960(QLA2340)[11]; NEC N8803-031 (QLA2310F); QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1), FCH732213-P64 (LP9002L-F2)	Brocade Silkworm: 12000[6], 2400[6], 2800[6], 3200[6], 3800[6], 3900[6], 6400[6]; Cisco MDS: 9216[6], 9509[6]; EMC Connectrix: DS-16B[6, 8], DS-16B2[6, 7], DS-16M[6], DS-16M2[6], DS-24M2[6], DS-32M[6] DS-32M2[6], DS-8B[6], ED-1032[6], ED-12000B[6, 9], ED-140M, ED-64M[6]; McDATA: ED-5000[6], ED-6064[6], ES-3016[6] ES-3032[6], ES-3216[6], ES-3232[6], ES-4500[6]	12	28	128, 256[5]	256	Y[4]

Microsoft Windows 2003								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
2	Microsoft Windows 2003: DataCenter[1, 2, 3], Enterprise Edition (Advanced Server)[1, 2, 3] Standard Edition (Server)[1, 2, 3]	Emulex. LP8000-EMC[10], LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; HPQ. FCA2354 (LP9002), FCA2355 (LP9002DC); IBM 19K1246(QLA2310)[12], 24P0960(QLA2340)[11]; NEC N8803-031 (QLA2310F) QLogic QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP Unisys FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1), FCH7J2213-P64 (LP9002L-F2)	Brocade Silkworm: 12000[6], 2400[6], 2800[6], 3200[6], 3800[6], 3900[6], 6400[6]; Cisco MDS: 9216[6], 9509[6]; EMC Connectrix: DS-16B[6, 8], DS-16B2[6, 7], DS-16M[6], DS-16M2[6], DS-24M2[6], DS-32M[6], DS-32M2[6], DS-8B[6], ED-1032[6], ED-12000B[6, 9], ED-140M, ED-64M[6]; McDATA: ED-5000[6], ED-6064[6], ES-3016[6], ES-3032[6], ES-3216[6], ES-3232[6], ES-4500[6]	12	28	256	256	Y

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.
3. PowerPath is not supported
4. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers. BIOS, firmware boot and cluster information. 4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information. 5. Microcode level 5x66 and above.
5. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
6. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
7. EMC DS-16B2 for "Extended Fabric License", use minimum 3.0.2f firmware, 1 ISL per quad only.
8. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
9. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
10. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
11. This HBA is equivalent to the qLogic QLA2340
12. This HBA is equivalent to the qLogic QLA2310

Microsoft Windows NT

Microsoft Windows NT								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[5]	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2], 3800[2], 3900[2], 6400[2]; Cisco MDS: 9216[2], 9509[2]; EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 7], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[2, 3], DS-32M[2], DS-32M2[2], DS-8B, ED-1032[2], ED-12000B[2, 3], ED-140M[2], ED-64M[2]; McDATA: ED-5000[2], ED-6064[2], ED-6140, ES-2500, ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	28	256	256	Y
2	Microsoft Windows NT 4.0 SP6A[1]	Emulex LP8000-EMC[5]	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2], 3800[2], 3900[2], 6400[2]; Cisco MDS: 9216[2], 9509[2]; EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 7], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[2, 3], DS-32M[2], DS-32M2[2], DS-8B, ED-1032[2], ED-12000B[2, 3], ED-140M[2], ED-64M[2]; McDATA: ED-5000[2], ED-6064[2], ED-6140, ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	28	128, 256[8]	256	Y[9]
3	Microsoft Windows NT 4.0 SP6A[1]	Emulex. LP850-EMC, LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; HPQ. 176479-B21, KGPSA-CB, KGPSA-CY IBM 00N6881 (QLA2200)[4] QLogic. QLA2310F-E-SP, QLA2340-E-SP QLA2342-E-SP	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2], 3800[2], 3900[2], 6400[2]; Cisco MDS: 9216[2], 9509[2]; EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 7], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[2, 3], DS-32M[2], DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 3], ED-140M[2], ED-64M[2]; McDATA: ED-5000[2], ED-6064[2], ED-6140, ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	28	256	256	Y
4	Microsoft Windows NT 4.0 SP6A[1]	Emulex. LP850-EMC, LP9002-E (LP9002L-E), LP9802-E LP9802DC-E LP982-E, QLogic. QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 12000[2], 2400[2] 2800[2], 3200[2], 3800[2], 3900[2], 6400[2], Cisco MDS. 9216[2], 9509[2], EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 7], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[2, 3], DS-32M[2], DS-32M2[2], DS-8B[2], ED-1032[2], ED-12000B[2, 3], ED-140M[2], ED-64M[2]; McDATA: ED-5000[2], ED-6064[2], ED-6140, ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	28	128, 256[8]	256	Y[9]
5	Microsoft Windows NT 4.0 SP6A[1]	Unisys FCH20111-P64 (LP8000-D1) FCH20113-P64 (LP8000-EMC LP8000-F1)	Brocade Silkworm: 12000[2], 2400[2], 2800[2], 3200[2] 3800[2], 3900[2], 6400[2]; Cisco MDS. 9216[2], 9509[2], EMC Connectrix: DS-16B[2, 6], DS-16B2[2, 7], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32B2[2, 3], DS-32M[2], DS-32M2[2], DS-8B[2] ED-1032[2], ED-12000B[2, 3], ED-140M[2], ED-64M[2]. McDATA: ED-5000[2], ED-6064[2], ED-6140, ES-2500, ES-3016[2] ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	28	256	256	Y

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
3. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
4. (QLA2200) For IBM xSeries and Netfinity servers only.
5. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
6. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
7. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
8. The 200-561-9XX, and 200-563-9XX FA director familys support a total of 256 LUNs per FA port. (Hewlett Packard Alpha Tru64 supports 255 LUNs.)
9. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information 4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information. 5. Microcode level 5x66 and above.

Novell Netware

Novell Netware									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	**Novell Netware 6.0: SP1[3], SP2[3], SP3**	**IBM: 00N6881 (QLA2200)[12, 13], 19K1246(QLA2310)[13, 14], 24P0960(QLA2340)[13, 15]; QLogic QLA2342-E-SP**	**Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400; EMC Connectrix: DS-16B[2, 8], DS-16B2[9], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[10], ED-12000B[11], ED-140M, ED-64M[10]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500**	**6**	**28**	**128[6]**	**128**	**Y[7]**	**See[1]**
2	Novell Netware 6.0: SP1[3], SP2[3], SP3	QLogic: QLA2310F-E-SP, QLA2340-E-SP	Brocade Silkworm: 12000, 2400[2], 2800[2], 3200, 3800, 6400. EMC Connectrix: DS-16B[2, 8], DS-16B2[9], DS-16M, DS-16M2, DS-24M2, DS-32M, DS-32M2, DS-8B[2], ED-1032[10], ED-12000B[11], ED-140M, ED-64M[10]; McDATA: ED-6064, ED-6140, ES-3216, ES-3232, ES-4500	6	28	128[6]	223[4], 256[5]	Y[7]	See[1]

1. Refer to Table 71 on page 202 for single-vendor and mixed-vendor switched fabrics and supported switch firmware.
2. Extended Fabric software license is bundled into DS-xB models. Optional Extended Fabric software license for all DS-xB switches ordered after July 4, 2001 require chargeable model DSBXFAB-0D.
3. Maximum number of NWFS volumes that can be mounted is 64.
4. FC4700, FC4500, and FC5300.
5. CX600 and CX400
6. NetWare 5.00 NSS has a 120 LUNs per port limitation. If NSS is used, the maximum LUNs per Symm-Port/HBA is 120/120.
7. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA):
   1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port.
   2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/Fanin of 12:1/1:12 and NetWare
   using the QLA2200F, which has a Fanout/Fanin of 6:1/1:6. The Fanout/Fanin is restricted to 6:1/1:6.
   3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information.
   4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information, Table 138 on page 345.
   5. Microcode level 5x66 and above.
8. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
9. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
10. ED-64 and ED-1032 not supported for FC5300.
11. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
12. **(QLA2200) For IBM xSeries and Netfinity servers only.**
13. **For IBM Netfinity and xSeries Intel servers only.**
14. **This HBA is equivalent to the qLogic QLA2310.**
15. **This HBA is equivalent to the qLogic QLA2340.**

Red Hat Linux

Red Hat Linux									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[4, 10]	Emulex: LP9002-E (LP9002L-E)[3], LP9802-E[3], LP9802DC-E[3], LP982-E[3]. QLogic: QLA2200F-EMC[3], QLA2310F-E-SP[3], QLA2340-E-SP[3]	Brocade Silkworm 3900[2]; EMC Connectrix DS-32B2[2, 11]	12	28	128	128	Y	
2	Red Hat Linux 2.1 Advanced Server v2.4.9-E.9[4, 10]	QLogic QLA2342-E-SP	Brocade Silkworm 3900[2] EMC Connectrix DS-32B2[2, 11]	12	28	128	256	Y	
3	Red Hat Linux 2.1 Advanced Server. v2.4.9-E.10[4, 10], v2.4.9-E.12[4, 10] v2.4.9-E 16[4, 10], v2.4.9-E.3[4, 9]; Red Hat Linux 2.1 ES v2.4.9-e.12[4, 10], v2.4.9-e 16[4, 10]; Red Hat Linux 7.3 (v2.4.18-3)[4]	QLogic QLA2342-E-SP	Brocade Silkworm: 1000[2], 12000[2], 2400[2, 5], 2800[2, 5], 3200[2, 8], 3800[2, 5], 3900[2], 6400[2, 5]; EMC Connectrix: DS-16B[2, 7], DS-16B2[2, 5, 6], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2], DS-32M2[2], DS-8B[2, 5], ED-1032[2, 12], ED-12000B[2, 11] ED-64M[2]; McDATA: ED-5000[2, 12], ED-6064[2], ES-2500, ES-3016[2], ES-3032[2], ES-3216[2] ES-3232[2], ES-4500[2]	12	28	128	256	Y	See[1]
4	Red Hat Linux 2.1 Advanced Server. v2.4.9-E.10[4, 10], v2.4.9-E.12[4, 10] v2.4.9-E 16[4, 10] v2.4.9-E.3[4, 9]; Red Hat Linux 2.1 ES v2.4.9-e.12[4, 10], v2.4.9-e 16[4, 10]; Red Hat Linux 7.3 (v2.4.18-3)[4]	QLogic QLA2342-E-SP	EMC Connectrix DS-32B2[2, 11]	12	28	128	256	Y	

Red Hat Linux									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
5	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 10], v2.4.9-E.12[4, 10], v2.4.9-E.16[4, 10], **v2.4.9-E.3[4, 9]**; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 10]**, v2.4.9-e.16[4, 10]; Red Hat Linux 7.3: (v2.4.18-3)[4] updated w/ v2.4.18-27.7.x rpm[4]	Emulex: LP9002-E (LP9002L-E)[3], LP9802-E[3], LP9802DC-E[3], LP982-E[3]; QLogic: QLA2200F-EMC[3] QLA2310F-E-SP[3], QLA2340-E-SP[3]	Brocade Silkworm: 1000[2], 12000[2], 2400[2, 5], 2800[2, 5], 3200[2, 8], 3800[2, 5], 3900[2], 6400[2, 5]; EMC Connectrix: DS-16B[2, 7], DS-16B2[2, 5, 6] DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2], DS-32M2[2], DS-8B[2, 5], ED-1032[2, 12], ED-12000B[2, 11], ED-64M[2]; McDATA: ED-5000[2, 12], ED-6064[2], ES-2500, ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	28	128	128	Y	See[1]
6	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[4, 10], v2.4.9-E 12[4, 10], v2.4 9-E.16[4, 10], **v2.4.9-E.3[4, 9]**; Red Hat Linux 2.1 ES: **v2.4.9-e.12[4, 10]**, v2.4.9-e.16[4, 10]; Red Hat Linux 7.3: (v2.4.18-3)[4] updated w/ v2.4.18-27.7.x rpm[4]	Emulex: LP9002-E (LP9002L-E)[3], LP9802-E[3], LP9802DC-E[3], LP982-E[3]; QLogic: QLA2200F-EMC[3] QLA2310F-E-SP[3], QLA2340-E-SP[3]	EMC Connectrix DS-32B2[2, 11]	12	28	128	128	Y	
7	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.12[4, 10], v2.4.9-E.3[4]; Red Hat Linux 8.0 updated to v2.4.18-19.8.0[4]	HPQ Dual-port mezzanine controller card[16]	EMC Connectrix: DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2], DS-32M2[2], ED-140M[2], ED-64M[2]; McDATA: ED-5000[2], ED-6064[2], ED-6140[2] ES-2500[2], ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]	12	28	128	128	Y	
8	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4]**	**QLogic QLA2342-E-SP[3, 13, 14, 15]**	**Brocade Silkworm: 1000[2], 12000[2], 2400[2, 5], 2800[2, 5], 3200[2, 8], 3800[2, 5], 3900[2], 6400[2, 5];** **EMC Connectrix: DS-16B[2, 7], DS-16B2[2, 5, 6], DS-16M[2], DS-16M2[2], DS-24M2[2], DS-32M[2], DS-32M2[2], DS-8B[2, 5], ED-1032[2, 12], ED-12000B[2, 11], ED-64M[2];** **McDATA: ED-5000[2, 12], ED-6064[2], ES-2500, ES-3016[2], ES-3032[2], ES-3216[2], ES-3232[2], ES-4500[2]**	12	28	128	256	Y	**See[1]**
9	**Red Hat Linux 7.3 updated w/ v2.4.18-27.7.x rpm[4]**	**QLogic QLA2342-E-SP[3, 13, 14, 15]**	**EMC Connectrix DS-32B2[2, 11]**	12	28	128	256	Y	

1. All adapters must be the same type except with HP-UX.
2. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
3. Single HBA zoning is required regardless of the switch being utilized.
4. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.
5. Requires Brocade firmware v2.5.1b or later.
6. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
7. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
8. Requires Brocade firmware v3. 0. 2a or later.
9. **Supported with QLogic driver v6.04.02 or v6.05.00.**
10. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath.
11. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
12. Requires Connectrix microcode v2.0.1 or later or v2.2 or later.
13. **Host must be offline for CLARiiON-licensed (Flare) upgrade and Storage Processor replacement.**
14. **Host must be offline for interfamily Symmetrix microcode upgrade.**
15. **QLogic v6.x series drivers and Emulex driver v4.20Q support persistent binding and only support Class 3.**
16. FC-AL direct-connect or McData fabric connect only. Brocade fabric attach is not currently supported.

SGI IRIX

SGI IRIX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	SGI IRIX, 6.5.17, 6.5.18	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B, XT-FC-1P-OPT-A	Brocade Silkworm: 12000, 2400, 2800, 3900; EMC Connectrix: DS-16B[2], DS-16B2[3], DS-16M, DS-16M2, DS-24M2, DS-32B2[1], DS-32M, DS-32M2, ED-140M	4	4	256	256	N
2	SGI IRIX: 6.5.17 6.5.18	SGI: PCI-FC-1P-OPT-A, PCI-FC-1P-OPT-B, XT-FC-1P-OPT-A	EMC Connectrix ED-12000B[1]	4	4	255	255	N

1 EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only
2. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
3 EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware. 1 ISL per quad only

Sun Solaris

Sun Solaris									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
1	Sun Solaris 2.6	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002S-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E QLogic QLA2200F-EMC	Brocade Silkworm: 1000[1], 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]. EMC Connectrix: DS-16B[1, 5], DS-16B2[1, 8], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1] ED-12000B[1, 7], ED-140M[1], ED-64M[1] McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1] ES-3032[1], ES-3216[1] ES-3232[1]	12	28	256[3]	128	Y[2]	

Sun Solaris									
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing	Comments
2	Sun Solaris 7	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002S-E, LP9802-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E; QLogic: QLA2200F-EMC, QLA2202FS-E, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 1000[1], 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]. EMC Connectrix: DS-16B[1, 5], DS-16B2[1, 8], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 7], ED-140M[1], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	12	28	256[3]	256	Y[2]	
3	Sun Solaris 8	Emulex: LP8000-EMC[4], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9002S-E, LP9802-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2202FS-E, QLA2340-E-SP, QLA2342-E-SP	Brocade Silkworm: 1000[1], 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; Cisco MDS: 9216[9], 9509[9]; EMC Connectrix: DS-16B[1, 5], DS-16B2[1, 8], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 7], ED-140M[1], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	12	28	256[3]	256	Y[2]	
4	Sun Solaris 9	Emulex LP8000-EMC[4]	Brocade Silkworm: 1000[1], 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; Cisco MDS: 9216[9], 9509[9]; EMC Connectrix: DS-16B[1, 5], DS-16B2[1, 8], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 7], ED-140M[1], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	28	256[3]	256	Y[2]	
5	Sun Solaris 9	Emulex LP9002S-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E	Brocade Silkworm: 12000[1], 2400[1], 2800[1], 3900[1], 6400[1]; Cisco MDS: 9216[9], 9509[9]; EMC Connectrix: DS-16B[1, 5], DS-8B[1], ED-1032[1], ED-12000B[1, 7], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1], ES-4500[1]	12	28	256[3]	256	Y[2]	See[6]
6	Sun Solaris 9	Emulex: LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2342-E-SP	Brocade Silkworm: 1000[1], 12000[1], 2400[1], 2800[1], 3200[1], 3800[1], 3900[1], 6400[1]; Cisco MDS: 9216[9], 9509[9]; EMC Connectrix: DS-16B[1, 5], DS-16B2[1, 8], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], DS-8B[1], ED-1032[1], ED-12000B[1, 7], ED-140M[1], ED-64M[1]; McDATA: ED-5000[1], ED-6064[1], ED-6140[1], ES-2500[1], ES-3016[1], ES-3032[1], ES-3216[1], ES-3232[1]	12	28	256[3]	256	Y[2]	
7	Sun Solaris 9	JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E	Brocade Silkworm: 1000[1], 3200[1], 3800[1]; EMC Connectrix: DS-16B2[1, 8], DS-16M[1], DS-16M2[1], DS-24M2[1], DS-32M[1], DS-32M2[1], ED-140M[1]; McDATA: ED-6140[1], ES-2500[1]	12	28	256[3]	256	Y[2]	

1. For Switch Firmware levels and other fabric parameters, see Switched Fabric Topology parameters.
2. "FA Port Sharing" allows any OS/HBA designated with a "Y" (for Yes) to safely share a Symmetrix FA port with any other OS/HBA designated with a "Y" provided all of the following requirements are met (Note: "N" for No means this host cannot share an FA port with any different OS/HBA): 1. ESN Manager is required to prevent sharing Symmetrix devices between Operating Systems on a single FA port. 2. Fanout/Fanin is restricted to the lowest Host/HBA support as called out in this table. Example: Windows 2000 using the QLA2200F, which has a Fanout/ Fanin of 12:1/1:12 and Netware using the QLA2200F, which has a Fanout/Fanin of 6: 1/1:6. The Fanout/Fanin is restricted to 6:1/1:6. 3. See appropriate host matrices for approved drivers, BIOS, firmware, boot and cluster information. 4. Reference the Heterogeneous FA Port Sharing section of Director Bit Information. 5. Microcode level 5x66 and above.
3. The Sun Solaris sd driver is unable to configure a lun addresses greater than 255
4. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
6. See Switched Fabric Topology Parameters for switch firmware levels.
7. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.
8. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
9. No boot support at this time.

Unisys MCP

Unisys MCP								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Unisys MCP: 47.1 (HMP 6.0), 48.1 (HMP 7.0)	Unisys: FCA621-CU[5], FCA622-SW[1], FCA623-LW[6], FCA661-CU[2], FCA662-SW[3], FCA663-LW[4]	Brocade Silkworm: 2400, 2800, 3800; EMC Connectrix: DS-16B[7], DS-16B2[8], DS-8B	2	1, 2	512	512	Y

1 Fibre Short Wave
2 Hi Perform Fibre Copper
3 Hi Perform Short Wave
4 Hi Perform Long Wave
5 Fibre Copper
6 Fibre Long Wave
7 EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized
8 EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only

Unisys OS 2200

Unisys OS 2200								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Unisys OS 2200 HMP: 6.1, 7.0, 7.1, 8.0	Unisys: FCA622-SW[1], FCA662-SW[2]	Brocade Silkworm: 12000, 2400, 2800, 3800, 3900; EMC Connectrix: DS-16B[3], DS-16B2[4], DS-16M, DS-16M2, DS-24M2, DS-32B2[5], DS-32M, DS-32M2, DS-8B, ED-12000B[5], ED-140M	4	1	256	256	Y

1. Fibre Short Wave
2. Hi Perform Short Wave
3. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
4. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
5. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.

Unisys SB7

Unisys SB7								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	Unisys SB7	Unisys: FCA621-CU[5], FCA622-SW[1], FCA623-LW[6], FCA661-CU[4], FCA662-SW[2], FCA663-LW[3]	Brocade Silkworm: 12000, 2400, 2800, 3800, 3900; EMC Connectrix: DS-16B[7], DS-16B2[8], DS-16M, DS-16M2, DS-32B2[9], DS-32M, DS-8B, ED-12000B[9], ED-140M	4	1	256	256	Y

1. Fibre Short Wave
2. Hi Perform Short Wave
3. Hi Perform Long Wave
4. Hi Perform Fibre Copper
5. Fibre Copper
6. Fibre Long Wave
7. EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.
8. EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.
9. EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.

VMware ESX

VMware ESX								
No.	Operating System	Host Bus Adapter	Switch	Fanin	Fanout	Luns/Storage Port	Luns/HBA	Port sharing
1	**VMware ESX v1.5.2: patch2, patch3[1, 2, 3]**	**QLogic: QLA2340-E-SP, QLA2342-E-SP**	**Brocade Silkworm: 1000, 12000, 2400, 2800, 3200, 3800, 3900, 6400;** **Cisco MDS: 9216, 9509;** **EMC Connectrix: DS-16B[6], DS-16B2[5], DS-16M, DS-16M2, DS-24M2, DS-32B2[4], DS-32M, DS-32M2, DS-8B, ED-1032, ED-12000B[4], ED-140M, ED-64M;** **McDATA: ED-5000, ED-6064, ED-6140, ES-2500, ES-3016, ES-3032, ES-3216, ES-3232, ES-4500**	**12**	**28**	**128**	**256**	**Y**

1. **Windows 2000 SP3 and SP4, Windows NT 4.0, and RedHat 2.1 Advanced Server are qualified to run as Virtual Machines.**
2. **Path failover and load-balancing are not supported.**
3. **EMC software will function on neither the VMkernel nor the VMs as the currently-released versions of the SymAPI do not include support for VMware ESX.**
4. **EMC DS-32B2 or ED-12000B for "Extended Fabric License" use minimum 4.0.2a firmware, 1 x L1 or 2 x L2 ports per quad only.**
5. **EMC DS-16B2 for "Extended Fabric License" , use minimum 3.0.2f firmware, 1 ISL per quad only.**
6. **EMC DS-16B-00 contains multi-mode GBICs (850 nm Fibre Channel) "Extended Fabric License" feature can be utilized. EMC DS-16B-02 contains multi-mode GBICs (1310 nm Fibre Channel) "Extended Fabric License" feature can be utilized.**

Application Software

Fujitsu Siemens Solaris

Fujitsu Siemens Solaris			
No.	Operating System	Host Bus Adapter	Application Software
1	Fujitsu Siemens Solaris 8 02/02, 850/650	Fujitsu Siemens LP9802-E (GP70F-CF31)	PowerPath 3.0.2
2	Fujitsu Siemens Solaris 8 02/02, 850/650 Fujitsu Siemens Solaris 9 04/03	Fujitsu Siemens LP9802-E (GP70F-CF31)	PowerPath: 3.0.3, 3.0.4, 4.0.0[3, 4], 4.0.1[4]
3	Fujitsu Siemens Solaris: 2.6 May 98, 7 Nov 99, 8 02/02, 8 850/650	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X)[1, 2], LP9002-E (LP9002L-E) GP70F-CF30	PowerPath 3.0.2
4	Fujitsu Siemens Solaris: 2.6 May 98, 7 Nov 99, 8 02/02, 8 850/650, 9 04/03	Fujitsu Siemens: LP8000-EMC (GP70F-CF10) (PP028FC1X), LP9002-E (LP9002L-E) GP70F-CF30	PowerPath 3.0.3, 3.0.4, 4.0.0[3, 4], 4.0.1[4]

1. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
2. EMC strongly recommends that HBAs of different vendors not be used in the same host server
3. Pending final general availability dates
4. RPQ for PowerPath Volume Manager support with PRIMECLUSTER

HPQ HP-UX

HPQ HP-UX				
No.	Operating System	Host Bus Adapter	Application Software	Comments
1	HPQ HP-UX 11.0[2, 3, 8]	HPQ A5158A[1] A6684A[1] A6685A[1] A6795A[1]	PowerPath 3.0.1	See[5, 6]
2	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[2, 3, 4]	HPQ A5158A[1] A6684A[1] A6685A[1] A6795A[1]	PowerPath 3.0.1[7]	See[5, 6]
3	HPQ HP-UX 11.0[2, 3] 11i v1.0 (HP-UX 11.11)[2]	HPQ A5158A[9] A6684A[9] A6685A[9] A6795A[9]	PowerPath 3.0.2 b41[12, 13]	See[5, 6, 11]

1. For driver versions refer to Base Connectivity Section
2. For HP-UX systems only.LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be enabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set
3. On HP-UX 11.00 LVM support only - no VxVM

4. Symm 6 is qualified with: HP-UX 11i Support Plus Sept '02 bundle = GOLDAPPS11i June '02, GOLDBASE11i June '02 & HWEnable11i Sept '02.
5. Symm6: 512 lun limit per FA port
6. FCAL on Symm 6 supported by direct attach only
7. PowerPath 3.0.1, HP-UX 11i, Symm6 support: VxVM 3.2 is supported; VxVM 3.5 currently not supported.
8. Symm 6 is qualified with: HP-UX 11.00 Support Plus Sept '02 bundle = QPK1100 Sept '02 & HWE1100 Sept '02
9. For driver versions, see Hewlett-Packard Base Connectivity table
10. Qualified with: HP-UX 11.00 Support Plus Sept '02 bundle = QPK1100 Sept '02 & HWE1100 Sept '02; HP-UX 11i Support Plus Sept '02 bundle = GOLDAPPS11i June '02, GOLDBASE11i June '02 & HWEnable11i Sept '02.
11. FC-AL topology attaches to DMX supported with direct attach only
12. Supported with HP-UX 11.0, 11i only
13. Sites using VERITAS VxVM, see VERITAS Volume Manager Table.

HPQ Tru64 UNIX

HPQ Tru64 UNIX			
No.	Operating System	Host Bus Adapter	Application Software
1	**HPQ Tru64 UNIX V4.0G[4]**	**HPQ KGPSA-CA (168794-B21)**	**PowerPath 3.0.0**
2	**HPQ Tru64 UNIX V5.1[2]**	**HPQ: FCA2354 (LP9002), KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)**	**PowerPath 3.0.0**
3	HPQ Tru64 UNIX: V5.1A[1], **V5.1B[3]**	HPQ: FCA2354 (LP9002), **FCA2384 (LP9802)**, KGPSA-BC (380574-001), KGPSA-CA (168794-B21), KGPSA-DA (261329-B21)	PowerPath 3.0.0

1. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206).
2. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
3. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
4. **Tru64 V4.0G latest qualified patch kit-0003 (T64V40GAS0003-20010613).**

IBM AIX

IBM AIX			
No.	Operating System	Host Bus Adapter	Application Software
1	IBM AIX: 4.3.3, 5.1, 5.2	IBM: 6227, 6228	PowerPath: 3.0.3[1], 3.0.4[1]
2	**IBM AIX: 5.1, 5.2**	**IBM 6239**	**PowerPath: 3.0.3[1], 3.0.4[1]**

1. Customers attached to DMX (5669 code) will need to apply fix 19491. This fix is available in microcode version 5669.42.19

Microsoft Windows 2000

Microsoft Windows 2000			
No.	Operating System	Host Bus Adapter	Application Software
1	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[1], Server SP3[1], Server SP4	Emulex: LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; HPQ: D8602A (Agilent HHBA-5101B)[1, 4], D8602B (Agilent HHBA-5101C)[1, 6], Dual-port mezzanine controller card; IBM: 00N6881 (QLA2200)[5], 24P0960(QLA2340)[8]; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	PowerPath 3.0.2[2]
2	Microsoft Windows 2000 Advanced Server: SP2[1], SP3[1], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP4	Emulex: LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E[3]; HPQ: D8602A (Agilent HHBA-5101B)[1, 4], D8602B (Agilent HHBA-5101C)[1, 6], Dual-port mezzanine controller card; IBM: 00N6881 (QLA2200)[5], 24P0960(QLA2340)[8], QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	PowerPath 3.0.0[2]
3	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Emulex: LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; HPQ: D8602A (Agilent HHBA-5101B)[1, 4], D8602B (Agilent HHBA-5101C)[1, 6], Dual-port mezzanine controller card; IBM: 00N6881 (QLA2200)[5], 24P0960(QLA2340)[8]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	PowerPath 3.0.2[2]
4	Microsoft Windows 2000 Datacenter: SP2[1], SP3[1]	Emulex: LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E[3]; HPQ: D8602A (Agilent HHBA-5101B)[1, 4], D8602B (Agilent HHBA-5101C)[1, 6], Dual-port mezzanine controller card; IBM: 00N6881 (QLA2200)[5], 24P0960(QLA2340)[8]; QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	PowerPath 3.0.0[2]
5	Microsoft Windows 2000 Server: SP2[1], SP3[1]	Emulex: LP8000-EMC[7], LP850-EMC, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; HPQ: D8602A (Agilent HHBA-5101B)[1, 4], D8602B (Agilent HHBA-5101C)[1, 6], Dual-port mezzanine controller card; IBM: 00N6881 (QLA2200)[5], 24P0960(QLA2340)[8]; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	PowerPath 3.0.0[2]

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server
2. ATF/CDE and PowerPath cannot co-exist in the same server
3. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com
4. (HHBA-5101BK-01)
5. (QLA2200) For IBM xSeries and Netfinity servers only
6. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
7. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support

8. This HBA is equivalent to the qLogic QLA2340

Microsoft Windows NT

Microsoft Windows NT			
No.	Operating System	Host Bus Adapter	Application Software
1	Microsoft Windows NT 4.0 SP6A[1]	Emulex: LP8000-EMC[2], LP850-EMC, LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; HPQ: 176479-B21, A5246A (Agilent HHBA-5000A)[1], D8602A (Agilent HHBA-5101B)[1, 3], D8602B (Agilent HHBA-5101C)[1, 4], KGPSA-CB, KGPSA-CY IBM: 00N6881 (QLA2200)[5], 24P0960(QLA2340)[6] QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP; Unisys: FCH20111-P64 (LP8000-D1), FCH20113-P64 (LP8000-EMC, LP8000-F1)	PowerPath: 3.0.0, 3.0.1, 3.0.2

1. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
2. The LP8000-EMC HBA has a permanent GBIC and does not have copper cable support.
3. (HHBA-5101BK-01)
4. The HP D8602B Tachlite Fibre Channel HBA does not come standard with a GBIC. An optional shortwave optical GBIC, HP part number D6975A, must be ordered separately from HP.
5. (QLA2200) For IBM xSeries and Netfinity servers only
6. This HBA is equivalent to the qLogic QLA2340

Novell Netware

Novell Netware			
No.	Operating System	Host Bus Adapter	Application Software
1	Novell Netware: 5.00 SP6A[1, 2], 5.10 SP2A[1], 5.10 SP5[1], 5.10 SP6	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	PowerPath: 2.1.0, 2.1.1
2	Novell Netware: 5.00 SP6A[1, 2], 5.10 SP2A[1], 5.10 SP5[1], 5.10 SP6, 6.0 SP1[1], 6.0 SP2[1], 6.0 SP3	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	PowerPath 3.0.1

1. Maximum number of NWFS volumes that can be mounted is 64.
2. Requires NWPA.NLM V.3.07A update from Novell website

Red Hat Linux

Red Hat Linux			
No.	Operating System	Host Bus Adapter	Application Software
1	Red Hat Linux 2.1 Advanced Server: v2.4.9-E.10[1, 2], v2.4.9-E.12[1, 2], v2.4.9-E.16; Red Hat Linux 2.1 ES: **v2.4.9-e.12**[1, 2], v2.4.9-e.16[1, 2]	Emulex: LP9002-E (LP9002L-E), LP9802-E, LP9802DC-E, LP982-E; QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP	PowerPath 3.0.2 b069

1. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath.
   Booting from EMC storage arrays is NOT supported with PowerPath
2. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ.

SuSE Linux

SuSE Linux			
No.	Operating System	Host Bus Adapter	Application Software
1	SuSE Linux SLES 8 v2.4.19-SuSE 175[1, 2]	QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP	PowerPath 3.0.3 b065

1. Requires QLogic v6.04.02 driver
2. Requires rev3 sles8.patch available from ftp://ftp.emc.com/pub/elab/linux.

Sun Solaris

Sun Solaris			
No.	Operating System	Host Bus Adapter	Application Software
1	Sun Solaris 2.6	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002S-E, JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E; QLogic: QLA2200F-EMC	PowerPath 3.0.2
2	Sun Solaris 2.6	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002S-E, JNI: FCE-1063-E, FCE2-1063-E; QLogic: QLA2200F-EMC	PowerPath: 3.0.3, 3.0.4, **4.0.0**[2, 3], **4.0.1**[3]
3	Sun Solaris 7	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E, LP9002S-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E; QLogic: QLA2200F-EMC, QLA2202FS-E, QLA2342-E-SP	PowerPath 3.0.2
4	Sun Solaris 7	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E, LP9002S-E, LP9802-E; JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E; QLogic: QLA2200F-EMC, QLA2202FS-E, QLA2340-E-SP, QLA2342-E-SP	PowerPath: 3.0.3, 3.0.4, **4.0.0**[2, 3], **4.0.1**[3]
5	Sun Solaris 8	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002DC-E, LP9002DC-E, LP9002S-E; JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E; QLogic: QCP2202F-E, QLA2200F-EMC, QLA2202FS-E, QLA2342-E-SP	PowerPath 3.0.2
6	Sun Solaris 8, 9	Emulex: LP8000-EMC[1], LP9002-E (LP9002L-E), LP9002C-E, LP9002DC-E, LP9002S-E, LP9802-E, JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E QLogic: QCP2202F-E, QLA2200F-EMC, QLA2202FS-E, QLA2340-E-SP, QLA2342-E-SP	PowerPath: 3.0.3, 3.0.4, 4.0.0[2, 3], 4.0.1[3]

1. The LP8000-EMC HBA has a permanent GBIC and does not have copper cable support.
2. Pending final general availability dates
3. The Volume Manager component of PowerPath 4.x is not currently supported with Sun SunCluster products.

Fibre Bit Settings

5669 Settings

No.	Operating Environment	Bits to Set	Comments
1	AS/400 2105 external emulation[3]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S). Avoid Reset Broadcast (ARB). Enable Volume Set Addressing (V). Unique World Wide Name (UWN)	
2	Bull Escala AIX	Disable Queue Reset on Unit Attention (D)[4, 5]	
3	**Compaq Tru64 UNIX V5.x[6]**	Open VMS (OVMS)	
4	Compaq/DEC OpenVMS	Open VMS (OVMS). SCSI 3 (SC3)	
5	DG AvioION NUMA 2500	Disable Queue Reset on Unit Attention (D)	
6	EMC Celera	Avoid Reset Broadcast (ARB)	
7	FC-AL	Enable Auto Negotiation (EAN)[1, 2]. Unique World Wide Name (UWN)	
8	FC-SW, Linux FC-SW[18]	Enable Auto Negotiation (EAN)[1]. Enable Point-to-point (PP). Unique World Wide Name (UWN)	
9	FSC BS2000/OSD FC-SW Director Bits	Common Serial Number (C). Disable Queue Reset on Unit Attention (D). Enable Point-to-point (PP). Unique World Wide Name (UWN)	
10	FSC Primepower (GP7000F) Series Host config	Common Serial Number (C)[14]. Disable Queue Reset on Unit Attention (D)[4, 5]	
11	FSC Reliant UNIX RM series	Disable Queue Reset on Unit Attention (D). Enable Siemens Hosts Rm/400 – Rm/600 (S). Environment Reports to Host (E)	
12	Fujitsu Services (ICL) Open VME[17]	Common Serial Number (C)	
13	Heterogeneous FA Port Sharing	Common Serial Number (C)[32]. Enable Point-to-point (PP). SCSI 3 (SC3). Unique World Wide Name (UWN)	See[40, 41]
14	HP-UX FC-AL	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[16]. Common Serial Number (C). Enable Volume Set Addressing (V)	
15	HP-UX FC-SW	Common Serial Number (C). Enable Volume Set Addressing (V)	
16	IBM AIX with EMC Fibre Channel Interface for AIX Platform[42]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[16]. Disable Queue Reset on Unit Attention (D)[4, 5]	
17	IBM AIX with FC622&, 6228	Disable Queue Reset on Unit Attention (D)[4, 5]. SCSI 3 (SC3)	
18	Linux FC-AL[18]	Enable Auto Negotiation (EAN)[1]. Unique World Wide Name (UWN)	
19	Linux Volume Logix[20, 21], Volume Logix	Enable Fibrepath on thie Port (VCM)	
20	NCR (MPRAS/Windows NT)[25]	Disable Queue Reset on Unit Attention (D)[26]. Environment Reports to Host (E)[27]	
21	Novell NetWare[29]	Disable Queue Reset on Unit Attention (D)[30]	
22	Sequent NUMA-Q FC-AL	Common Serial Number (C). Environment Reports to Host (E). Sequent Host (SEQ)	
23	Sequent NUMA-Q FC-SW	Common Serial Number (C). Enable Volume Set Addressing (V). Environment Reports to Host (E). Sequent Host (SEQ)	
24	Sun	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[16]. Common Serial Number (C)[14, 34, 35, 36]. Disable Queue Reset on Unit Attention (D)[4, 5, 14, 34, 36]. Enable Sunapee (SCL)[34]	
25	Veritas Cluster Server (VCS)	Common Serial Number (C)[14]. Disable Queue Reset on Unit Attention (D)[39]	
26	Windows NT/Windows 2000[25]	AS/400 Secondary Port (Used from UNIX host to view AS/400 devices.) (A4S)[16]. Common Serial Number (C)[32]. Disable Queue Reset on Unit Attention (D)[4, 5]. Enable Volume Set Addressing (V)[33]	

1. EAN bit set for 2 Gb FA support
2. Direct connect only, no hubs.
3. Subject to IBMs limitations per host model
4. Sites with PowerPath 2.0 or later already running with the D-bit enabled do not require the D-bit to be disabled.
5. D Bit required with PowerPath 1.5.x or earlier.
6. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
7. Tru64 V5.1A latest qualified Patch Kit-0004 (T64V51AB21AS0004-20030206)
8. **Tru64 V5.1 latest qualified Patch Kit-0006 (T64V51B20AS0006-20030210).**
9. Requires RPQ
10. Open VMS 7.3 FC-SW requires console firmware 5.6 or later and patch VMS73_update-V0100 or patch VMS73_fibre_SCSI-V0200
11. Open VMS 7.2-2 FC-SW requires console firmware 5.6 or later and patch VMS722_fibre_SCSI-V0100
12. OpenVMS 7.2-1, 7.2-1H1 FC-SW requires console firmware 5.6 or later and patch VMS721_fibre_SCSI-V0400 Available from http://ftp1.support.compaq.com/public/
13. Open VMS 7.1-2 requires console firmware 5.6 or later and patch VMS712_SCSI-V0300
14. C + D Bits with Veritas DMP.
15. For HP-UX systems only.LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set
16. A4S bit when sharing AS/400 drives on this port (direct connect only)
17. Requires OV/K/00411 3
18. This kernel is supported with PowerPath v3.0.2 b069. Driver v6.04.00 or above must be used with Qlogic HBAs and Powerpath. Booting from EMC storage arrays is NOT supported with PowerPath
19. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
20. Requires rev2. sles7upg2418.patch available from ftp://ftp.emc.com/pub/elab/linux
21. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
22. EMC supports the following filesystems: ext2, ext3, reiserfs. If there is a customer requirement for a different filesystem, please submit an RPQ
23. Requires rev1. sles7.patch available from ftp://ftp.emc.com/pub/elab/linux for CLARiiON attach only
24. Supported with QLogic driver v6.04.02

25. EMC strongly recommends that HBAs of different vendors not be used in the same host server.
26. D Bit for multiple vendor platforms, if only NCR hosts, set IMPL flag A010.
27. E Bit: if Windows NT OS is used with TNT, set the FBA Environmental Sense key to 4, else set it to 6.
28. Limited support available for MPARS 3.01.
29. Maximum number of NWFS volumes that can be mounted is 64.
30. D Bit with Cluster.
31. Requires NWPA.NLM V.3.07A update from Novell website.
32. C Bit required for VERITAS VxVM DMP functionality.
33. Set bit for HP (e.g.: D8602A, D8602B / Agilent (e.g.: HHBA-5101B, HHBA-5101C) controllers only.
34. C + D + SCL Bits with SUN Cluster 1.x, 2.x.
35. C Bit with Sun Cluster 3.0.
36. Enabling the D-bit for DMP is recommended but not required for VxVM 3.1 and higher. The D-bit is not requried for VxVM 3.1 and higher.
37. This host supports only 5 V HBAs.
38. 64-bit HBAs will not fit into the 32-bit slot due to a physical obstruction.
39. D Bit is not required for VCS 2.0 or later.
40. These settings refer to the configuration in the Switch section (see FA Port Sharing column) Note: operating environments that have required director bit settings other than these are not supported.
41. Note: With the introduction of EMC Solution Enabler 5.0, FA ports need not use the 'Heterogeneous FA Port Sharing' flags. Instead, users can use the CLI function 'Heterogeneous Host Configuration' to set the director flags for each initiator.
42. No longer available

Symmetrix Geographically Dispersed Cluster

Generic None

Generic None								
No.	Dispersed Cluster	Cluster Software	Max # Nodes	Host System	Topology	Maximum Distance	Application Software	Comments
1	EMC GeoSpan 1.2[10]	Microsoft MSCS[1, 2, 3, 4, 5, 6, 7]	4	DG AViiON: AV1400, AV2300, AV2800, AV3700, AV3704, AV3704R, AV3800, AV8950; Dell PowerEdge: 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[16], 2600, 2650, 4400, 4600, 6100, 6300, 6350, 6400, 6600, 6650, 8450; Fujitsu Siemens Primergy: B210, C200, E200, F200, F250[17], H250[17], H400, H450, K400, L200, N200, N400, N800, P200, P250, R450, RX100, RX200, RX300, T850, TX200, TX300; HPQ Netserver LC: 2000 U3, 2000r; HPQ Netserver LH: 3000, 4, 6000; HPQ Netserver: LP 2000r, LXR 8000, LXR 8500; HPQ Proliant: 3000[12], 6000[12, 13], 6400R[12], 7000[12, 13], 8000[12, 13], BL20p (G2)[14, 15], BL40p, DL320[12], DL360[12], DL360(G2)[12], DL360(G3), DL740, DL760[12], DL760 (G2), ML350[12], ML350(G2)[12], ML370[12], ML370(G2), ML370(G3), ML530[12], ML530(G2)[12], ML570[12], ML570(G2), ML750[12]; IBM xSeries: X330, X335, X340 (4500R), X342, x235, x240, x250, **x255**, **x345**, x350 (6000R), **x360**, x370, x440, NEC Express 5800: 120Rd-2, 140Hb, 140Ra-4, 140Ra-7, 140Rb-4, 180Ha, 180Rb-7, 180Rc-4; Unisys: ES2024, ES2025, ES2043, ES2045, ES2085, ES5024, ES5043, ES5044, ES5045, ES5085, ES7000/100, ES7000/200, ES7000/230, ES7000/500, ES7000/520, ES7000/530, ES7000/540	FC-SW	200 km[2, 6]	EMC: Solutions Enabler 4.2[8], WideSky Solutions Enabler 5.1 minimum[11]; SRDF; SymAPI; SymCLI	See[7, 9]
2	EMC GeoSpan: 1.1 (for MSCS), 1.2.1[10]	Microsoft MSCS[1, 2, 3, 4, 5, 6, 7]	4	DG AViiON: AV1400, AV2300, AV2800, AV3700, AV3704, AV3704R, AV3800, AV8950; Dell PowerEdge: 1550, 1650, 1750, 2300, 2400, 2450, 2500, 2550[16], 2600, 2650, 4400, 4600, 6100, 6300, 6350, 6400, 6600, 6650, 8450; Fujitsu Siemens Primergy: B210, C200, E200, F200, F250[17], H250[17], H400, H450, K400, L200, N200, N400, N800, P200, P250, R450, RX100, RX200, RX300, T850, TX200, TX300; HPQ Netserver LC: 2000 U3, 2000r; HPQ Netserver LH: 3000, 4, 6000; HPQ Netserver: LP 2000r, LXR 8000, LXR 8500; HPQ Proliant: 3000[12], 6000[12, 13], 6400R[12], 7000[12, 13], 8000[12, 13], BL20p (G2)[14, 15], BL40p, DL320[12], DL360[12], DL360(G2)[12], DL360(G3), DL740, DL760[12], DL760 (G2), ML350[12], ML350(G2)[12], ML370[12], ML370(G2), ML370(G3), ML530[12], ML530(G2)[12], ML570[12], ML570(G2), ML750[12]; IBM xSeries: X330, X335, X340 (4500R), X342, x235, x240, x250, **x255**, **x345**, x350 (6000R), **x360**, x370, x440; NEC Express 5800: 120Rd-2, 140Hb, 140Ra-4, 140Ra-7, 140Rb-4, 180Ha, 180Rb-7, 180Rc-4; Unisys: ES2024, ES2025, ES2043, ES2045, ES2085, ES5024, ES5043, ES5044, ES5045, ES5085, ES7000/100, ES7000/200, ES7000/230, ES7000/500, ES7000/520, ES7000/530, ES7000/540	FC-SW	200 km[2]	EMC: Solutions Enabler 4.2[8], WideSky Solutions Enabler 5.1 minimum[11]; SRDF; SymAPI; SymCLI	See[1]

1. For Symmetrix 8000 series, 5x66/ 5x67 patch 12160 OR minimum code levels 5267.24, 5567.31, 5266.39, or 5566.40
2. Nortel Optera Metro 5200 VLAN.
3. MSCS multi cluster configurations supported. If multi-clusters using Fibre Channel HBAs are configured to use a single FA port, use ESN Manager for LUN masking with the following minimum microcode: 5267.39, 5567.46, 5568.39.
4. EMC recommends a minimum of 1GB RAM for servers in clusters. EMC requries that servers have a minimum of 512MB or RAM.
5. Refer to Microsoft Windows Cluster table for information on supported host servers and qualified HBAs
6. VLAN Nortel BGS switches with 200 km single mode fiber spool using one of the wavelengths of a Cisco ADVA DWDM configuration.
7. MSCS 1.0 supported Host platforms supported
8. Symmetrix 8000 Series only.
9. See Fibre Channel SRDF Connectivity Options table & Extended Distance Connectivity Devices table.
10. Requires minimum microcode level of 5669.45.24 for Symmetrix DMX storage arrays.
11. Symmetrix DMX series only.
12. Compaq servers that are rack-mountable (designated by Compaq with an "R") are supported.
13. Includes both Pentium PRO and XEON models
14. Booting off of an EMC storage array is not currently supported with the HPQ BL20P.
15. BIOS must be obtained from HP at http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/20p/index.html instead of BIOS on Qlogic web site. EMC NVRAM settings must be configured manually. Refer to EMC Fibre Channel documentation for QLogic HBAs for the settings.
16. PowerEdge 2550 supports a maximum of 2 Emulex HBAs at one time and the total PCI power cannot exceed 20 Watts.
17. Must use standard PCI 32bit/33MHz slot for SCSI

HPQ HP-UX

HPQ HP-UX								
No.	Dispersed Cluster	Cluster Software	Max # Nodes	Operating System	Topology	Maximum Distance	Application Software	Comments
1	HPQ Continental Cluster A.03.00	HPQ MC/Service Guard 11.09[10, 11]	16	HPQ HP-UX: 11.0[2, 6], 11.0 990P[2, 6], 11.0 ACE[2, 6], 11.0 June 2001[2, 6], 11.0 Sept 2001[2, 6, 7]	FC-SW[4]	50 km[5]	EMC Solutions Enabler 4.2[4, 8, 9]	
2	HPQ Continental Cluster, A.03.02 A.03.03 HPQ MetroCluster: A.02.00 A.04.xx	HPQ MC/Service Guard, 11.12[10, 11], 11.14[10, 11]	16	HPQ HP-UX: 11.0[2, 6], 11.0 990P[2, 6], 11.0 ACE[2, 6], 11.0 June 2001[2, 6], 11.0 March 2002[2, 6], 11.0 Sept 2001[2, 6, 7], 11i v1.0 (HP-UX 11.11)[2, 6, 15], 11i v1.0 (HP-UX 11.11) Feb 2001 CD[2, 6, 15], 11i v1.0 (HP-UX 11.11) June 2001[2, 6], 11i v1.0 (HP-UX 11.11) March 2002[2, 6], 11i v1.0 (HP-UX 11.11) Sept 2001[2, 6, 7]	FC-SW	50 km[5]	EMC Solutions Enabler 4.2[4, 8, 9]	See[4, 14]
3	HPQ MetroCluster, A.02.00 A.04.xx	HPQ MC/Service Guard 11.09[10, 11]	16[4]	HPQ HP-UX: 11.0[2, 6], 11.0 990P[2, 6], 11.0 ACE[2, 6], 11.0 June 2001[2], 11.0 Sept 2001[2, 6, 7]	FC-SW[4]	60 km	EMC Solutions Enabler 4.2[4, 12, 13]	

HPQ HP-UX								
No.	Dispersed Cluster	Cluster Software	Max # Nodes	Operating System	Topology	Maximum Distance	Application Software	Comments
4	Legato Automated Availability for EMC SRDF 4.7	Legato LAAM (Legato Cluster): 4.7, 4.8	8	HPQ HP-UX 11.0[2, 3]	FC-SW	60 km	EMC Solutions Enabler 4.2[3]	See[1]
5	Legato Automated Availability for EMC SRDF 5.0 5.0[17]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[17, 18]	8	HPQ HP-UX 11.0[2]	FC-SW[19]	200 km	EMC Solutions Enabler 5.0.1	See[13, 16]

1. See Fibre Channel SRDF Connectivity Options table in Fibre Channel SRDF Connectivity section and Fibre Channel Extended Distance Solutions table in Distance Extension Solutions section.
2. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
3. See Legato User Guide Section G: EMC/SRDF Module (http://www.legato.com).
4. See HP Release Notes for further details (http://docs.hp.com)
5. (1 Hop)/ Unlimited (2 Hop)
6. Refer to the HP Release Notes for restrictions.
7. Symmetrix microcode supported:5266.40.28 or higher, 5566.41.28 or higher, 5267.27.19 or higher, 5567.34.19 or higher.
8. Synch. mode only 1 Hop
9. Synch. or Asynch. 2 Hop
10. Refer to MC/Service Guard Release Notes at www.docs.hp.com for patch requirements.
11. Can mix HP-UX 11.00 and HP-UX 11i in same cluster, all nodes must be MC/SG 11.09, 11.13 or later.
12. VLAN Nortel BGS switches with 200 km single mode fiber spool using one of the wavelengths of a Cisco ADVA DWDM configuration.
13. Synch. mode only
14. Multi-Hop
15. Symmetrix microcode version: 5266.33.23 or higher, 5566.35.23 or higher, 5267.22.15 or higher, 5567.29.15 or higher.
16. Asynch. mode requires RPQ.
17. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
18. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.
19. Maximum 8 nodes in the topology

IBM AIX

IBM AIX								
No.	Dispersed Cluster	Cluster Software	Max # Nodes	Operating System	Topology	Maximum Distance	Application Software	Comments
1	Legato Automated Availability for EMC SRDF 4.8.1	Legato LAAM (Legato Cluster) 4.8.1	8	IBM AIX 4.3.3[2, 3, 4, 5]	FC-SW	60 km	EMC Solutions Enabler 4.2[6, 7, 8]	See[1]
2	Legato Automated Availability for EMC SRDF 5.0 5.0[10]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[10, 11]	8	IBM AIX 5.1	FC-SW[9]	200 km	EMC Solutions Enabler 5.0.1	See[7, 8]

1. See Fibre Channel SRDF Connectivity Options table in Fibre Channel SRDF Connectivity section and Fibre Channel Extended Distance Solutions table in Distance Extension Solutions section.
2. For Symmetrix 8000 series: 5x66/ 5x67 patch 12160 OR minimum code levels 5267.24, 5567.31, 5266.39, or 5566.40.
3. SymmSockets HeartBeat not supported at this time.
4. Update 6.
5. Minimum SymmAPI 4.3
6. See Legato User Guide Section G: EMC/SRDF Module (http://www.legato.com).
7. Asynch. mode requires RPQ.
8. Synch. mode only
9. Maximum 8 nodes in the topology
10. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
11. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s.

Microsoft Windows 2000

Microsoft Windows 2000								
No.	Dispersed Cluster	Cluster Software	Max # Nodes	Operating System	Topology	Maximum Distance	Application Software	Comments
1	**EMC GeoSpan: 1.2[13], 1.2.1[13], 1.2.3[13]**	**Microsoft MSCS[14]**	2	**Microsoft Windows 2000 Advanced Server: SP2[7], SP3[7], SP4.** **Microsoft Windows 2000 Datacenter: SP2[7], SP3[7], SP4.** **Microsoft Windows 2000 Server: SP2[7], SP3[7], SP4**	FC-SW	200 km[15, 16, 17]	**EMC Solutions Enabler 4.2[18, 19]** **WideSky Solutions Enabler 5.1 minimum[11, 12]:** **SRDF, SymAPI, SymCLI**	**See[3]**
2	Legato Automated Availability for EMC SRDF 4.8.1	Legato LAAM (Legato Cluster) 4.8.1	8	Microsoft Windows 2000 Advanced Server: SP2[7], SP4	FC-SW	60 km	EMC Solutions Enabler 4.2[4, 5, 6]	See[1, 2, 3]
3	Legato Automated Availability for EMC SRDF 5.0 5.0[9]	Legato Automated Availability Manager (LAAM) 5.0 (Base)[9, 10]	8	Microsoft Windows 2000 Advanced Server: SP2[7], SP4	FC-SW[8]	200 km	EMC Solutions Enabler 5.0.1	See[4, 6]

1 See Fibre Channel SRDF Connectivity Options table & Extended Distance Connectivity Devices table.
2 See Fibre Channel Connectivity Symmetrix
3 Refer to Microsoft Windows Cluster table for information on supported host servers and qualified HBAs
4 Synch. mode only
5 See Legato User Guide Section G: EMC/SRDF Module (http://www.legato.com)
6 Asynch. mode requires RPQ
7 EMC strongly recommends that HBAs of different vendors not be used in the same host server
8 Maximum 8 nodes in the topology
9 LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
10 LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s
11 **Requires minimum microcode level of 5669.45.24 for Symmetrix DMX storage arrays.**
12 **Symmetrix DMX series only.**
13 **Upgrading Geospan servers from Windows 2000 to Windows 2003 is supported. EMC requires that Powerpath be uninstalled from Windows 2000 server before upgrading OS upgrade to prevent upgrade failures. Powerpath is not currently supported for Windows 2003.**
14 **EMC recommends a minimum of 1GB RAM for servers in clusters. EMC requries that servers have a minimum of 512MB or RAM.**
15 The distance quoted are the maximum distances based on direct connection. Any patch panel, low-grade cables and connectors will reduce the distance. Power measurements are required to determine the possible distance per installation
16 VLAN Nortel BGS switches with 200 km single mode fiber spool using one of the wavelengths of a Cisco ADVA DWDM configuration

17. Nortel Optera Metro 5200 VLAN.
18. **Symmetrix 8000 Series only.**
19. **For Symmetrix 8000 series: 5x66/ 5x67 patch 12160 OR minimum code levels 5267.24, 5567.31, 5266.39, or 5566.40.**

Microsoft Windows 2003

Microsoft Windows 2003								
No.	Dispersed Cluster	Cluster Software	Max # Nodes	Operating System	Topology	Maximum Distance	Application Software	Comments
1	**EMC GeoSpan: 1.2[5], 1.2.1[5], 1.2.3[5]**	**Microsoft MSCS[6, 7, 8]**	4	**Microsoft Windows 2003: DataCenter[11, 12, 13], Enterprise Edition (Advanced Server)[11, 12, 13], Standard Edition (Server)[11, 12, 13]**	FC-SW	200 km[2, 3, 4]	**EMC: Solutions Enabler 4.2[14, 15], WideSky Solutions Enabler 5.1 minimum[9, 10]; SRDF; SymAPI; SymCLI**	**See[1]**

1. Refer to Microsoft Windows Cluster table for information on supported host servers and qualified HBAs
2. The distance quoted are the maximum distances based on direct connection. Any patch panel, low-grade cables, and connectors will reduce the distance. Power measurements are required to determine the possible distance per installation.
3. VLAN Nortel BGS switches with 200 km single mode fiber spool using one of the wavelengths of a Cisco ADVA DWDM configuration.
4. Nortel Optera Metro 5200 VLAN.
5. **Upgrading Geospan servers from Windows 2000 to Windows 2003 is supported. EMC requires that Powerpath be uninstalled from Windows 2000 server before performing OS upgrade to prevent upgrade failures. Powerpath is not currently supported for Windows 2003.**
6. **EMC recommends a minimum of 1GB RAM for servers in clusters. EMC requries that servers have a minimum of 512MB or RAM.**
7. **Maximum 8 nodes in the topology supported by RPQ only.**
8. **Majority Node Set quorum configurations by RPQ only.**
9. **Requires minimum microcode level of 5669.45.24 for Symmetrix DMX storage arrays.**
10. **Symmetrix DMX series only.**
11. **PowerPath is not supported.**
12. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
13. **Windows 2003 is only supported on 32-Bit Intel platforms. 64-Bit Itanium systems supported by RPQ only.**
14. **Symmetrix 8000 Series only.**
15. **For Symmetrix 8000 series: 5x66/ 5x67 patch 12160 OR minimum code levels 5267.24, 5567.31, 5266.39, or 5566.40.**

Microsoft Windows NT

Microsoft Windows NT								
No.	Dispersed Cluster	Cluster Software	Max # Nodes	Operating System	Topology	Maximum Distance	Application Software	Comments
1	**EMC GeoSpan: 1.2[8], 1.2.1[8], 1.2.3[8]**	**Microsoft MSCS[5]**	2	**Microsoft Windows NT 4.0 SP6A[9]**	FC-SW	200 km[2, 3, 4]	**EMC: Solutions Enabler 4.2[10, 11], WideSky Solutions Enabler 5.1 minimum[6, 7]; SRDF; SymAPI; SymCLI**	**See[1]**

1. Refer to Microsoft Windows Cluster table for information on supported host servers and qualified HBAs
2. The distance quoted are the maximum distances based on direct connection. Any patch panel, low-grade cables, and connectors will reduce the distance. Power measurements are required to determine the possible distance per installation.
3. VLAN Nortel BGS switches with 200 km single mode fiber spool using one of the wavelengths of a Cisco ADVA DWDM configuration.
4. Nortel Optera Metro 5200 VLAN.
5. **EMC recommends a minimum of 1GB RAM for servers in clusters. EMC requries that servers have a minimum of 512MB or RAM.**
6. **Requires minimum microcode level of 5669.45.24 for Symmetrix DMX storage arrays.**
7. **Symmetrix DMX series only.**
8. **Upgrading Geospan servers from Windows 2000 to Windows 2003 is supported. EMC requires that Powerpath be uninstalled from Windows 2000 server before performing OS upgrade to prevent upgrade failures. Powerpath is not currently supported for Windows 2003.**
9. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
10. **Symmetrix 8000 Series only.**
11. **For Symmetrix 8000 series: 5x66/ 5x67 patch 12160 OR minimum code levels 5267.24, 5567.31, 5266.39, or 5566.40.**

Sun Solaris

Sun Solaris								
No.	Dispersed Cluster	Cluster Software	Max # Nodes	Operating System	Topology	Maximum Distance	Application Software	Comments
1	EMC GeoSpan 1.01 (for VCS Solaris)	Veritas Cluster Server (VCS) 1.3	8	Sun Solaris 7[18, 19, 20, 21]	FC-SW	60 km[22]	EMC Solutions Enabler 4.2; SRDF[1, 11]	See[16, 17]
2	EMC GeoSpan 1.01 (for VCS Solaris)	Veritas Cluster Server (VCS) 1.3[23]	8	Sun Solaris 2.6	FC-SW	60 km[22]	EMC Solutions Enabler 4.2, SRDF[11]	See[1]
3	EMC GeoSpan 1.01 (for VCS Solaris)	Veritas Cluster Server (VCS) 1.3[23]	8	Sun Solaris 8[18, 19, 20, 21]	FC-SW	60 km	EMC Solutions Enabler 4.2, SRDF[11]	See[1]
4	EMC GeoSpan 1.01 (for VCS Solaris)	Veritas Cluster Server (VCS), 1.1.1 pstamp 1999101416, 1.1.2	8	Sun Solaris 2.6, 7[18, 19, 20, 21]	FC-SW	60 km[22]	EMC Solutions Enabler 4.2; SRDF[1, 11]	See[16, 17]
5	EMC GeoSpan 2.0 (for VCS)	Veritas Cluster Server (VCS) 2.0	8	Sun Solaris 8	FC-SW	60 km[22]	EMC WideSky Solutions Enabler 5.1 minimum	See[26, 27]
6	EMC GeoSpan 2.0 (for VCS)	Veritas Cluster Server (VCS) 3.5	8	Sun Solaris 9	FC-SW	60 km[22]	EMC WideSky Solutions Enabler 5.1 minimum SRDF	See[26, 27]
7	EMC GeoSpan 2.0 (for VCS)	Veritas Cluster Server (VCS) 1.3, 2.0	8	Sun Solaris, 2.6, 7, 8	FC-SW	60 km[22]	EMC Solutions Enabler 4.3.x, SRDF	See[24, 25]
8	Integralus UHA Extensions for EMC V1.3.3 Build 227	Integralus UHA V1.3.3	8	Sun Solaris 7[2, 5, 6, 7], 8[2, 5, 6, 7]	FC-SW	60 km	EMC Solutions Enabler 4.2[4]	See[1]
9	Legato Automated Availability for EMC SRDF 4.7	Legato LAAM (Legato Cluster) 4.07	8	Sun Solaris. 7[2, 3], 8[2, 3]	FC-SW	60 km	EMC Solutions Enabler 4.2[2, 11, 12]	See[8, 9, 10]
10	Legato Automated Availability for EMC SRDF 4.7	Legato LAAM (Legato Cluster) 4.7, 4.8	8	Sun Solaris 7[2, 3], 8[2, 3]	FC-SW	60 km	EMC Solutions Enabler 4.2	See[1]
11	Legato Automated Availability for EMC SRDF 5.0.5.0[13]	Legato Automated Availability Manager (LAAM) 5.0 (Base[13, 15])	8	Sun Solaris 7[3], 8[3]	FC-SW[14]	200 km	EMC Solutions Enabler 5.0.1	See[11, 12]

1. See Fibre Channel SRDF Connectivity Options table in Fibre Channel SRDF Connectivity section and Fibre Channel Extended Distance Solutions table in Distance Extension Solutions section
2. See Legato User Guide Section G, EMC/SRDF Module (http://www.legato.com)

3. Solaris 7 and 8 using QLogic HBA requires RPQ
4. See Release Notes (http://www.integratus.com) for details.
5. Automatic Failover not supported at this time
6. SymmSockets HeartBeat not supported at this time
7. Optional Mount Agent Script Change on mount failure to shutdown the host recommended.
8. See Fibre Channel SRDF Connectivity Options table & Extended Distance Connectivity Devices table.
9. See Fibre Channel Connectivity Symmetrix
10. See HP Cluster Section for available Hosts
11. Synch. mode only
12. Asynch. mode requires RPQ.
13. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5567.46.24 or 5568.58.12
14. Maximum 8 nodes in the topology
15. LAAM (Legato Cluster) with SRDF integration requires minimum microcode level 5x66.26.19s
16. Supported with microcode 5x65 and 5x66
17. Supported with Symmetrix 4.8 and 5.0
18. See EMC Release Notes for important configuration information
19. This version does not support Qlogic HBAs
20. Solaris 7 patch 106541-11.
21. Jaycor HBA & driver must set failover parameter to greater than 0
22. The distance quoted are the maximum distances based on direct connection. Any patch panel, low-grade cables, and connectors will reduce the distance. Power measurements are required to determine the possible distance per installation.
23. Multiple RA groups are not supported
24. Supported with microcode versions 5x66, 5x67,5x68
25. Supported with Symmetrix models 4.8, 5.x
26. Supported with Symmetrix 5.x and DMX
27. Supported with 5x67, 5x68,and 5x69 microcode revisions

CLARiiON FC5300 and FC4500

For CLARiiON FC5300 and FC4500 support, look at the FC4700 section and check the footnotes for model/microcode compatibility.

CLARiiON FC4700

Base Connectivity

Do not use a LUN in the CLARiiON DAE2-ATA as a host OS boot device.Do not use a LUN in the CLARiiON DAE2-ATA as a host OS boot device.Windows NT/Windows 2000/2003 Servers (Fibre Channel/SCSI) Boot CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN. EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.

DG DG/UX

DG

DG – DG DG/UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	AViiON: AV25000, AV35000[8, 9], AV3750	PCI	DG DG/UX R4.20MU07[3, 4]	Emulex LP8000-EMC[14]	FC-AL, FC-SW	N	See[1, 2]
2	AViiON: AV25000, AV35000[8, 9], AV3750	PCI	DG DG/UX R4.20MU07[3, 4]	Emulex LP8000-F1[10, 11, 12, 13]	FC-AL, FC-SW[5, 6, 7]	N	See[1, 2]
3	AViiON: AV25000, AV35000[8, 9], AV3750	PCI	DG DG/UX R4.20MU07[3]	Emulex LP8000-EMC[14]	FC-SW[5, 6, 7]	N	See[15]

1. For more information see http://athena.europe.dg.com
2. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
3. FC4700 is only supported on DG/UX 4.20 MU07.
   Maximum of 2 fabrics, each with a maximum of 4 switches.
   Maximum of 4 FC4700s per fabric.
   Maximum of 16 HBAs per fabric.
   Maximum of 32 HBAs per FC4700 SP.
   Maximum of 6 DG/UX servers per FC4700.
   Maximum of 4 HBAs per AV3750 server (2 per fabric).
   Maximum of 4 HBAs per NUMA block (2 per fabric in non-clustered environments).
   FA4500 may be mixed within the same fabric with FC4700 running Access Logix, but must be separately zoned.
4. The release notice for DG/UX (included with the software release at path: "/usr/release/dgux*.rn) lists supported platforms.
5. DS-8B or DS-16B switches only; qualified with firmware v2.1.4a, v2.2, and v2.3.
6. FC4700 clusters must use FC-SW mode and switches.
7. Support for FC4500, FC4700, and FC5300.
8. ClarAlert is available to support FC4700 on AViiONs. ClarAlert is not compatible with other AViiON management software on the Navisphere management workstation.
9. AViiON 25000/35000 servers are not supported for direct server connections to FC4700.
10. Requires firmware 3.20x4 using the native driver.
11. Only the Brocade FC switch connection is supported. Connectrix FC switch is not supported.
12. FC-AL support requires LP8000 BIOS version DB1.60A7 and firmware version DS3.20x4.
13. DG/UX automatically loads the firmware and BIOS onto the Emulex HBA during boot-up as needed. Current DG/UX R4.20MU06 OS supported firmware is V3.20x1 and BIOS V1.4.
14. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
15. All installations currently require an RPQ with diagrams and revisions noted. Support for Core Array software is frozen at v8.42.10/60 for DG/UX systems.

EMC NAS

EMC

EMC – EMC NAS							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	Celerra File Server Control Station CS-507 Series	PCI	EMC NAS: 4.1.12, 4.1.4, 4.1.8, 4.2.11, **4.2.18**, 4.2.5, 5.0.11, 5.0.9, **5.1.15**, 5.1.9	EMC 201-712-900[6]	FC-SW	N	See[1]
2	Celerra File Server Data Mover DM7 Series	PCI	EMC NAS: 4.1.12, 4.1.4, 4.1.8, 4.2.11, **4.2.18**, 4.2.5, 5.0.11, 5.0.9, **5.1.15**, 5.1.9	EMC 250-736-900[3]	FC-SW	N	See[1, 2]
3	Celerra File Server Data Mover DM 510 Series	PCI	EMC NAS: 4.1.12, 4.1.4, 4.1.8, 4.2.11, **4.2.18**, 4.2.5, 5.0.11, 5.0.9, **5.1.15**, 5.1.9	EMC: 250-734-902[3, 5], 250-735-900[3, 4]	FC-SW	N	See[1, 2]

1. FC4700-2 only
2. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
3. Not field-replaceable.
4. This HBA is for connecting to a disk array.
5. This HBA is for connecting to a Tape Library unit.
6. Host Adapter Card is not field-replaceable.

Fujitsu Technology Solutions Solaris

Fujitsu Technology Solutions

Fujitsu Technology Solutions – Fujitsu Technology Solutions Solaris							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PRIMEPOWER 650, 850, GP7000F 1000, GP7000F 200, GP7000F 2000, GP7000F 400, GP7000F 600, GP7000F 800	PCI	Fujitsu Technology Solutions Solaris 2.6[3], 7[5, 8][6], 9[7]	Emulex: LP8000-EMC[2, 4], LP9002-E (LP9002L-E)[2]	FC-AL, FC-SW	N	See[1]
2	PRIMEPOWER 650, 850, GP7000F 1000, GP7000F 200, GP7000F 2000, GP7000F 400, GP7000F 600, GP7000F 800	PCI	Fujitsu Technology Solutions Solaris 8[6] 9[7]	Emulex LP9802-E[8]	FC-AL, FC-SW	N	See[1]
3	PRIMEPOWER 1500	PCI	Fujitsu Technology Solutions Solaris 8[6] 9[7]	Emulex: LP9002-E (LP9002L-E)[2], LP9802-E[8]	FC-AL, FC-SW	N	See[1]

1 For sales in the USA and Canada only
2 Requires Emulex driver 5.01e and firmware 3.90a7
3 EMC required Solaris patches for Fujitsu PCI Bus servers running Solaris 2.6 (must be obtained from Fujitsu): 105181-33 SunOS 5.6:kernel update patch; 105356-19, SunOS 5.6: /kernel/drv/ssd and /kernel/drv/sd patch; 105580-19: SunOS 5.6: /kernel/drv/glm patch.
4 The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
5

EMC required Solaris patches for Fujitsu PCI Bus servers running Solaris 7 (must be obtained from Fujitsu): 106541-23 SunOS 5.7: kernel update patch, 106925-09 SunOS 5.7: GLM driver patch, Fujitsu requires all patches for Solaris 7 be obtained through Fujitsu in the form of a Solaris 7 PTF patch CD. The current patch CD is Solaris 7 PTF R03051.

6. **EMC required Solaris patches for Fujitsu PCI Bus servers running Solaris 8: 108528-19: SunOS 5.8: Kernel update patch, 108974-27: data,uata,dad,sd and SCSI patch, 109885-09 SunOS 5.8: GLM driver patch, 108901-06 SunOS 5.8: /Kernel/sys/rpcmod and /kernel/strmod/rpcmod(for PowerPath 2.x), 110918-04 SunOS 5.8: openeepr patch. Fujitsu requires all patches for Solaris 8 be obtained through Fujitsu in the form of a Solaris 8 PTF patch CD. The current patch CD is Solaris 8 PTF R03051.**
7. EMC requires Solaris patches for Fujitsu servers running Solaris 9:

112233-05 SunOS 5.9: kernel update patch.
113277-08 SunOS 5.9: sd,ssd patch
112834-02
Fujitsu requires that all patches for Solaris 9 be obtained through Fujitsu in the form of a Solaris 9 PTF patch CD. The current patch CD is Solaris 9 PTF R03051.

8. Requires Emulex driver 5.01e and firmware 1.00a4.

HPQ HP-UX

HPQ

HPQ – HPQ HP-UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	HP 9000 K-Class	HSC	HPQ HP-UX 11.0[2, 3, 5]	HPQ A3404A[11]	FC-AL	Y[62]	
2	HP 9000 D-Class	HSC	HPQ HP-UX 11.0[2, 3, 5]	HPQ A3591B[11]	FC-AL	Y[62]	
3	HP 9000 K460	HSC	HPQ HP-UX: 11.0[2, 3], 11i v1.0 (HP-UX 11.11)[3]	HPQ A3404A	FC-AL	N	See[8, 11, 13, 14]
4	HP 9000: K220, K250, K260, K360, K370, K380, K420, K450, K570, K580	HSC	HPQ HP-UX: 11.0[2, 3], 11i v1.0 (HP-UX 11.11)[3]	HPQ A3404A[11]	FC-AL	N	
5	HP 9000 D290[1]	HSC	HPQ HP-UX: 11.0[2, 3], 11i v1.0 (HP-UX 11.11)[3]	HPQ A3591B	FC-AL	N	
6	HP 9000: R380, R390[1, 12]	HSC	HPQ HP-UX: 11.0[2, 3], 11i v1.0 (HP-UX 11.11)[3]	HPQ A3591B[11]	FC-AL	N	
7	HP 9000: D270 D280, D370, D380, D390[1]	HSC	HPQ HP-UX: 11.0[2, 3], 11i v1.0 (HP-UX 11.11)[3]	HPQ: A3591A, A3591B	FC-AL	N	
8	HP 9000 N-Class (N4000)[26, 27]	PCI	HPQ HP-UX 11.0[2, 3]	HPQ A3740A	FC-AL	Y[24]	
9	HP 9000: V2500, V2600	PCI	HPQ HP-UX 11.0[2, 3]	HPQ A3740A	FC-AL	Y[5, 24]	
10	HP 9000 rp5470 (L3000)[45, 47, 48]	PCI	HPQ HP-UX 11.0[2, 3, 5]	HPQ A3740A	FC-AL	Y[46]	
11	HP 9000 rp7400[26, 63]	PCI	HPQ HP-UX 11.0[2, 3, 5]	HPQ A3740A	FC-AL	Y[24]	
12	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11.0[2, 3, 5]	HPQ A3740A[77]	FC-AL	N	
13	HP 9000: rp5400 (L1000)[31], rp5450 (L2000)[31]	PCI	HPQ HP-UX 11.0[2, 3, 8]	HPQ A3740A	FC-AL	Y[5, 24]	
14	HP 9000 rp5405[41]	PCI	HPQ HP-UX 11.0[3, 5]	HPQ A3740A	FC-AL	N	
15	HP 9000: N-Class (N4000)[26, 27], V2500, V2600, rp5400 (L1000)[31], rp5450 (L2000)[31]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A3740A	FC-AL	N	
16	HP 9000: V2200, V2250	PCI	HPQ HP-UX: 11.0[2, 3], 11i v1.0 (HP-UX 11.11)[3]	HPQ A3740A	FC-AL	N	
17	**HP 9000 K460[18]**	HSC	HPQ HP-UX 11.0 Dec 2001[2, 3]	**HPQ A6685A[9]**	FC-AL, FC-SW	Y[9, 15]	See[10, 16, 22]
18	**HP 9000: K260[18], K360[18]**	HSC	HPQ HP-UX 11.0 Dec 2001[2, 3]	**HPQ A6685A[9, 10, 16, 17]**	FC-AL, FC-SW	Y[9, 15]	
19	**HP 9000: K370[18], K380[18], K570[18, 19], K580[18, 19]**	HSC	HPQ HP-UX 11.0 Dec 2001[2, 3]	**HPQ A6685A[10, 16, 17, 20]**	FC-AL, FC-SW	Y	
20	**HP 9000 R390[1, 6]**	**HSC**	HPQ HP-UX 11.0 Dec 2001[2, 3, 5]	**HPQ A6684A[9, 10]**	**FC-AL, FC-SW**	Y[9]	
21	**HP 9000 D390[1]**	HSC	**HPQ HP-UX 11.0[1, 2, 3]**	**HPQ A6684A**	FC-AL, FC-SW	Y[4, 5, 6]	
22	**HP 9000: K220, K250, K420, K450**	HSC	**HPQ HP-UX 11.0[2, 3]**	**HPQ A6685A[10, 65, 66]**	FC-AL, FC-SW	N	
23	**HP 9000 R380[1, 7]**	HSC	**HPQ HP-UX 11.0[2, 3, 8]**	**HPQ A6684A[9, 10]**	FC-AL, FC-SW	Y	
24	HP 9000: K220, K250, K420, K450	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11) June 2001[3]	HPQ A6685A[10, 16, 20, 69]	FC-AL, FC-SW	N	
25	**HP 9000 K460[18]**	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	**HPQ A6685A**	FC-AL, FC-SW	Y	
26	HP 9000: K260, K360, K370, K380, K570, K580	HSC	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ A6685A[10, 11, 16, 17, 19, 20, 21]	FC-AL, FC-SW	Y[4, 18]	
27	**HP 9000 D390[1, 6]**	HSC	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]**	**HPQ A6684A**	FC-AL FC-SW	Y	
28	**HP 9000 R380**	HSC	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]**	**HPQ A6684A[10]**	FC-AL, FC-SW	N	
29	**HP 9000 R390[1, 12]**	HSC	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]**	**HPQ A6684A[10]**	FC-AL, FC-SW	Y[6]	
30	HP 9000: D270, D280, D370, D380	HSC	HPQ HP-UX: 11.0[2, 3], 11i v1.0 (HP-UX 11.11)[3]	HPQ A6684A	FC-AL, FC-SW	N	
31	**HP 9000 rp5430[41]**	PCI	HPQ HP-UX 11.0 ACE[2, 3]	**HPQ A6795A[28, 29, 30, 34, 35, 36, 37, 39, 70]**	FC-AL, FC-SW	N	
32	**HP 9000: V2500[25], V2600[25]**	**PCI**	HPQ HP-UX 11.0 Dec 2001[2, 3]	**HPQ A5158A[16, 20, 23]**	**FC-AL FC-SW**	Y	
33	**HP 9000 N-Class (N4000)[26, 27]**	**PCI**	HPQ HP-UX 11.0 Dec 2001[2, 3, 8]	**HPQ A6795A**	**FC-AL, FC-SW**	Y	
34	HP 9000 rp2470	PCI	HPQ HP-UX 11.0 March 2002[3]	HPQ: A5158A, A6795A	FC-AL FC-SW	Y	
35	**HP 9000 rp2405**	PCI	HPQ HP-UX 11.0 March 2002[3, 8]	**HPQ A6795A**	FC-AL FC-SW	Y[4]	See[28, 29, 30, 34, 35, 36, 39, 40, 42, 43, 53, 54]
36	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11.0[2, 3]	HPQ A5158A	FC-AL FC-SW	Y[4, 5, 32, 55]	See[28, 29, 30, 34, 35, 36, 39, 40, 42, 43, 53, 54]
37	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11.0[2, 3]	HPQ A6795A	FC-AL, FC-SW	Y[4, 5, 28, 29, 30, 56]	See[8, 13, 16, 34, 35, 36, 39, 40, 42, 43, 53, 54]

HPQ – HPQ HP-UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
38	HP 9000 rp2470	PCI	HPQ HP-UX 11.0[2, 3]	HPQ: A5158A[66], A6795A[34, 35, 36, 37, 39, 67]	FC-AL, FC-SW	Y	
39	HP 9000 rp7400[26, 63]	PCI	HPQ HP-UX 11.0[2, 3, 5]	HPQ A5158A[16, 20, 23]	FC-AL, FC-SW	Y	
40	HP 9000 rp5430	PCI	HPQ HP-UX 11.0[2, 3, 5]	HPQ: A5158A[16, 23, 32] A6795A[28, 29, 30, 34, 35, 36]	FC-AL, FC-SW	Y	
41	**HP 9000 rp5430[41]**	PCI	**HPQ HP-UX 11.0[2, 3, 5]**	**HPQ: A5158A[16, 23, 32], A6795A[34, 35, 36]**	FC-AL, FC-SW	N	
42	**HP 9000 rp2405**	PCI	**HPQ HP-UX 11.0[2, 3, 8]**	**HPQ A6795A[34, 35, 36, 37, 39, 67]**	FC-AL, FC-SW	Y[4]	See[28, 29]
43	HP 9000 SUPERDOME[54, 57]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001[3]	HPQ: A5158A[58], A6795A[36, 37, 38, 39, 59, 60]	FC-AL, FC-SW	N	
44	HP 9000: rp7405[50], **rp7410[52]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ A5158A[23, 61]	FC-AL, FC-SW	N	
45	HP 9000 rp2405	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ A6795A[34, 35, 36, 37, 39, 70, 71]	FC-AL, FC-SW	N	
46	HP 9000 rp7405[50]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ A6795A[38]	FC-AL, FC-SW	N	See[13, 34, 35, 36, 37, 39, 42, 43, 49]
47	**HP 9000 rp7410[52]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	**HPQ A6795A[38]**	FC-AL, FC-SW	Y[4, 28, 51]	See[13, 34, 35, 36, 37, 39, 42, 43, 49]
48	HP 9000 rp2470	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ: A5158A[16, 20, 23] A6795A[34, 35, 36, 37, 70, 71]	FC-AL, FC-SW	N	
49	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A	FC-AL, FC-SW	Y[4, 32, 55]	See[8, 13, 16, 34, 35, 36, 39, 40, 42, 43, 53, 54]
50	HP 9000: V2500, V2600	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[16, 20, 23]	FC-AL, FC-SW	Y[4, 24]	
51	HP 9000 rp5430[48]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[16, 23]	FC-AL, FC-SW	Y[4, 32, 55, 68]	See[13, 16, 23, 34, 35, 36, 37, 39, 40, 41, 42, 43, 44]
52	HP 9000 rp2405	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A6795A	FC-AL, FC-SW	N	
53	HP 9000: rp2400 (A400/440MHz), rp2450 (A500/440MHz), rp2450 (A500/550MHz)	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A6795A	FC-AL, FC-SW	Y[4, 28, 29, 30, 56]	See[8, 13, 16, 34, 35, 36, 39, 40, 42, 43, 53, 54]
54	**HP 9000 N-Class (N4000)[26, 27]**	PCI	**HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]**	**HPQ A6795A[28, 29, 30]**	FC-AL, FC-SW	Y	
55	HP 9000 rp5430[48]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A6795A[37, 38, 39]	FC-AL, FC-SW	Y[4, 28, 29, 30, 68]	See[13, 16, 23, 34, 35, 36, 37, 39, 40, 41, 42, 43, 44]
56	HP 9000 rp2470	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ: A5158A, A6795A	FC-AL, FC-SW	N	
57	HP 9000: rp7405[49, 50], **rp7410[49, 52]**	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ: A5158A[23, 61], A6795A[35, 36, 37, 38, 39, 60, 64]	FC-AL, FC-SW	N	
58	**HP 9000 rp5430[41]**	PCI	HPQ HP-UX: 11.0 ACE[2, 3], **11i v1.0 (HP-UX 11.11)[3]**	**HPQ: A5158A, A6795A**	FC-AL, FC-SW	N	See[13, 16, 23, 34, 35, 36, 37, 39, 40, 41, 42, 43, 44]
59	HP 9000 N-Class (N4000)[26, 27]	PCI	HPQ HP-UX: 11.0 Dec 2001[2, 3, 5], 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[20]	FC-AL, FC-SW	Y	
60	HP 9000 rp2405	PCI	HPQ HP-UX: 11.0 March 2002[3], 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A	FC-AL, FC-SW	N	
61	HP 9000 rp2430	PCI	HPQ HP-UX: 11.0 March 2002[3], 11i v1.0 (HP-UX 11.11)[3]	HPQ: A5158A, A6795A	FC-AL, FC-SW	N	
62	HP 9000: V2200, V2250	PCI	HPQ HP-UX: 11.0[2, 3], 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[16, 20, 23]	FC-AL, FC-SW	N	
63	HP 9000 rp5430[41]	PCI	HPQ HP-UX 11.0 ACE[2, 3]	HPQ A5158A[16, 20, 23]	FC-AL, FC-SW[33]	N	
64	HP 9000 rp8400	PCI	HPQ HP-UX 11.0 ACE[2, 3]	HPQ A5158A[23, 61, 73]	FC-AL, FC-SW[33]	N	
65	**HP 9000 rp5405[41]**	PCI	HPQ HP-UX 11.0 ACE[3, 5]	**HPQ A6795A[28, 29, 30, 34, 35, 36, 37, 38]**	FC-AL, FC-SW[33]	N	
66	**HP 9000 rp5470 (L3000)[41, 48]**	PCI	HPQ HP-UX 11.0 Dec 2001[2, 3]	**HPQ A6795A[28, 29, 30, 34, 35, 36, 37, 70]**	FC-AL, FC-SW[33]	Y	
67	**HP 9000 rp5450 (L2000)[31]**	PCI	HPQ HP-UX 11.0 Dec 2001[2, 3, 8]	**HPQ A6795A[28, 29, 30, 34, 35, 36, 37, 38]**	FC-AL, FC-SW[33]	Y	
68	**HP 9000 rp7400[41]**	PCI	HPQ HP-UX 11.0 Dec 2001[3, 5]	**HPQ A6795A[28, 29, 30, 34, 35, 36, 37, 38]**	FC-AL FC-SW[33]	Y	
69	HP 9000 rp5405[41, 45], rp5470 (L3000)[45, 47, 48]	PCI	HPQ HP-UX 11.0[2, 3, 5]	HPQ A5158A[16, 20, 23]	FC-AL FC-SW[33]	Y	
70	HP 9000, rp5400 (L1000)[31], rp5450 (L2000)[31]	PCI	HPQ HP-UX 11.0[2, 3, 8]	HPQ A5158A[16, 20, 23]	FC-AL, FC-SW[33]	Y[4, 5, 24, 32]	
71	**HP 9000 rp5400 (L1000)[31]**	PCI	**HPQ HP-UX 11.0[2, 3, 8]**	**HPQ A6795A[28, 29, 30, 34, 35, 36, 37, 38]**	FC-AL, FC-SW[33]	Y	
72	HP 9000 rp5450 (L2000)[31]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001[3]	HPQ A6795A[34, 35, 36, 37, 38, 39]	FC-AL FC-SW[33]	Y[4, 28, 29, 30]	
73	HP 9000 rp5470 (L3000)[45, 47, 48]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001[3]	HPQ A6795A[34, 35, 36, 37, 38, 39]	FC-AL FC-SW[33]	Y[4, 28, 29, 30, 46]	
74	HP 9000 rp7400[41, 79]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001[3, 58]	HPQ A6795A[34, 35, 36, 37, 38, 39]	FC-AL, FC-SW[33]	Y[4, 28, 29, 30]	
75	HP 9000 rp8400[74, 75]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) March 2002[3]	HPQ: A5158A[23, 61, 72, 73] A6795A[34, 35, 36, 37, 38, 39, 73, 76]	FC-AL FC-SW[33]	N	
76	HP 9000 rp8400	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11) Sept 2001[3]	HPQ A5158A[23, 61, 72, 73]	FC-AL, FC-SW[33]	N	
77	HP 9000 rp5470 (L3000)[45, 47, 48]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[16, 20]	FC-AL FC-SW[33]	Y[4, 28, 46]	
78	HP 9000 rp5400 (L1000)[31]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[16, 20, 23]	FC-AL FC-SW[33]	Y	
79	HP 9000 rp5450 (L2000)[31]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A5158A[16, 20, 23]	FC-AL FC-SW[33]	Y[4, 24, 32]	

HPQ – HPQ HP-UX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
80	HP 9000 rp5400 (L1000)[31]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ A6795A[34, 35, 36, 37, 38, 39]	FC-AL, FC-SW[33]	Y[28]	
81	HP 9000 rp5405[41, 45]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3]	HPQ: A5158A[16, 20], A6795A[34, 35, 36, 37, 38, 39]	FC-AL, FC-SW[33]	N	
82	HP 9000 rp7400[41, 79]	PCI	HPQ HP-UX 11i v1.0 (HP-UX 11.11)[3, 58]	HPQ A5158A[16, 23, 78]	FC-AL, FC-SW[33]	Y[4, 24, 28]	
83	HP 9000 rp8400	PCI	HPQ HP-UX, 11.0 ACE[2, 3], 11i v1.0 (HP-UX 11.11) Sept 2001[3]	HPQ A6795A[34, 35, 36, 37, 38, 39, 73, 76]	FC-AL, FC-SW[33]	N	

1. Dx90, Rx90 servers support a maximum of 2 A6684A HBAs. The first must be installed in the turbo slot 10/12 and the second in any HSC slot.
2. With HP-UX 11.0, a failed-over LUN is not automatically restored to its parent SP following LCC removal and replacement on an FC4702 array. After the LCC has powered back up, the LUN can be restored by deactivating and activating the associated volume group using the command 'vgchange -a'. During other types of failover (disabling/reenabling SP ports on switch, etc.), the LUN "is" automatically restored.
3. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set.
4. The Brocade (Brocade, EMC, or HP models) switch port the HBA involved in a FC-SW topology boot process or FC-SW topology dump process is attached to, is required to be locked as G port when the boot or dump volume resides on the Symmetrix. This can be accomplished by executing the "portCfgGport port number,1" command from a telnet session on the Brocade switch.The boot device can not be located more than two hops from the initiator involved in the boot process.
5. See Technical Bulletin T010820 for supported patch levels.
6. Requires minimum PDC firmware 42.10.
7. **Dx90, Rx90 require minimum PDC firmware 41.35 or higher to support boot.**
8. See Technical Bulletin T010820 for LVM supported patch levels.
9. HP-UX 11.0 minimum driver revision B 11.00.06. HP-UX 11i minimum driver revision B.11.11.06.
10. Required dependent FCMS patches are required (patches may be superceded or have co-dependencies as defined by HP): HP-UX 11.0, PHKL_21834 HP-UX 11i: PHKL_23626.NOTE: These patches must be installed before installing the driver, available at http://us-support2.external.hp.com, HSC Tachlite driver available at http://www.software.hp.com, under "drivers" and locate Fibre Channel HSC Tachlite adapter (A6684A or A6685A).For HP-UX 11i, the driver is under "hp tachyon tl fibre channel adapter" which enables support for A6684A/A6685A/A5158A.
11. For HP/UX 10.20 Driver J3630BA is required for A3404A, A3591A/B, A3740A, A6684A and A6685A adapters.
12. Dx90, Rx90 require minimum PDC firmware 41.35 or higher.
13. For HP-UX systems only:LVM Bad block reallocation (BBR) should be disabled and the LVM mechanism for marking blocks defective when a medium error is returned should be disabled for all HP LVM logical volumes residing on EMC Symmetrix devices. This can be accomplished by utilizing the upper case "N" flag when creating the logical volume or with the lvchange command. Examples: lvchange -r N /dev/vg01/lvol1 or lvcreate -r N /dev/vg01. The exception to this rule is if the logical volume is host mirrored using HP Mirror-UX, then this flag should not be set. No additional patches are required for this option in HP-UX 11.0, HP-UX 11.11 and forward. however in HP-UX 10.x the "N" flag option was introduced with the following patches are required to be installed or patches which supercede or replace these in order to configured the logical volumes residing on Symmetrix devices in this manner: For all HP/UX 10.xx versions install the following Bad Block Reallocation Patch Pair: 10.01: PHKL_11294, PHKL_11890, PHCO_11288 (patches may be superseded or have co-dependencies as defined by HP). 10.10: PHKL_11816, PHCO_11817 (patches may be superseded or have co-dependencies as defined by HP). 10.20: PHKL_11086, PHKL_11903, PHCO_10964 (patches may be superseded or have co-dependencies as defined by HP).
14. FC-AL
15. Symm 6 is qualified with: HP-UX 11.00 Support Plus Sept '02 bundle = QPK1100 Sept '02 & HWE1100 Sept '02
16. FC-AL, FC-SW topologies can co-exist on the same server but not on same HBA, provided that different topologies are attached to different HBAs.
17. Qualified with only CX600, CX400, FC4500 and FC4700 with the switches listed in connectivity table, fabric or QuickLoop.
18. Requires minimum PDC firmware 41.33.
19. The A6685A is not supported in slots 10/0 and 10/8 of the K570 and K580. In the K570 and K580, there are restrictions for the number of A6685A HBA cards supported when graphics cards are installed.
20. HP-UX 11.00 minimum driver revision B.11.00.06.
    HP-UX 11i minimum driver revision B.11.11.06.
    HP-UX 10.20 minimum driver revision B.10.20.01.
21. HP-UX 10.20 requires patches (patches may be superceded or have co-dependencies as defined by HP):
    PHKL_16751, PHKL_17590 , PHSS_23581
    NOTE: These patches must be installed before installing the driver, available at http://us-support2.external.hp.com. HSC Tachlite driver available at http://www.software.hp.com, under "drivers" and locate Fibre Channel HSC Tachlite adapter (A6684A or A6685A).
    Depending on the patch level of the system, the following patches may be required:
    PHKL_16957PHKL_21595PHCO_16591PHSS_20999
    PHKL_17858PHKL_21661PHCO_18563PHNE_19936
    PHKL_20611PHKL_23419PHCO_21186
    Installation instructions available at:
    http://www.software.hp.com/cgi-bin/swdepot_parser.cgi/cgi/displayProductInfo.pl?productNumber=A6685A&oper=install
22. Qualified with only CX600, CX400, FC4500 and FC4700 with the switches listed in Table 112 on page 293, fabric or QuickLoop.
23. HP A5158A FC-SW software requirement: FC-AL and FC-SW requires the HP A5158A Tachlite PCI Fibre Channel Adapter. The A5158A FC-SW software fabric driver version "AP0301" for HP-UX 11i is now available for download from HP's software depot site, http://www.software.hp.com under "drivers" . It is referred to as the "hp pci tachyon tl fibre channel adapter", and requires the installation of dependent patch PHKL_22874 prior to installing the fabric driver, patches may be superceded or have co-dependencies as defined by HP.
24. QuickLoop only or direct attach only.
25. **FC-AL boot with PDC rev TSSW 3.2.1, PDC_ENTRY version: 4.3.4.0 or higher.**
    FC-SW boot with PDC rev TSSW 3.2.1 or higher, PDC_ENTRY version: 4.3.4.0 or higher.
26. Virtual Partitions (VPAR) is supported on the N-class/rp7400 server.
    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B 11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later. Powerpath support on Virtual Partitions has to be RPQed at this time.
27. N-Class: Arbitrated loop boot with PDC rev 40.04 or higher.Fabric boot with PDC rev 40.25 or higher.
28. Boot initialization negotiation at 1 Gb mode for Brocade switches.
    FC-SW - HBA port on the switch must be locked as a "G" port and locked in auto-negotiation mode
    FC-AL direct attach 2-Gbit boot using A6795A is not supported.
    FC-SW 2-Gbit boot and/or dump using A6795A requires Auto-Negotiation flag to be enabled on the switch port the HBA is attached to.
30. FC-AL direct attach boot support only at 1 Gb. Requires the boot device port to be configured for 1 Gb operation.
31. PDC firmware 41.39 or higher. Arbitrated Loop (direct attach) or FC-SW
32. For HP/UX 11.00, minimum driver revision B.11.00.06
33. Switched fabric (FC-SW) first supported on FC4500, requires Core Software 6.32.05 or higher, Navisphere Agent 4.3 or higher, and Access Logix enabled (data access control enabled).
34. Supported with CX600, CX400, FC4700. FC4700-2 supports 1 and 2 Gb modes. Restrictions apply in boot environments.
35. HP-UX 11.0 ACE required patch: PHKL_23939
    HP-UX 11i required patch: PHKL_23626
    NOTE: These patches must be installed before installing the driver
36. HP-UX driver requirements: HP-UX 11.0 , A6795A HP PCI Tachyon TL/XL2 Fibre Channel driver B.11.00.10 or later release which supports this HBA. HP-UX 11i : A6684A/A6685A/A5158A/A6795A HP Tachyon TL/XL2 Fibre Channel driver B.11.11.09 or later release which supports this HBA.
37. Minimum driver version for SNIA HBA API support with HP-UX 11.0 is B.11.00.10. Minimum driver version for SNIA HBA API support with HP-UX 11.11 is B.11.11.09
38. QuickLoop support: HP A5223A/AZ, HP A5224A/AZ using parameters outlined in connectivity table.
    The A6795A HBA is capable of supporting both 1 and 2 Gb speeds
    QuickLoop is not supported with Brocade 3900/12000, or ED-12000B.
    Auto-sensing capability on the HBA is permanently enabled. There is no option to disable auto-sensing on the HBA

    All switch ports participating in the Quickloop must be set to 1 GBit speed.
39. Supported with HP-UX 11i (64-bit only). FC4700-2 minimum code level 8.44.x1
40. For HP/UX 11.00 minimum driver revision B 11.00.06.
    For HP/UX 11i minimum driver revision B 11.11.06.
41. rp5405, rp5430, rp5470, rp7400. (PA-8700 processors): Initial support with HP-UX 11.0 Sept 2001, 11i Sept 2001.
42. QuickLoop support: HP A5223A/AZ, HP A5224A/AZ using parameters outlined in Table 112 on page 293
    The A6795A HBA is capable of supporting both 1 and 2 Gb speeds.
    QuickLoop is not supported with Brocade 3200/3800/12000, DS-16B2 or ED-12000B
    Auto-sensing capability on the HBA is permanently enabled. There is no option to disable auto-sensing on the HBA
43. FC-AL, FC-SW
44. PDC 40.26 or later
45. L-Class requires minimum PDC firmware 40.26 or higher
46. Excludes the rp5470 (PA-8700)
47. Virtual Partitions (VPAR) is supported on the L-class/rp5470 server
    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B 11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 41.02 or later

48. PA-8700 processors: Initial support with HP-UX 11.0 Sept 2001. HP-UX 11i Sept 2001.
49. PDC firmware 15.5 or later
50. Virtual Partitions (VPAR) is supported on the rp7405 server with 4.x and 5.x Symmetrix models. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.
51. Requires minimum PDC firmware 16.09 or higher
52. **Virtual Partitions (VPAR) is supported on the rp7405/7410 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.02.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.**
53. HP A5158A FC-SW software requirements: FC-AL and FC-SW requires the HP A5158A Tachlite PCI Fibre Channel Adapter. The A5158A FCSW software fabric driver version "AP0301", for HP-UX 11i is now available for download from HP's software depot site, http://www.software.hp.com under "drivers". It is referred to as the "hp pci tachyon tl fibre channel adapter", and requires the installation of dependent patch PHKL_22874 prior to installing the fabric driver, patches may be superceded or have co-dependencies as defined by HP.
54. Qualified on FC4500 and later. Requires Access Logix 6.32.11 (FC4500) or 8.42.5x (FC4700) or higher with data access control enabled and Navisphere Agent 5.2 or higher.
55. Fabric SAN boot supported.
56. Requires minimum PDC firmware 42.09
57. Requires minimum PDC firmware 32.2 and PDHC 7.3 or higher
58. HP-UX 11.00 minimum driver revision B.11.00.06
    HP-UX 11i minimum driver revision B.11.11.06.
59. HP-UX required patches: HP-UX 11.0 ACE: PHKL_23939, HP-UX 11i: PHKL_23626
60. Supported with CX600, CX400, FC4500 and FC4700. FC4700-2 supports both 1GB and 2GB modes. Restrictions apply in a boot environment.
61. rp7400 A5158A requires: HP-UX 11i minimum driver version B11.11.06 or higher. HP-UX 11.0 minimum driver version B11.00.06 or higher. rp8400 A5158A requires: HP-UX 11i minimum driver version B11.11.06 or higher
62. Direct attach only
63. Requires PDC firmware rp7400 (PA-8700) requires PDC firmware 41.36
64. HP-UX driver requirements: HP-UX 11.0: A6684A/A6685A/A5158A/A6795A HP PCI Tachyon TL/XL2 Fibre Channel driver B.11.00.10 or later release which supports this HBA.
65. Qualified with only CX600, CX400, FC4500 and FC4700 with the switches listed in connectivity section, fabric or QuickLoop.
66. HP-UX 11.0 minimum driver revision B.11.00.06. HP-UX 11i driver revision B.11.11.06.
67. QuickLoop support: HP A5223A/AZ, HP A5224A/AZ using parameters outlined in connectivity table.
    The A6795A HBA is capable of supporting both 1 and 2 Gb speeds.
    QuickLoop is not supported with Brocade 3200-3800/12000, DS-16B2 or ED-12000B.
    Auto-sensing capability on the HBA is permanently enabled. There is no option to disable auto-sensing on the HBA.
68. Requires minimum PDC firmware 42.06
69. Qualified with only CX600, CX400, FC4500 and FC4700 with the switches listed connectivity table, fabric or QuickLoop.
70. 1GBit Quickloop supported beginning at firmware release v3.0.2h: all switch ports participating in the Quickloop must be set to 1 GBit speed.
71. QuickLoop support: HP A5223A/AZ, HP A5224A/AZ using parameters outlined in connectivity table.
    The A6795A HBA is capable of supporting both 1 and 2 Gb speeds.
    QuickLoop is not supported with Brocade 3900/12000, or ED-12000B
    Auto-sensing capability on the HBA is permanently enabled. There is no option to disable auto-sensing on the HBA.
72. Virtual Partitions (VPAR) is supported on the rp8400 server with the Clariion CX600 and FC4700.
    FC-AL only support, Requires PDC 16.009 or later

    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or
73. Virtual Partitions (VPAR) is supported on the rp8400 server with the Clariion CX600 and FC4700.
    FC-AL only support, Requires PDC 16.009 or later

    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later
74. rp8400 requires minimum PDC firmware 13.10 or higher.
75. Virtual Partitions (VPAR) is supported on the rp8400 server with 4.x and 5.x Symmetrix models and DMX Series. VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later. Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 4.0 or later.
76. 1GBit Quickloop supported beginning at firmware release v3.0.3h, all switch ports participating in the Quickloop must be set to 1 GBit speed.
77. FC-AL for FC4700 requires Base Software or Access Logix 8.42.xx or higher.
78. HP-UX 11i minimum driver revision B.11.11.06.
79. Virtual Partitions (VPAR) is supported on the N-class/rp7400 server
    VPAR supported only with HP-UX 11i v1.0 (HP-UX 11.11) Dec 2001 release or later.
    Requirements: Minimum VPAR product release of A.02.01.00 or later, Partition Manager B.11.11.01.05 or later, Online Diagnostic revision B.11.11.07.23 or later, server PDC firmware 42.06 or later.

HPQ Tru64 UNIX

HPQ

HPQ – HPQ Tru64 UNIX							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**AlphaServer: ES47[13], ES80[13], GS1280[13]**	PCI	**HPQ Tru64 UNIX V5.1B[6]**	**HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-DA (261329-B21)[2, 4]**	FC-SW	Y	**See[1, 5]**
2	AlphaServer: 1200[12], 4000[12], 4100[12], 8200[12], 8400[12] DS10, DS10L, DS20, DS20E, ES40, GS140[12] GS60[12]	PCI	HPQ Tru64 UNIX: V5.0A, V5.1, V5.1A, **V5.1B[6]**	HPQ: KGPSA-BC (380574-001)[9, 10], KGPSA-CA (168794-B21)[2, 4]	FC-SW	Y	See[1, 5]
3	AlphaServer: GS160, GS320, GS80	PCI	HPQ Tru64 UNIX: V5.1, V5.1A, **V5.1B[6]**	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-CA (168794-B21)[2, 4], KGPSA-DA (261329-B21)[2, 4]	FC-SW	Y	See[1, 5]
4	AlphaServer: DS10, DS10L, DS20, DS20E, ES40	PCI	HPQ Tru64 UNIX: V5.1, V5.1A, **V5.1B[6]**	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-DA (261329-B21)[2, 4]	FC-SW	Y	See[1, 5]
5	AlphaServer DS20L	PCI	HPQ Tru64 UNIX V5.1A, **V5.1B[6]**	HPQ KGPSA-CA (168794-B21)[2, 4]	FC-SW	Y	See[1, 5]
6	AlphaServer: DS25[7, 11], ES45[7, 8]	PCI	HPQ Tru64 UNIX: V5.1A, **V5.1B[6]**	HPQ: FCA2354 (LP9002)[2, 3, 4], KGPSA-CA (168794-B21)[2, 4], KGPSA-DA (261329-B21)[2, 4]	FC-SW	Y	See[1, 5]

1. Supported on CX600, CX400 and FC4700-2 only
2. KGPSA-CA/KGPSA-DA(FCA2354). Minimum firmware revision 3.81A4.
3. Identical to KGPSA-DA
4. KGPSA-CA/KGPSA-DA(FCA2354). Latest firmware revision 3.82A1
5. FC4700: Minimum AccessLogix 8.45.5x and Navisphere Manager 6.0.5.4.x
6. **Tru64 V5.1B latest qualified Patch Kit 2 (T64V51BB22AS0002-20030415).**
7. KGPSA-CA and KGPSA-DA(FCA2354) only supported on this server
8. Tru64 UNIX V5.1A minimum requirement for ES45
9. KGPSA-BC: Latest firmware revision 3.20X7
10. KGPSA-BC: Minimum firmware revision 3.03A1
11. Tru64 UNIX V5.1A minimum requirement for DS25.
12. KGPSA-BC/KGPSA-CA supported ONLY
13. **AlphaServer GS1280,ES80,ES47: Minimum Tru64 V5.1B with Patch Kit 1 (T64V51BB1AS0001-20021229)**

IBM AIX

IBM

IBM – IBM AIX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
1	7013-S7A	PCI	IBM AIX 4.3.3[3]	IBM 6227[2, 24]	FC-AL	N
2	7013-S70; 7013-S7A; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7025-F50	PCI	IBM AIX 5.2	IBM 6227	FC-AL	N
3	7017-S80; p680 7017-S85	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[5, 8, 45, 48]
4	7025-F80; p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[8, 11, 45, 48]
5	7025-H70; 7026-H70	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[8, 12, 45, 48]
6	7026-H50	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[8, 13, 45, 48]
7	7026-H80; p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[8, 14, 45, 48]
8	7026-M80; p660 7026-6M1	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[8, 15, 45, 48]
9	7044-170; 7044-270	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[8, 17, 45, 48]
10	p640 7026-B80	PCI	IBM AIX 5.2	IBM 6227	FC-AL	Y[8, 16, 45, 48]
11	SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]	PCI	IBM AIX 4.3.3[27]	Emulex: LP9002-E[26], LP9002L-E[26, 28], LP9002L-F2[26, 31]	FC-AL, FC-SW	N
12	7013-S7A	PCI	IBM AIX 5.1[3, 25]	Emulex LP8000-EMC[28, 29, 30]	FC-AL, FC-SW	N
13	7013-S70; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7017-S80; 7024-E30; 7025-F40; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7043-140; 7043-150; 7043-240; 7043-260; 7043-270; 7044-170; 7044-270; p680 7017-S85	PCI	IBM AIX 5.1[25, 27]	Emulex LP8000-EMC[28, 29, 30]	FC-AL, FC-SW	N
14	p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 5.1[25, 27]	Emulex: LP9002-E[26], LP9002L-E[26, 28], LP9002L-F2	FC-AL, FC-SW	N
15	p630: 7028-6C4, 7028-6E4	PCI	IBM AIX 5.1[25, 27, 37]	Emulex: LP9002-E[26], LP9002L-E[26, 28], LP9002L-F2[26, 31]	FC-AL, FC-SW	N
16	p610 7028-6E1	PCI	IBM AIX 5.1[27, 42]	Emulex: LP9002-E[26], LP9002L-E[26, 28], LP9002L-F2[26, 31]	FC-AL, FC-SW	N
17	7013-S7A, 7015-S7A; 7017-S7A; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7044-170; 7044-270	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	N
18	p610: 7028-6C1, 7028-6E1	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[34, 43, 44, 45]
19	p620: 7025-6F0 7025-6F1	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[11, 43, 44, 45]
20	p630: 7028-6C4 7028-6E4, p690 7040-681	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[36, 43, 44, 45]
21	p640 7026-B80	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[16, 43, 44, 45]
22	p650 7038-6M2	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[43, 44, 45, 46]
23	p655 7039-651 p670 7040-671 p690 7040-W42	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[43, 44, 45]
24	p660 7026-6M1	PCI	IBM AIX 5.2	IBM 6228	FC-AL FC-SW	Y[15, 43, 44, 45]
25	p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[14, 43, 44, 45]
26	p680 7017-S85	PCI	IBM AIX 5.2	IBM 6228	FC-AL FC-SW	Y[5, 43, 44, 45]
27	p690 7040-61D, 7040-61R	PCI	IBM AIX 5.2	IBM 6228	FC-AL, FC-SW	Y[43, 44, 45, 47]
28	p630 7028-6C4, 7028-6E4	PCI	IBM AIX 5.1[3, 19, 37] 5.2	IBM 6239	FC-AL FC-SW	N
29	p650 7038-6M2, p655 7039-651	PCI	IBM AIX 5.1[3, 19, 40] 5.2	IBM 6239	FC-AL FC-SW	N

IBM – IBM AIX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
30	7044-170; 7044-270; p610: 7028-6C1, 7028-6E1; p620: 7025-6F0, 7025-6F1; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1; p670 7040-671; p690: 7040-61D, 7040-61R, 7040-681	PCI	IBM AIX: 5.1[3, 19], 5.2	IBM 6239	FC-AL, FC-SW	N
31	p615: 7029-6C3, 7029-6E3	PCI	IBM AIX: 5.1[50], 5.2[51]	IBM 6239[33, 49]	FC-AL, FC-SW	N
32	7013-S7A as SP2 node; 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]; p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	PCI	IBM AIX 5.1[3, 25, 39]	IBM 6228[4, 35]	FC-AL[24], FC-SW	N
33	7013-S70; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7025-F50; 7043-270	PCI	IBM AIX 4.3.3[2, 3]	IBM 6227[1, 2]	FC-AL[4] FC-SW[4]	N
34	7017-S80; p680 7017-S85	PCI	IBM AIX 4.3.3[2, 3]	IBM 6227[1, 2]	FC-AL[4] FC-SW[4]	Y[5, 6, 7, 8, 9, 10]
35	7025-F80; p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 4.3.3[2, 3]	IBM 6227[1, 2]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 11]
36	7025-H70; 7026-H70	PCI	IBM AIX 4.3.3[2, 3]	IBM 6227[1, 2]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 12]
37	7026-H50	PCI	IBM AIX 4.3.3[2, 3]	IBM 6227[1, 2]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 13]
38	7026-H80; p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 4.3.3[2, 3]	IBM 6227[1, 2]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 14]
39	7026-M80; p660 7026-6M1	PCI	IBM AIX 4.3.3[2, 3]	IBM 6227[1, 2]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 15]
40	7044-170; 7044-270	PCI	IBM AIX 4.3.3[2, 3]	IBM 6227[1, 2]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 17]
41	p640 7026-B80	PCI	IBM AIX 4.3.3[2, 3]	IBM 6227[1, 2]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 16]
42	7013-S70 as SP2 node; 7015-S70 as SP2 node; 7017-S70 as SP2 node	PCI	IBM AIX 4.3.3[3]	IBM 6227[1, 2]	FC-AL[4] FC-SW[4]	N
43	7013-S7A; 7015-S7A; 7017-S7A; 7025-F50	PCI	IBM AIX 4.3.3[3]	IBM 6228[32, 33]	FC-AL[4] FC-SW[4]	N
44	7017-S80; p680 7017-S85	PCI	IBM AIX 4.3.3[3]	IBM 6228[32, 33]	FC-AL[4] FC-SW[4]	Y[5, 6, 7, 8, 9, 10]
45	7025-F80; p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 4.3.3[3]	IBM 6228[32, 33]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 11]
46	7025-H70; 7026-H70	PCI	IBM AIX 4.3.3[3]	IBM 6228[32, 33]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 12]
47	7026-H50	PCI	IBM AIX 4.3.3[3]	IBM 6228[32, 33]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 13]
48	7026-H80; p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 4.3.3[3]	IBM 6228[32, 33]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 14]
49	7026-M80; p660 7026-6M1	PCI	IBM AIX 4.3.3[3]	IBM 6228[32, 33]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 15]
50	7044-170; 7044-270	PCI	IBM AIX 4.3.3[3]	IBM 6228[32, 33]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 17]
51	p610, 7028-6C1, 7028-6E1	PCI	IBM AIX 4.3.3[3]	IBM 6228[32, 33]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 34]
52	p640 7026-B80	PCI	IBM AIX 4.3.3[3]	IBM 6228[32, 33]	FC-AL[4] FC-SW[4]	Y[6, 7, 8, 9, 10, 16]
53	7013-S7A as SP2 node, 7015-S7A as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node, 7026-M80 as SP2 node; SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]; p660 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	PCI	IBM AIX 4.3.3[3]	IBM 6227[1, 2], 6228[32, 33]	FC-AL[4] FC-SW[4]	N
54	SP2 9076 +: 06 50X[18], 07 55X[18], 08 T70[18]	PCI	IBM AIX 4.3.3[27]	Emulex LP7000E-N1[30]	FC-AL[4] FC-SW[4]	N
55	7026-M80	PCI	IBM AIX 4.3.3[27]	Emulex LP8000-EMC[28, 29]	FC-AL[4] FC-SW[4]	N

IBM – IBM AIX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
56	7013-S70; 7013-S7A; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7017-S80; 7024-E30; 7025-F40; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7043-140; 7043-150; 7043-240; 7043-260; 7043-270; 7044-170; 7044-270	PCI	IBM AIX 4.3.3[27]	Emulex LP8000-EMC[28, 29, 30]	FC-AL[4] FC-SW[4]	N
57	7017-S80 as SP2 node	PCI	IBM AIX 4.3.3[27]	Emulex: LP8000-EMC[28, 29, 30], LP9002-E[26], LP9002L-E, LP9002L-F2[26, 31]	FC-AL[4] FC-SW[4]	N
58	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; p610 7028-6E1; p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 4.3.3[27]	Emulex: LP8000-EMC[28, 29, 30], LP9002-E[26], LP9002L-E[26, 28], LP9002L-F2[26, 31]	FC-AL[4] FC-SW[4]	N
59	p660 7026-6M1 as SP2 node	PCI	IBM AIX 4.3.3[27]	Emulex: LP9002-E[26], LP9002L-E[26, 28], LP9002L-F2	FC-AL[4] FC-SW[4]	N
60	p660: 7026-6H0 as SP2 node, 7026-6H1 as SP2 node; p680 7017-S85 as SP2 node	PCI	IBM AIX 4.3.3[27]	Emulex: LP9002-E[26], LP9002L-E[26, 28], LP9002L-F2[26, 31]	FC-AL[4] FC-SW[4]	N
61	7013-S70; 7015-S70; 7017-S70; 7043-270	PCI	IBM AIX 5.1[3, 19]	IBM 6227[1, 20]	FC-AL[4] FC-SW[4]	N
62	p610: 7028-6C1, 7028-6E1	PCI	IBM AIX 5.1[3, 19]	IBM 6228[1, 35]	FC-AL[4] FC-SW[4]	Y[7, 8, 21, 22, 23, 34]
63	p670 7040-671; p690: 7040-61D, 7040-61R, 7040-681, 7040-W42	PCI	IBM AIX 5.1[3, 19]	IBM 6228[35]	FC-AL[4] FC-SW[4]	Y[7, 8, 21, 22, 23, 36]
64	7013-S7A; 7015-S7A; 7017-S7A; 7025-F50	PCI	IBM AIX 5.1[3, 19]	IBM: 6227[1, 20], 6228[1, 35]	FC-AL[4] FC-SW[4]	N
65	7017-S80; p680 7017-S85	PCI	IBM AIX 5.1[3, 19]	IBM: 6227[1, 20], 6228[1, 35]	FC-AL[4] FC-SW[4]	Y[5, 7, 8, 21, 22, 23]
66	7025-F80; p620: 7025-6F0, 7025-6F1	PCI	IBM AIX 5.1[3, 19]	IBM: 6227[1, 20], 6228[1, 35]	FC-AL[4] FC-SW[4]	Y[7, 8, 11, 21, 22, 23]
67	7025-H70	PCI	IBM AIX 5.1[3, 19]	IBM: 6227[1, 20], 6228[1, 35]	FC-AL[4] FC-SW[4]	Y[7, 8, 12, 21, 22, 23]
68	7026-H50	PCI	IBM AIX 5.1[3, 19]	IBM: 6227[1, 20], 6228[1, 35]	FC-AL[4] FC-SW[4]	Y[7, 8, 13, 21, 22, 23]
69	7026-H80; p660: 7026-6H0, 7026-6H1	PCI	IBM AIX 5.1[3, 19]	IBM: 6227[1, 20], 6228[1, 35]	FC-AL[4] FC-SW[4]	Y[7, 8, 14, 21, 22, 23]
70	7026-M80; p660 7026-6M1	PCI	IBM AIX 5.1[3, 19]	IBM: 6227[1, 20], 6228[1, 35]	FC-AL[4] FC-SW[4]	Y[7, 8, 15, 21, 22, 23]
71	7044-170; 7044-270	PCI	IBM AIX 5.1[3, 19]	IBM: 6227[1, 20], 6228[1, 35]	FC-AL[4] FC-SW[4]	Y[7, 8, 17, 21, 22, 23]
72	p640 7026-B80	PCI	IBM AIX 5.1[3, 19]	IBM: 6227[1, 20], 6228[1, 35]	FC-AL[4] FC-SW[4]	Y[7, 8, 16, 21, 22, 23]
73	7026-H70	PCI	IBM AIX 5.1[3, 19]	IBM: 6227[1, 20], 6228[35]	FC-AL[4] FC-SW[4]	Y[7, 8, 12, 21, 22, 23]
74	p630: 7028-6C4, 7028-6E4	PCI	IBM AIX 5.1[3, 19, 37]	IBM 6228[24, 35]	FC-AL[4] FC-SW[4]	Y[7, 8, 21, 22, 23, 38]
75	p650 7038-6M2	PCI	IBM AIX 5.1[3, 19, 40]	IBM 6228[33, 35]	FC-AL[4] FC-SW[4]	Y[7, 22, 23, 41]
76	p655 7039-651	PCI	IBM AIX 5.1[3, 19, 40]	IBM 6228[33, 35]	FC-AL[4] FC-SW[4]	N
77	7013-S70 as SP2 node; 7013-S7A as SP2 node; 7015-S70 as SP2 node; 7015-S7A as SP2 node; 7017-S70 as SP2 node; 7017-S7A as SP2 node; 7017-S80 as SP2 node; 7026-H80 as SP2 node; 7026-M80 as SP2 node; SP2 9076 + 06 50X[18], 07 55X[18], 08 T70[18]; p660 7026-6H0 as SP2 node, 7026-6H1 as SP2 node, 7026-6M1 as SP2 node; p680 7017-S85 as SP2 node	PCI	IBM AIX 5.1[3, 20, 25]	IBM 6227[24]	FC-AL[4] FC-SW[4]	N
78	7013-S7A	PCI	IBM AIX 4.3.3[27], 5.1[3, 25, 27]	Emulex: LP9002-E[26], LP9002L-E[26, 28], LP9002L-F2[26, 31]	FC-AL[4] FC-SW[4]	N

IBM – IBM AIX						
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot
79	7013-S70; 7015-S70; 7015-S7A; 7017-S70; 7017-S7A; 7017-S80; 7024-E30; 7025-F40; 7025-F50; 7025-F80; 7025-H70; 7026-H50; 7026-H70; 7026-H80; 7026-M80; 7043-140; 7043-150; 7043-240; 7043-260; 7043-270; 7044-170; 7044-270; p610 7028-6C1; p640 7026-B80; p660: 7026-6H0, 7026-6H1, 7026-6M1; p680 7017-S85	PCI	IBM AIX: 4.3.3[27], 5.1[25, 27]	Emulex: LP9002-E[26], LP9002L-E[26, 28], LP9002L-F2[26, 31]	FC-AL[4], FC-SW[4]	N

1. IBM 6227 and IBM 6228 adapters are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server.
   6227 Filesets: devices.pci/df1000f7.com, devices.pci/df1000f7.diag, devices.pci/df1000f7.rte ;
   6228 Filesets: devices.pci/df1000f7.com, devices.pci/df1000f7.diag, devices.pci/df1000f9.diag, devices.pci/df1000f9.rte
2. Requires adapter firmware 3.22A1, CLArrayS3.4.3.0.x fileset support. Supports FC4700 with minimum Flare code 8.46.xx .
3. Includes support for FC4700, FC4700-2, CX600, CX400.
4. FC-SW and FC-AL are supported on the same server
5. **System/Service processor combined microcode Version 20020920 dated 11/19/2002 or later.**
6. **Minimum AIX 4.3.3 ML9, APAR IY22024**
7. **Minimum Powerpath version 3.0.2. For Powerpath patches 3.0.x, the bootfix.sh script is required for boot support. See the EMC Primus case ID emc58038 for more details and the PowerPath Release Notes for installation**
   Obtain the EMC CLARiiON and AIX Fibre boot document from avatar.eng.emc.com for installation and configuration instructions.
9. **For Powerpath version 3.0.3, minimum CLArray S3.4.3.0.8 version is required.**
10. **Fibre boot when used under AIX 4.3 requires APAR IY42989 which can be obtained from IBM at https://techsupport.services.ibm.com/server/fixes?view=pSeries.**
11. **System microcode CL020407 or later.**
12. **System/Service processor combined microcode Version SST01256/SS010614 dated 10/23/2001 or later.**
13. **System/Service processor combined microcode Version L02113/ag010611 or later.**
14. **System microcode CM020407 or later.**
15. **System microcode MM020407 or later.**
16. **System/Service processor combined microcode Version NAN02066/SC020308 dated 03/29/2002 or later.**
17. **System/Service processor combined microcode Version SPH02254/sh020307 dated 11/20/2002 or later.**
18. The following link provides detailed data for all 9076-SP2 models and feature codes:
    http://www1.ibmlink.ibm.com/cgi-bin/master?request=salesmanual&parms=SMS&xh=NTZH*daEMSRi4n1USenGnN9332&xhi=usa.main%7Csalesmanual%5E&type=D&search=9076&title=T&product
19. AIX 5.1-32/64 bit kernel supported. Requires CLArrayS3.5.1 fileset support.
20. Requires adapter firmware 3.22A1, CLArrayS3.5.1 fileset support. Supports FC4700 with minimum flare code 8.46.xx.
21. **AIX 5.1 ML1, APAR IY21957 or higher.**
22. **For Powerpath version 3.0.3, minimum CLArray S3.5.1.0.6 version is required.**
23. **Fibre boot when used under AIX 5.1 requires APAR IY40885 which can be obtained from IBM at https://techsupport.services.ibm.com/server/fixes?view=pSeries.**
24. IBM 6227 and IBM 6228 adapters are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server.
    6227 Filesets: devices.pci/df1000f7.com, devices.pci/df1000f7.diag, devices.pci/df1000f7.rte ;
    6228 Filesets: devices.pci/df1000f7.com, devices.pci/df1000f7.diag, devices.pci/df1000f9.diag, devices.pci/df1000f9.rte
25. AIX 5.1 supported only with 32-bit kernel.
26. Requires CLARiiON proprietary fibre channel driver version 4.0.5.0 and HBA firmware 3.82a1
27. No support for the CX400 or CX600. Supports FC4500, FC4700, FC4700-2
28. See the EMC price book for vendor ordering information. This HBA is not sold by EMC. The EMC 4.0.5 driver is on UTIL-AIX.
29. The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.
30. Requires CLARiiON proprietary fibre channel driver version 4.0.5.0 and HBA firmware 3.20x4.
31. Requires a host PCI bus capable of supplying 3.3 VDC bus power. PCI slot can be either 3.3 VDC or 5.0 VDC signaling interface.
32. Requires minimum HBA firmware 3.82A1, CLArrayS3.4.3.0.x fileset support. Supports FC4700 with minimum Flare code 8.46.xx .
33. IBM Native Fibre Channel drivers with feature code 6227 and with feature code 6228 are supported on the same server. Feature 6228 and 6239 are supported on the same server. Mixed FC-AL and FC-SW are supported on the same server. 6227 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1000f7.rte; 6228 filesets: devices.pci.df1000f7 com, devices pci.df1000f7.diag, devices.pci.df1000f9.diag, devices.pci.df1000f9.rte; 6239 filesets: devices.pci.df1000f7.com, devices.pci.df1000f7.diag, devices.pci.df1080f9 diag, devices.pci.df1080f9.rte
34. **System/Service processor combined microcode Version CLT02066/ct020307 dated 04/04/2002 or later.**
35. Requires minimum HBA firmware 3.82A1, CLArrayS3.5.1 fileset support. Supports FC4700 with minimum Flare code 8.46.xx .
36. **System/Service processor combined microcode Version RH020413 dated 05/22/2002 or later.**
37. Requires minimum AIX 5.1 maintenance level 02.
38. **System/Service processor combined microcode Version RR020822 dated 09/19/2002 or later.**
39. Requires adapter firmware 3.82A1, CLArrayS3.5.1 fileset support. Supports FC4700 with minimum Flare code 8.46.xx.
40. Requires AIX 5.1 with minimum maintenance level 03 APAR IY32749.
41. **System/Service processor microcode Version RK021120 dated 12/11/2002 or later.**
42. 32-bit kernel support only with AIX 5.1.
43. **Requires minimum HBA firmware 3.82A1. For all PCI-based hosts only: see HBA placement guidelines in the IBM document PCI Adapter Placement Reference SA38-0538-6, available at http://www-1.ibm.com/servers/eserver/pseries/library/hardware_docs/sa38/380538.pdf**
44. **Requires CLArrayS3.5.2.0.6**
45. **Fibre boot when used under AIX 5.2 requires APAR IY41028 which can be obtained from IBM at https://techsupport.services.ibm.com/server/fixes?view=pSeries.**
46. **System/Service processor combined microcode Version RK030206 dated 03/31/2003 or later.**
47. **Minimum microcode levels RH0 20413 dated 05/22/2002 or later.**
48. **Do not use a LUN in the CLARiiON DAE2-ATA as a host OS boot device.**
49. Requires minimum HBA firmware 1.00X5.
50. Requires AIX 5.1 with minimum maintenance level 04 APAR IY44478
51. Requires AIX 5.2 with minimum maintenance level 01 APAR IY44479.

Microsoft Windows 2000

EMC recommends shutting down the host server during maintenance procedures that could cause the boot disk to become unavailable to the host. If the paging file is unavailable to the operating system for a minimum of 10 seconds, a crash can occur.Events that could cause a system to crash when booting from external storage are:

1)Lost connection to external storage (pulled or damaged cable connection).
2)External storage service/upgrade procedures such as online microcode upgrades and/or configuration changes..
3)External storage director failures including failed lasers on Fibre Channel directors.
4)External storage power failure.
5)Storage area network failures such as Fibre Channel switches, switch components, and switch power failures.
6)Storage area network service/upgrade procedures such as firmware upgrades or hardware replacements.CAUTION: Microsoft Windows NT uses virtual memory paging files that reside on the boot disk by default. Please refer to the information contained in Microsoft Knowledge Base article Q305547. The article explains how Microsoft supports booting Windows systems through a SAN (storage area network.) Although this article specifically mentions Windows 2000, the information also pertains to Windows NT 4.0 systems booting through a SAN.

Bull

Bull – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**Express 5800: 320La, 320La-R, 320Lb, 320Lb-R, 330Ma-R, 330Mb-R, 340Ha-R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8]**	**QLogic QLA2310F-E-SP[2, 3]**	FC-AL, FC-SW	N	**See[1, 4, 5, 6, 7]**
2	**Express 5800 180Rb7**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[8], SP3[8], SP4;** **Microsoft Windows 2000 Datacenter: SP2[8], SP3[8], SP4;** **Microsoft Windows 2000 Server: SP2[8], SP3[8], SP4**	**Emulex LP8000-EMC[9, 10]**	FC-AL, FC-SW	N	**See[7]**

1. Windows 2000 Professional is supported as the management workstation.
2. **Requires driver 8.2.1.20, and bios 1.33 for Stratus ftServers. Supports SNIA HBA API. Available at http://www.qlogic.com.**
3. **Qlogic SANSurfer/SANBlade Manager is not supported.**
4. **For FC-AL, only direct attach is supported.**
5. **RPQ required for CX200.**
6. **FC-SW applies only to CX600, CX400, FC4500, FC4700, and FC5300. FC5300 with FC-SW available from selected channels.**
7. **CLARiiON FC4500 array is also supported for these configurations.**
8. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**
9. **The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.**
10. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.**

DG

DG – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	**AViiON: AV1400, AV2300, AV2800, AV3700, AV3704R, AV3800, AV8950**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4**	**Emulex LP8000-EMC[14, 15]; QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 23], QLA2342-E-SP[21, 23]**	FC-AL, FC-SW	**Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]**	**See[1, 2, 16, 17]**
2	**AViiON: AV8900, AV8950R**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4**	**Emulex: LP8000-EMC[14, 15], LP9002-E (LP9002L-E)[14, 16, 25], LP9002DC-E[20, 25, 26, 27], LP9802-E[18, 19, 25], LP9802DC-E[18, 19, 25], LP982-E[18, 19, 20, 25];** **QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 23], QLA2342-E-SP[21, 23]**	FC-AL, FC-SW	N	**See[1, 2, 16, 17]**
3	**AViiON: AV2700, AV3600, AV3704, AV8700**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4**	**Emulex: LP8000-EMC[14, 15], LP9002-E (LP9002L-E)[14, 16], LP9002DC-E[20, 25, 26, 27], LP9802-E[18, 19], LP9802DC-E[18, 19, 25], LP982-E[18, 19, 20];** **QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[21, 23], QLA2342-E-SP[21, 23]**	FC-AL, FC-SW	N	**See[1, 2, 16, 17]**
4	**AViiON AV8950**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4;** **Microsoft Windows 2000: Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4**	**Emulex: LP9002-E (LP9002L-E)[14, 16, 25], LP9002DC-E[20, 25, 26, 27], LP9802-E[18, 19, 25], LP9802DC-E[18, 19, 25], LP982-E[18, 19, 20, 25]**	FC-AL, FC-SW	N	**See[1, 2, 16, 17]**
5	**AViiON: AV1400, AV2300, AV2800, AV3700, AV3704R, AV3800**	PCI	**Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4.** **Microsoft Windows 2000: Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4**	**Emulex: LP9002-E (LP9002L-E)[14, 16], LP9002DC-E[20, 25, 26, 27], LP9802-E[18, 19], LP9802DC-E[18, 19, 25], LP982-E[18, 19, 20]**	FC-AL, FC-SW	N	**See[1, 2, 16, 17]**

1. Windows 2000 Professional is supported as the management workstation
2. CX200 available through selected channels
3. Optical cables apply to CX600, CX400, CX200, FC4700, FC4500, FC5300 with MIA.
4. Access Logic required, direct connect or fabric, (no booting through switch inter-switch links)
5. If using ATF/CDE with Emulex, requires v2.1.5 or greater. Only Emulex driver 2.11a2 is supported with ATF.
6. If using ATF/CDE with QLogic, requires v2.1.6 or greater.
7. Supports PowerPath 3.0 or greater
8. No MirrorView or SnapView used on boot LUNs.
9. EMC recommends boot LUN be RAID1 or RAID5. Be sure to monitor the loading on the boot LUN RAID group. Excessive loading on the boot LUN RAID group may degrade boot LUN performance and stability
10. Refer to the Customer Service website or your EMC Service Personnel for the latest documentation
11. Previous versions of the HBA and boot installation guides contained restrictions for boot configurations. All boot configuration information is now listed here and supersedes any found in previous boot documentation
12. MSCS cluster configurations are supported with CX600, CX400 and FC4700
13. For any CLARiiON SP port configured to a host for booting, the maximum number of logical volumes allowed on that port is 32.
14. **Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. ATF/CDE not supported with driver 2.20a12. For ATF/CDE, use driver 2.11a2. Supports SNIA HBA API. Available at http://www.emulex.com.**
15. **The LP8000-EMC HBA has a permanent GBIC, and does not have copper cable support.**
16. **FC-SW applies only to CX600, CX400, CX200, FC4500, FC4700 and FC5300. FC5300 with FC-SW available from selected channels.**
17. **CLARiiON FC4500 array is also supported for these configurations.**
18. Requires driver 2.20a12, firmware 1.00a4, and bios 1.62a1. Supports SNIA HBA API. Drivers available at http://www.emulex.com.
19. CLARiiON CX200 NOTE: Requires 1.00x3 for direct-connect configurations only.
20. The Emulex LP9XXX HBA family requires a host PCI bus capable of supplying 3.3 VDC bus power. The PCI slot can use either 3.3 VDC or 5.0 VDC signaling interface.
21. Requires driver 8.2.2.25, and bios 1.34. Supports SNIA HBA API. Available at http://www.qlogic.com.
22. **If using ATF/CDE, requires 2.1.6 or greater.**
23. **PowerPath supported. ATF/CDE not supported.**
24. **EMC strongly recommends that HBAs of different vendors not be used in the same host server.**

25. QLogic 23xx, and Emulex LP9xxx families for use in servers running Pentium II and faster CPUs only (PII, PIII, etc.).
26. Requires driver version 2.20a12, firmware version 3.90a7, and BIOS 1.62a1. Supports SNIA HBA API. Available at http://www.emulex.com.
27. Requires driver 2.20a12, firmware 3.90a7, and BIOS 1.62a1. Emulex drivers are available at http://www.emulex.com. For Unisys servers, use driver 2.11a2 and firmware 3.90a7 available at http://www.support.unisys.com. Supports SNIA HBA API.
NOTE: LP8000/850 HBAs without -EMC label must have minimum rev. dragonfly 2.0 of the Emulex ASIC.

Dell

Dell – Microsoft Windows 2000							
No.	Host System	Host Bus	Operating System	Host Bus Adapter	Adapter Type	External Boot	Comments
1	PowerVault: 750N[17], 755N[17]	PCI	Microsoft Windows 2000 Advanced Server: SP2[24] SP3[24], SP4 Microsoft Windows 2000 Datacenter SP4	Emulex. LP9002-E (LP9002L-E)[14, 15, 25], LP9002DC-E[15, 20, 25, 27, 31]; QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 14, 16]
2	PowerEdge: 2300, 6100, 6300, 6350	PCI	Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4 Microsoft Windows 2000 Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4	Emulex LP8000-EMC[15, 26]; QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 14, 16]
3	PowerEdge: 4300, 4350	PCI	Microsoft Windows 2000 Advanced Server: SP2[24] SP3[24], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4	Emulex LP8000-EMC[15, 26]; QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23]	FC-AL, FC-SW	N	See[1, 2, 14, 16]
4	PowerEdge 8450	PCI	Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4	Emulex. LP8000-EMC[15, 26], LP9002-E (LP9002L-E)[14, 15], LP9002DC-E[20, 25, 27, 31], LP9802-E[18, 19, 27], LP9802DC-E[18, 19, 27], LP982-E[18, 19, 20, 27]; QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 14, 16]
5	PowerEdge: 1550, 1650, 2400, 2450, 2500, 2550[28], 4400, 6400, 6450	PCI	Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4	Emulex: LP8000-EMC[15, 26], LP9002-E (LP9002L-E)[14, 15], LP9002DC-E[20, 25, 27, 31], LP9802-E[18, 19], LP9802DC-E[18, 19, 27], LP982-E[18, 19, 20]; QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 14, 16]
6	PowerEdge: 2300, 6100, 6300, 6350	PCI	Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4	Emulex: LP9002-E (LP9002L-E)[14, 15], LP9002DC-E[20, 25, 27, 31], LP9802-E[18, 19], LP9802DC-E[18, 19, 27], LP982-E[18, 19, 20]	FC-AL, FC-SW	N	See[1, 2, 14, 16]
7	PowerVault: 770N[17], 775N[17]	PCI	Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4; Microsoft Windows 2000: Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4	Emulex: LP9002-E (LP9002L-E)[14, 15], LP9002DC-E[20, 25, 27, 31], LP9802-E[18, 19], LP9802DC-E[18, 19, 27], LP982-E[18, 19, 20]; QLogic: QLA2310F-E-SP[21, 22], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 14, 16]
8	PowerVault: 750N[17], 755N[17]	PCI	Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4, Microsoft Windows 2000: Datacenter SP4, Server SP2[24], Server SP3[24], Server SP4	Emulex: LP9802-E[18, 19], LP9802DC-E[18, 19, 27], LP982-E[18, 19, 20]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 14, 16]
[illegible]	[illegible]verEdge 8450[29]	PCI	Microsoft Windows 2000 Datacenter: SP2[24, 30], SP3[24], SP4	Emulex. LP8000-EMC[15, 26], LP9002-E (LP9002L-E)[15], LP9002DC-E[20, 25, 27, 31]; QLogic QLA2310F-E-SP[21, 22]	FC-AL, FC-SW	N	See[1, 2, 14, 16]
[illegible]	PowerEdge 8450	PCI	Microsoft Windows 2000 Datacenter: SP2[24], SP3[24], SP4	Emulex: LP9802-E[18, 19, 27], LP9802DC-E[18, 19, 27], LP982-E[18, 19, 20, 27]	FC-AL, FC-SW	N	See[1, 2, 16]
[illegible]	PowerEdge 8450	PCI	Microsoft Windows 2000 Datacenter: SP2[24], SP3[24], SP4	QLogic QLA2340-E-SP[22, 27]	FC-AL, FC-SW	N	See[16]
12	PowerVault: 750N, 755N	PCI	Microsoft Windows 2000 Server: SP2[illegible], SP3[24], SP4	Emulex LP9002-E (LP9002L-E)[25]; QLogic: QLA2310F-E-SP[22], QLA2340-E-SP[22], QLA2342-E-SP[22]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[16]
13	PowerVault 750N[17], 755N[17]	PCI	Microsoft Windows 2000 Server: SP2[24], SP3[24], SP4	Emulex LP9002DC-E[14, 15]	FC-AL, FC-SW	Y[3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]	See[1, 2, 14, 16]
14	PowerEdge 2650	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[24] SP3[24], SP4 Microsoft Windows 2000. Datacenter SP4, Server SP2[24], Server SP3[24] Server SP4	Emulex LP8000-EMC[25, 26]	FC-AL, FC-SW	N	See[1, 2, 14, 16]
15	PowerEdge 2600	PCI-X	Microsoft Windows 2000 Advanced Server: SP2[24], SP3[24], SP4 Microsoft Windows 2000: Datacenter SP4, Server SP2[24] Server SP3[24], Server SP4	Emulex: LP8000-EMC[15, 26], LP9002-E (LP9002L-E)[14, 15], LP9002DC-E[20, 25, 27, 31], LP9802-E[18, 19], LP9802DC-E[18, 19, 27], LP982-E[18, 19, 20], QLogic. QLA2310F-E-SP[21, 22], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23]	FC-AL, FC-SW	N	See[1, 2, 14, 16]
16	PowerEdge 1750, 4600 6600 6650	PCI-X	Microsoft Windows 2000 Advanced Server SP2[24] SP3[24], SP4 Microsoft Windows 2000 Datacenter SP4 Server SP2[24] Server SP3[24], Server SP4	Emulex. LP8000-EMC[15, 26], LP9002-E (LP9002L-E)[14, 15], LP9002DC-E[20, 25, 27, 31], LP9802-E[18, 19], LP9802DC-E[18, 19, 27], LP982-E[18, 19, 20] QLogic QLA2310F-E-SP[21, 22], QLA2340-E-SP[22, 23], QLA2342-E-SP[22, 23]	FC-AL, FC-SW	Y[3, 4, [illegible]] 9, 10, [illegible] 12, 13	[illegible] 16

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LOCAÇÃO DE EQUIPAMENTOS DE INFORMÁTICA INCLUINDO ASSISTÊNCIA TÉCNICA E TREINAMENTO

COBRA TECNOLOGIA – MANUAL VOLUME 7

2003
PASTA 35

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Integradora de Soluções em TI e Serviços

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ANEXO SWITCH TIPO 03
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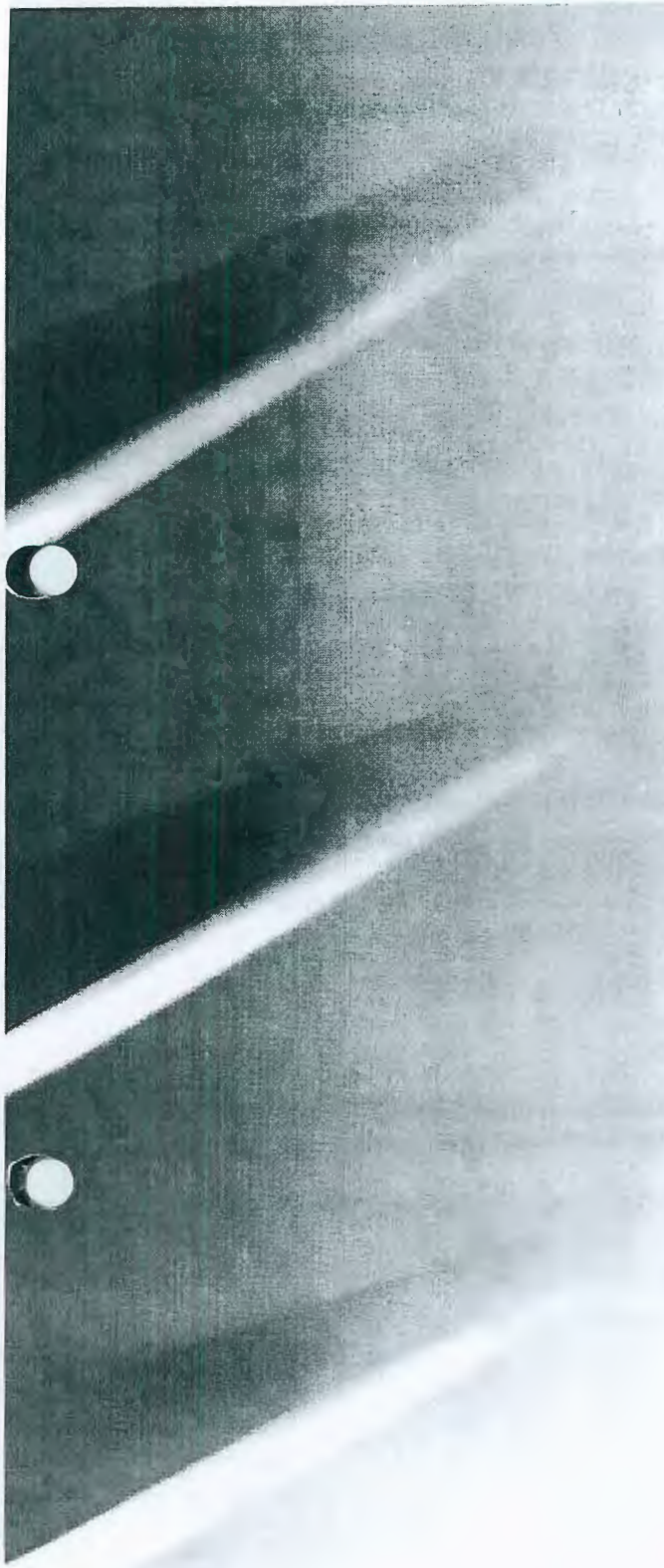

EMC Connectrix
Departmental Switch DS-32B2 and Enterprise Director ED-12000B Web Tools

Version 4.1

USER GUIDE

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This class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

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Trademark Information

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Tables

Preface

As part of its effort to continuously improve and enhance the performance and capabilities of the EMC product line, EMC periodically releases new versions of the EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS. Therefore, some functions described in this guide may not be supported by all versions of EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS currently in use. For the most up to date information on product features, see your product release notes.

If an EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B feature does not function properly or does not function as described in this guide, please contact the EMC Customer Support Center for assistance.

Audience

This guide is part of the EMC Connectrix *Departmental Switch DS-32B2* and Enterprise Director ED-12000B documentation set, and is intended for use by system administrators during installation and configuration of the DS-32B2 and ED-12000B switches.

Readers of this guide are expected to be familiar with EMC Connectrix *Departmental Switch DS-32B2* and Enterprise Director ED-12000B operating environment.

Organization

Here is an overview of where information is located in this guide.

Chapter 1, *Introducing Web Tools*, provides an overview of Web Tools.

Chapter 2, *Web Tools Requirements*, provides instructions for installing Web Tools.

Chapter 3, *Managing the Fabric*, provides information about configuring and using Web Tools Fabric View.

Chapter 4, *Switch View*, provides information about configuring and using Web Tools Switch View.

Chapter 5, *Port View*, provides information about configuring and using Web Tools Port View.

Appendix A, *Customer Support*, provides the procedure for contacting EMC Corporation when you need help with the EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B.

The *Glossary* provides explanations for terminology used in this manual.

Related Documentation

Other documentation includes:

- *EMC Connectrix B Fabric Manager User Guide*
- *EMC Connectrix B Series Diagnostic and System Error Message Reference Manual*
- *EMC Connectrix B Series Fabric Watch Reference Manual*
- *EMC Connectrix B Series Management Information Base (MIB) Reference Manual*
- *EMC Connectrix B Series Zoning Reference Manual*
- *EMC Connectrix B Series Extended Fabrics User Guide*
- *EMC Connectrix B Series Interswitch Link (ISL) Trunking User Guide*
- *EMC Connectrix B Series Performance Monitoring User Guide*
- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director Model ED-12000B Fabric OS Procedures Manual*
- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director Model ED-12000B Fabric OS Reference Manual*
- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director Model ED-12000B Web Tools User Guide*
- *EMC Connectrix Enterprise Director ED-12000B Hardware Reference Manual*
- *EMC Connectrix Departmental Switch DS-32B2 Hardware Reference Manual*

Conventions Used in this Guide

EMC uses the following conventions for notes, cautions, warnings, and danger notices.

A note presents information that is important, but not hazard-related.

CAUTION

A caution contains information essential to avoid data loss or damage to the system or equipment. The caution may apply to hardware or software.

WARNING

A warning contains information essential to avoid a hazard that can cause severe personal injury, death, or substantial property damage if you ignore the warning.

DANGER

A danger notice contains information essential to avoid a hazard that will cause severe personal injury, death, or substantial property damage if you ignore the message.

Typographical Conventions

EMC uses the following type style conventions in this guide:

Palatino, bold	◆ Dialog box, button, icon, and menu items in procedures ◆ Selections you can make from the user interface, including buttons, icons, options, and field names
Palatino, italic	◆ New terms or unique word usage in text ◆ Command line arguments when used in text ◆ Book titles
`Courier, italic`	Arguments used in examples of command line syntax.

Courier	System prompts and displays and specific filenames or complete paths. For example:
	`working root directory [/user/emc]:`
	`c:\Program Files\EMC\Symapi\db`

Courier, bold	User entry. For example: **`symmpoll -p`**
AVANT GARDE	Keystrokes

Where to Get Help

Obtain technical support by calling your local sales office.

For service, call:

United States:	**(800) 782-4362 (SVC-4EMC)**
Canada:	**(800) 543-4782 (543-4SVC)**
Worldwide:	**(508) 497-7901**

and ask for Customer Support.

If you are located outside the USA, call the nearest EMC office for technical assistance.

Sales and Customer Service Contacts

For the list of EMC sales locations, please access the EMC home page at:

`http://www.emc.com/contact/`

For additional information on the EMC products and services available to customers and partners, refer to the EMC Powerlink website at:

`http://powerlink.emc.com`

Your Comments

Your suggestions will help us continue to improve the accuracy, organization, and overall quality of the user publications. Please send a message to `techpub_comments@emc.com` with your opinions of this guide.

1 Introducing Web Tools

This chapter provides some general information on Web Tools.

Overview

Web Tools provides a graphical interface that allows you to monitor and manage entire fabrics and individual switches and ports from a standard workstation. All switches in the fabric are displayed in the main window of Web Tools, including switches that do not have a Web Tools license. However, only switches that have a Web Tools license installed can be managed through Web Tools. Other switches must be managed through Telnet.

Advantages of Web Tools

Web Tools is an excellent partner to the traditional Telnet commands, and in many ways can provide faster and more effective results than can be achieved strictly through a command line interface.

Below are some of the features that make Web Tools an important part of the switch management and administration process:

- You can use Web Tools from a standard workstation which provides you the advantage of being virtually in front of any fabric, switch, or port.
- Web Tools makes zoning a simple click-and-drag process, rather than forcing you to type IP addresses or port numbers into a configuration.
- Web Tools provides the Advanced Performance Monitoring feature. This feature allows you to view the status and traffic of a switch or port in seconds by easily creating a variety of effective graphs.
- Web Tools is easy and intuitive to use.

Capabilities of Web Tools

Web Tools provides the following information and capabilities:

- Monitoring and managing the entire fabric (see Chapter 3, *Managing the Fabric*).
- Monitoring and managing individual switches (see Chapter 4, *Switch View*).
- Monitoring and managing individual ports (see Chapter 5, *Port View*).

When monitoring and managing the entire fabric, Web Tools allows you to perform the functions described in Table 1-3.

Table 1-1 Web Tools Fabric Functions

View the status of all the switches in the fabric.	See *Using the Switch View* on page 4-2.
Access event logs for entire fabric.	See *Using the Fabric Events View* on page 3-3.
Set up and manage Zoning functions.	See *Administering Zones* on page 3-9.
Access to the Name Server Table.	See *Using the Name Server Table* on page 3-7.
Access Telnet functions.	See *Telnet Interface* on page 4-79.
Use switch beaconing for rapid identification of switches in large fabric environments.	See *Beacon* on page 4-6.

When monitoring and managing individual switches, Web Tools allows you to perform the functions described in Table 1-2.

Table 1-2 Web Tools Switch Functions

View summary information about each switch.	See *Using the Switch View* on page 4-2.
View event logs for individual switches.	See *Events* on page 4-4.
Perform switch configuration and administration.	See *Administrative Interface* on page 4-36, and *About the Switch Information Tab* on page 4-37.
Monitor Switch and port performance.	See *Performance Monitor* on page 4-24.
Use report capability for switch configuration information.	See *About the Extended Fabrics Tab* on page 4-72.

When monitoring and managing individual ports, Web Tools allows you to perform the functions described in Table 1-3.

Table 1-3 Web Tools Individual Port Functions

View the port status.	See *PortStats Tab* on page 5-4.
View information about GBIC (Gigabit Interface Converter)/SFP (small form factor pluggable) Serial IDs.	See *SFP (GBIC) Tab* on page 5-5.
View and manage loop information.	See *Loop Tab* on page 5-8.
View port performance, including frame counts (frames in, frames out) and error counts.	See *Port Information View* on page 5-2.

Switch Explorer

The Switch Explorer View (shown in Figure 1-1) is the first window that appears when you start Web Tools from a the web browser. In the browser, enter the switch name or IP address in the **Location/Address** field and press ENTER.

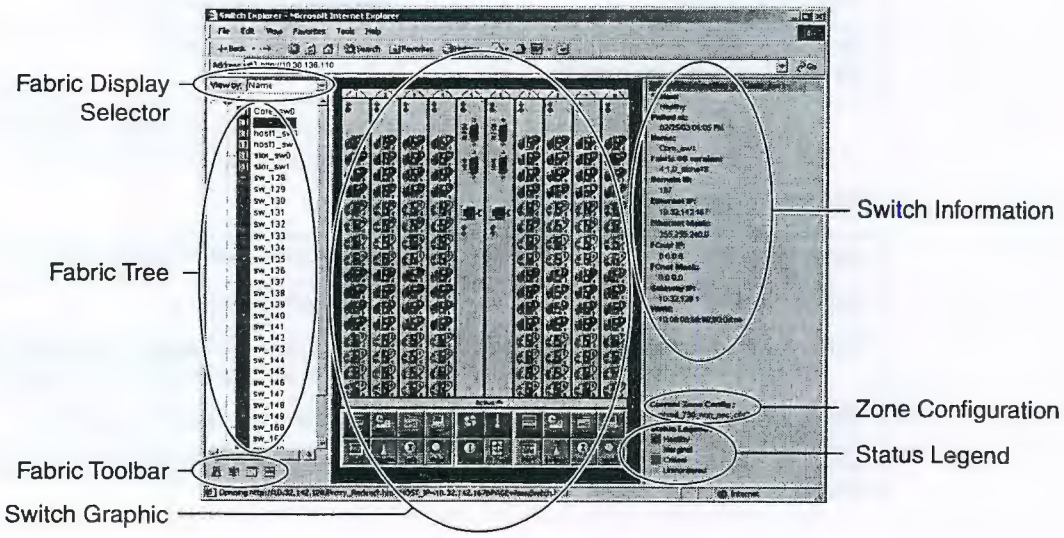


Figure 1-1 Switch Explorer View — ED-12000B Example

In a DS-32B2 display, the switch information, zone configuration, and status legend are located below the switch graphic.

The Switch Explorer View includes:

- **Fabric Display Selector** — Allows you to change the way switches are displayed in the fabric tree. Select from **Name**, **IP**, or **WWN**.
- **Fabric Tree** — Display a navigation menu (down the left side of the window) of icons for all switches in the fabric.

  Refer to *Using the Fabric Tree* on page 1-7 for more information.

  The refresh rate for the fabric tree is approximately 30 seconds.

- **Fabric Toolbar** — Provide easy access to fabric-level administration tasks.

  Refer to *Using the Fabric Tool Bar* on page 3-2.

- **Switch Graphic** — Displays a physical representation of the switch and real-time status information.

  Refer to *Using the Switch View* on page 4-2.

- **Switch Information** — Displays a synopsis of useful information about the selected switch.

  Refer to *Understanding the Switch Information* on page 4-10.

- **Zone Configuration** — Displays the name of the currently enabled Zone configuration. If no Zone configuration is enabled, this field displays none.

  Refer to *Administering Zones* on page 3-9 for more information on zoning.

- **Status Legend** — Explains the meaning of colors that appear in the background of various icons:
  - Green = Healthy
  - Yellow = Marginal (mix of good and faulty readings)
  - Red = Critical (more than two faulty readings)
  - Gray = Unknown or unmonitored

Refresh Rates

Different areas of Web Tools refresh at different rates. Table 1-4 lists the refresh rates for the various panels in Web Tools.

Table 1-4 Web Tools Refresh Rates

Switch Explorer Area	Polling Rate
Fabric Tree	15 seconds
Unreachable Switches in the Fabric Tree	2 minutes
Switch View	15 seconds during normal operation, 30 to 60 seconds during initialization
Switch Information Panel	15 seconds
Name Server	User defined; 15 seconds minimum
Zone Database	15 seconds
Fabric Watch	15 seconds
Performance Monitor	5 to 60 seconds, depending on specific graph

Using the Fabric Tree

The fabric tree contains icons for all switches in the fabric, including any unlicensed switches.

Only switches with a Web Tools license can be managed from Web Tools. To add a license for an unlicensed switch, click the corresponding switch icon in fabric tree to display a license window.

Components of the fabric tree pane are:

- *View by* **menu** — Allows you to change the way switches are displayed in the tree. Select from **Name**, **IP**, or **WWN**.
- **Fabric** — Displays all switches in the fabric. Click the plus sign (+) to display switches within the fabric. To collapse a list of switches that is already open, click the minus sign (-).
- **Switch icons** — Identifies each switch in the fabric. Clicking an icon changes the switch display to the selected switch (assuming that switch is not the one already displayed).

Figure 1-2 Switch Icon

The name associated with a switch icon is taken from the name configured on the **Switch Admin** tab. Refer to *About the Switch Information Tab* on page 4-37 for more information.

- **Segmented Switches** — Displays switches that have lost Fibre Channel connectivity (that is, are segmented from the fabric). These switches can still be administered if the IP connection is valid.

2

Web Tools Requirements

This chapter provides the following information for installing Web Tools.

Requirements

The workstation and the switch must both meet specific requirements for the correct installation and operation of Web Tools.

Switch Requirements

Web Tools v4.1 can be used to manage Connectrix DS-3B2 and ED-12000B switches. Please check the *EMC Support Matrix* for minimum supported firmware revisions.

Web Tools Requirements

For optimum Web Tools performance, the following is recommended:

- When running Web Tools with Internet Explorer 5.5 in a Windows environment, use Java Plug-In version 1.3.1_04 for Windows.
- Clear the cache files for your web browser before using. For instructions on how to clear cache files for Internet Explorer and Netscape Navigator, refer to the *Configuring the Web Browser* on page 2-4.
- In a multiswitch fabric, the video card in the workstation in use should have at least 8 MB of RAM.

If you are experiencing any difficulties in starting Web Tools in a multiswitch fabric configuration, consider disabling any software installed on your desktop system that enables Internet download scanning capability, such as antivirus software.

Web Tools Workstation Requirements

Web Tools is installed on the switch but is displayed in a web browser.

The following items are required on the workstation in order to run Web Tools.

Operating Systems

One of the following operating systems must be installed:

- Solaris 2.7 or 2.8
- Windows NT 4.0, Windows 2000, or Windows XP

RAM (On Windows Operating Systems)

- A minimum of 128 MB RAM for fabrics consisting of 10 or fewer switches.
- A minimum of 256 MB RAM for fabrics consisting of 11 to 15 switches.
- A minimum of 512 MB RAM for fabrics consisting of 16 or more switches.

Disk Space

- A minimum of 5 MB of free disk space.

Web Browsers

One of the following web browsers must be installed:

- Netscape Communicator 4.77 on Solaris

  The Netscape browser running on the Windows operating system is no longer supported for use with Web Tools.

- Internet Explorer 5.5

  Service Pack 2 is recommended.

  The browser must be configured to work with Web Tools. For configuration information, refer to *Configuring the Web Browser* on page 2-4.

For optimum Web Tools performance, EMC recommends you clear the cache files from your web browser before using. For instructions on how to clear cache files for Internet Explorer and Netscape Navigator, refer to *Configuring the Web Browser* on page 2-4.

Java Plug-In

One of the following Java Plug-Ins must be installed on the workstation:

- For Windows NT 4.0, Windows 2000, or Windows XP: Java Plug-In version 1.3.1_04 or later.
- For Solaris: Java Runtime Environment version v1.3.1_04 for Solaris, including any Java Plug-In patches created by Sun for Solaris. Java Runtime Environment v1.3.1_04 is recommended for best results.

Installation

Using Web Tools to manage your fabric requires the following preliminary steps:

1. If not already done, install a supported web browser onto the workstation.
2. Configure the web browser for use with Web Tools.
3. If not already done, install the required Java Plug-In and Java Runtime Environment (JRE) onto the workstation.
4. Install a Web Tools license onto each switch to be managed from Web Tools.

Installing a Web Browser

Install one of the following browsers:

- Netscape Communicator 4.77 for Solaris (available at `http://www.netscape.com`)
- Internet Explorer 5.5 (available at: `http://www.microsoft.com`)

Internet Explorer. 5.5 Service Pack 2 is highly recommended.

Configuring the Web Browser

Specific browser settings are required for the correct operation of Web Tools with either Netscape Commmunicator (Solaris only) or Internet Explorer.

Configuring Netscape Communicator for Solaris

Some browsers use local cache copies of `.jar` files and/or image files to improve performance (depending on the options selected in the browser), which can cause incorrect displays in Web Tools. Any local browser cache must be cleared before invoking Web Tools.

To remove cached files from Netscape Communicator:

1. Select **Edit, Preferences.**
2. Click **Advanced** in the Category box to expand it; then click **Cache.**
3. On the Cache panel, click **Clear Memory Cache.**
4. Click **Clear Disk Cache.**
5. Click **OK.**

6. Exit and relaunch the browser.

Configuring Internet Explorer

Correct operation of Web Tools with Internet Explorer requires clearing the browser cache after installation, and specifying the appropriate settings for browser refresh frequency and process model.

The browser cache must be cleared after the installation of Fabric OS Version 4.1. The browser may use local cache copies of jar files and/or image files to improve performance (depending on options selected in browser), which can cause incorrect display.

To remove cached files from Internet Explorer:

1. Select **Internet Options** from the **Tools** menu.
2. Select the **General** tab.
3. Click **Delete Files** (under **Temporary Internet Files**).
4. Click **OK**, and then exit and relaunch the browser.

Browser pages must be refreshed at every visit to ensure the correct operation of the Switch Admin feature.

To set the refresh frequency:

1. Select **Internet Options** from the **Tools** menu.
2. Select the **General** tab and click **Settings** (under **Temporary Internet Files**).
3. Under **Check for newer versions of stored pages**, select **Every visit to the page.**

   You must select the correct browser process model. Proceed to the next section.

To select the Browser Process Model:

1. Select **Tools, Internet Options**.
2. Select the **Advanced** tab and click to expand the **Browsing** category.

Installing the Java Runtime Environment on Solaris

Web Tools requires Java Runtime Environment (JRE) 1.3.1_04 for Solaris client workstations.

To install the JRE on your Solaris client workstation:

1. Locate the JRE at the following URL:

```
http://java.sun.com/
```

This URL is subject to change without notice.

2. Follow the instructions to install the JRE.
3. Open the `.cshrc` file and set the path to the Java Plug-In executable file. For example:
   - If the JRE is installed on `/opt/j2re1.4.1_01`
   - If Netscape is installed on `/usr/local/communicator/ver_4.77`

   For the Bourne shell, type the following:

```
NPX_PLUGIN_PATH=/opt/j2re1.4.1_01/plugin/sparc/ns4:/
   usr/local/communicator/ver_4.77/plugins
export NPX_PLUGIN_PATH
```

   For the C shell, type the following:

```
setenv NPX_PLUGIN_PATH
   /opt/j2re1.4.1_01/plugin/sparc/ns4:/usr/local/
   communicator/ver_4.77/plugins
```

Installing a Java Patch on Solaris

To install any patches on Solaris:

1. Search for any required patches for your current version of the JRE at the following website:

```
http://java.sun.com/j2se/1.3/install-solaris-patches.
   html
```

   This URL is subject to change without notice.

2. Follow the link to download the patch, and exit the browser when done.
3. Install the patch and reboot the system.

Installing the Java Plug-In on Windows

To determine the version of the Java Plug-In installed on Windows NT 4.0, Windows 2000, or Windows XP, and install if necessary:

1. Access the **Start Menu, Settings, Control Panel, Java Plug-In** *version*. The Java Plug-In Control Panel is displayed.
2. Select the About tab.

3. Determine whether the correct Java Plug-In version is installed, and install if necessary:
   - If the correct version is installed, Web Tools is ready to use.
   - If no Java Plug-In is installed, point the browser towards a switch running Fabric OS v4.x, follow the link to the Sun Microsystems website, download the correct Java Plug-In, then double-click the downloaded file to install the plug-in.
   - If an outdated version is currently installed, uninstall it, relaunch the browser, enter the address of a switch running Fabric OS v4.0 or later. Web Tools will guide you through the steps to download the proper Java Plug-In.

Licensing Web Tools on the Switch

A Web Tools license can be installed either through Telnet or over the web.

To determine whether a license is already installed on a switch, follow the instructions provided under *Launching Web Tools* on page 2-14. If a license is not installed, you will not be able to launch Web Tools; contact your switch supplier to obtain a license key.

Installing a Web Tools License Through Telnet

To install a Web Tools license through Telnet:

1. Log onto the switch by Telnet (Refer to *Accessing the Telnet Interface* on page 4-79 for more information), using an account that has administrative privileges.
2. To determine whether a Web Tools license is already installed on the switch, type **licenseshow** on the Telnet command line.

   A list displays, showing all the licenses currently installed on the switch.

   ```
   switch:admin> licenseshow
   1A1AaAaaaAAAA1a:
   Zoning license
   SES license
   QuickLoop license
   ```

   If the Web Tools license is not included in the list or is incorrect, continue with step 3.
3. Enter the following on the command line:

   ```
   licenseadd <key>
   ```

where **<key>** is the license key. The license key value is case-sensitive, and must be entered exactly as given.

4. Verify the license was added by entering the following on the command line:

   licenseshow

   If the Web Tools license is listed, the feature is available. If the license is not listed, repeat step 3.

The Java Plug-In must also be installed on the client machine to access Web Tools.

Installing Web Tools Through the Web

Launching Web Tools from any non-licensed switch will automatically display the license dialog box. If the fabric already contains at least one licensed switch, you can use Web Tools to view and license other switches from the licensed switch. Launching Web Tools:

To install the first license through the web:

1. Launch the web browser and enter the IP address of the switch in the **Location/Address** field. For example:

   http://123.123.123.123

2. Press ENTER.

   If a license is already installed on the switch, Web Tools launches. If no license is installed, a license dialog displays. You will need to login as an admin user to gain access to the Licensing Screen.

3. If the license dialog displays, follow the instructions provided.

To Install additional Licenses Through the Web

To install additional licenses through the web:

1. Launch the web browser and enter the IP address of the licensed switch in the **Location/Address** field. For example:

   http://123.123.123.123

2. Press ENTER.

   Web Tools opens, displaying the Switch Explorer.

3. Click the icon for the switch you want to license. A licensing window displays.

4. Follow the instructions provided.

Overview of Workstation Setup for Solaris

The Java Plug-In for Solaris enables users to deploy the Java applet and other Java-related components in Netscape Communicator using Java Runtime Environment (JRE) instead of the Java run time bundled with Netscape.

The Java Plug-In may be shipped with the JRE or downloaded separately and installed. Netscape Communicator may come with its default Java Plug-In installed. The default Java Plug-In path is `/usr/dt/appconfig/*netscape/j2pi`.

Users should have basic knowledge of the Solaris system, and have super-user access, for installing the specified Java Plug-In and JRE on Solaris.

For downloading the Java products, users should also have a SUN website access account (free for registration). Download the Java Plug-In compressed binary format, uncompress it, and use `pkgadd` to install it to Solaris.

After installing the Web Tools required Java Plug-In and JRE, you need to set the system environment variables `NPX_PLUGIN_PATH` and `NPX_JRE_PATH` to `.cshrc`, `.profile`, or `.login` file under the user's home directory.

These configuration changes enable Netscape Communicator to use the new installed Java Plug-In and JRE path. If you want to back out and use the Netscape Communicator default Java Plug-In path, remove the two environment variable definitions from the predefined file.

For detailed information, refer to the SUN website:
`http://wwws.sun.com/software/solaris/netscape/jpis/usersguide_java_plugin.html`.

Netscape, the Java Plug-In, and the JRE are not EMC products. Their venders may change their products and URL path locations. For more information, refer to the vendors' website.

Java Plug-In 1.2.2_02, known as Java Plug-In 1.2, Solaris/SPARC, is displayed as Version 1.2.1 in its software license during download. Ignore this during install and accept the license.

Loading Web Tools on Solaris

To set up the user environment to access Web Tools on Solaris:

1. Install the web browser, if necessary.

   Netscape Communication 4.77 is required. The download is available at `http://www.netscape.com/download/archive/client_archive477.html`.

   The recommended installation path is `/usr/de/bin`.

   This installation path will be used for the `MOZILA_HOME` environment variable.

2. Install the Java Runtime Environment. JRE 1.3.1_04 is required.

   The recommended installation path is: `/usr/jrel.3.1_004/`.

3. Install the Java Plug-In. The Java Plug-In 1.2.2_02 is required.

   The download is available at:
   `http://www.sun.com/solaris/netscape/jpis/platforms.html`

   a. Click **Get the Software**.

   b. Go to **Download Java Plug-In 1.2 for Solaris: SPARC platform.**

   c. Download the compressed file in local directory.

   d. Uncompress the download bundle to `SUNWjpi`. For example, `zcat <down_load file> | tar xf-`

   e. Type **su** at the prompt to become super user and input the user password.

   f. Go to the directory where the `SUNWjpi` is located. For example, `cd<directory>.`

   g. Install the Plug-in to the recommended installation path.

      The recommended installation path is `/usr/jrel.2.2_007/plugin/.`

      For example, `pkgadd -d . -a none` opens an interactive session where you are prompted to enter the installation path or `pkgadd -d . SUNWjpi` using the default installation directory.

   h. Locate the file named `javaplugin.so` under the installation directory. This path will be used for he `NPX_PLUGIN_PATH` environment variable.

All the above details can be found at:
http://wwws.sun.com/software/solaris/netscape/jpis/usersguide_java_plugin.html.

4. Install the required patches. The installation requires OS patch for Solaris 7 (download available at JRE 1.2.2_07 download site). Reboot the system after you install the OS patch.

   Solaris 8 already comes with the Java 1.2.2_02 plugin installed as well as a Sun-packaged Netscape version, which are all installed in the `/usr/dt` directory.

   Sun ships (depending on the version) with `/bin/java` linked to `/usr/java`. `/usr/java` is then linked to either `/usr/java1.1` or `/usr/java1.2`.

   The `gunzip` utility is needed to open the Netscape downloaded file. This utility is available at **`sunfreeware.com`**.

   For more information on the installation process, refer to the installation guide for Netscape on Solaris at:

   http://wwws.sun.com/software/solaris/netscape/jpis/usersguide_java_plugin.html

Configuring the Environment for Web Tools on Solaris

To configure the environment of Java Plug-In and JRE for Netscape on Solaris:

1. Set the environment variables `MOZILLA_HOME`, `NPX_PLUGIN_PATH`, `NPX_JRE_PATH`.

   These environmental variables must be set up for each user accessing Web Tools. the paths listed below are recommendations. Use the actual path name where these products are installed on your workstation.

   C Shell:

   Add the following environmental variables to the `.cshrc` file:

   ```
   setenv MOZILLA_HOME /usr/dt/bin/
   setenv NPX_PLUGIN_PATH /usr/jrel.2.2_007/plugin
   setenv NPX_JRE_PATH /usr/jrel.2.2_007
   ```

   You must execute `source .cshrc` or re-login to activate the new environment variables.

You can also directly set these environment variables temporarily on a terminal window by typing the above lines on a command line.

Verify the environment variables by `setenv|grep NPX`.

Bourne Shell:

Add the following environment variables to the `.profile` file in the user home directory:

```
MOZILLA_HOME = /usr/dt/bin
NPX_PLUGIN_PATH= /usr/jrel.2.2_007/plugin
NPX_JRE_PATH= /usr/jrel.2.2_007
export MOZILLA_HOME
export NPX_PLUGIN_PATH
export NPX_JRE_PATH
```

You must re-login to activate the new environment variables.

You can also directly set these environment variables temporarily in a terminal window by entering:

```
set MOZILLA_HOME = /usr/dt/bin
set NPX_PLUGIN_PATH= /usr/jrel.2.2_007/plugin
set NPX_JRE_PATH= /usr/jrel.2.2_007
export MOZILLA_HOME
export NPX_PLUGIN_PATH
export NPX_JRE_PATH
```

Verify the environment variables by `set|grep NPX`.

2. Launch the Control Panel from `/java-plugin-path`, and choose **Advanced** to verify correct plug-in location.
3. Close all Netscape windows and re-launch a new instance of Netscape.
4. Verify the Java Plug-In version used in Netscape:
   - Click **Help** on the right corner of the browser.
   - Select **About Plug-Ins**.

     The currently used Java Plug-In version is shown on Java Plug-In.

The detailed guide is available at the following URL:

`http://www.sun.com/solaris/netscape/jpis/usersguide_java_plugin.html#envir`

Launching Web Tools

You can launch Web Tools once the license is installed on the switch and the Java Plug-In and web browser are installed and configured on the client workstation.

To launch Web Tools:

1. Launch the web browser from your host.
2. Enter the switch name or IP address in the URL field.

   Example: `http://switch name or IP address/`
3. Press ENTER.

   Web Tools opens, displaying the Switch Explorer (shown in Figure 2-1 and Figure 2-2).

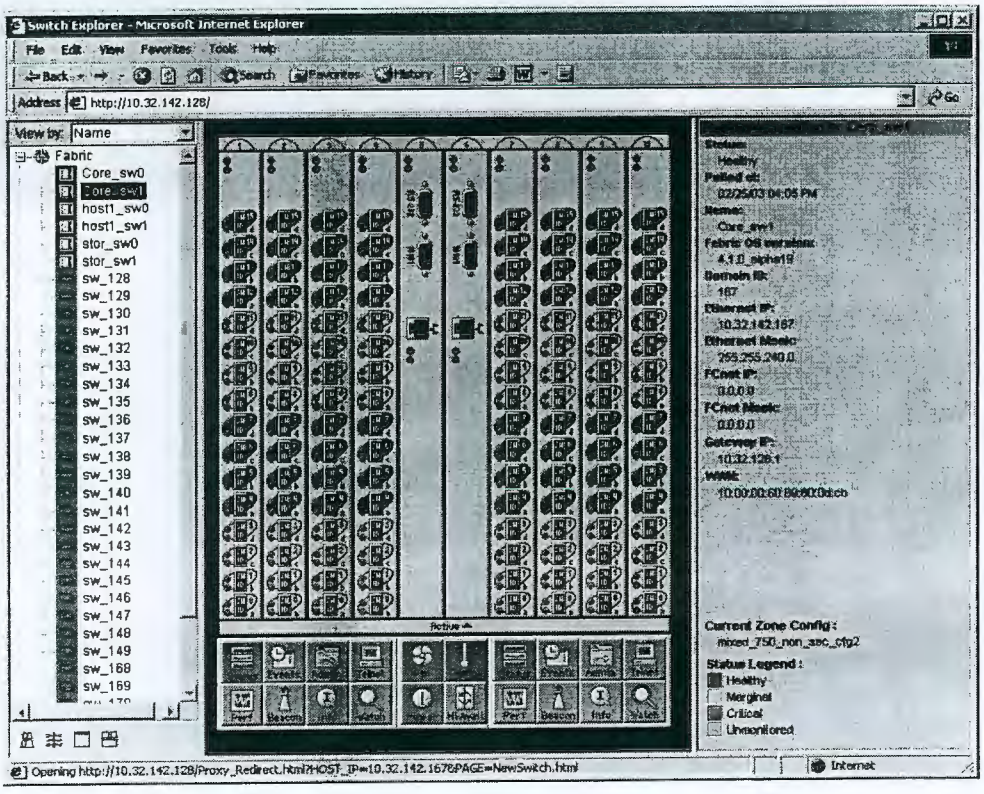


Figure 2-1 Switch Explorer Window for ED-12000B

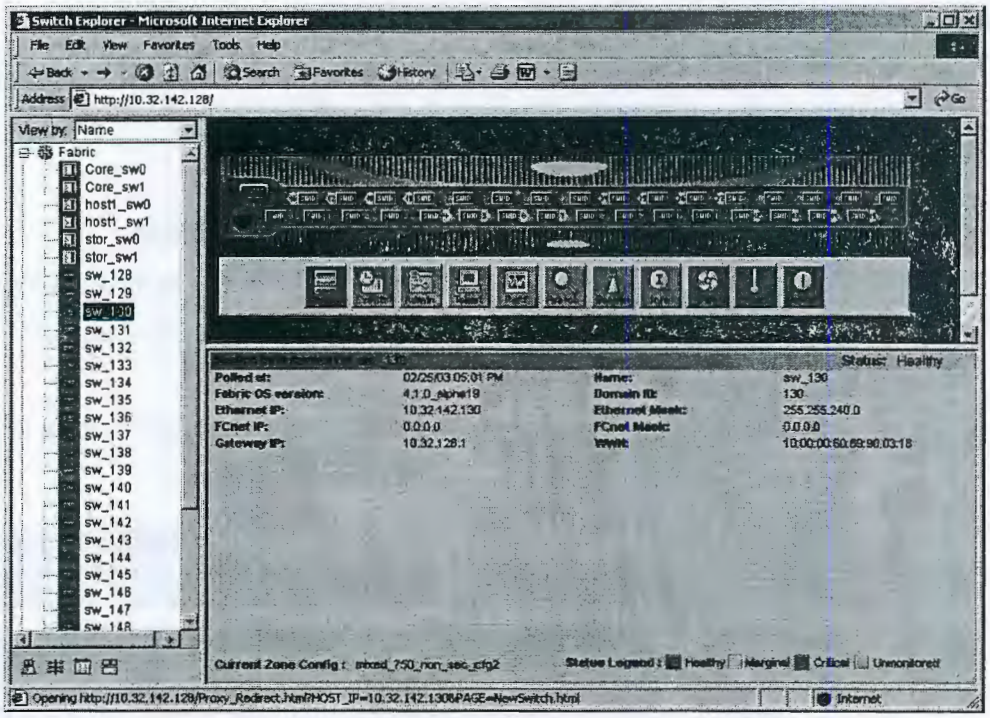


Figure 2-2 Switch Explorer Window for DS-32B2

3

Managing the Fabric

This chapter describes the operations used to manage the fabric through the Switch Explorer View.

Switches can be accessed through different methods, such as through the Telnet, SNMP, and the Web, any of which can occur simultaneously. To verify that modifications are correctly applied, ensure that the switch is modified from only one connection at a time.

Using the Fabric Tool Bar

Figure 3-1 shows the tool bar at the bottom-left corner of the Switch Explorer View.

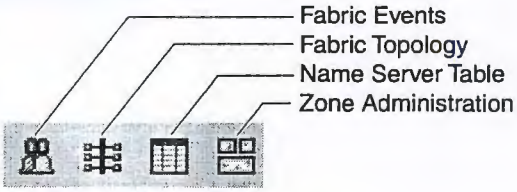


Figure 3-1 **Fabric Toolbar**

The icons and their functions are:

- **Fabric Events** — Opens the Fabric Events View. Refer to *Using the Fabric Events View* on page 3-3.
- **Fabric Topology** — Opens the Fabric Topology View, which summarizes the physical configuration of the fabric from the perspective of the *local* domain (the domain of the selected switch). Refer to *Using the Fabric Topology View* on page 3-5.
- **Name Server** — Opens the Name Server Table View, which provides the name server entries listed in the Simple Name Server database. Refer to *Using the Name Server Table* on page 3-7.
- **Zone Administration** — Opens the Zone Administration View. This button is available only if a Zoning license is installed. If the Zoning license is installed but Zoning is not implemented, this button is grayed-out.

  Refer to *Administering Zones* on page 3-9.

ENMC does not currently support Security. When Security is enabled, Zone administration can be performed only from the Primary FCS Switch.

Using the Fabric Events View

The Fabric Events View provides a running log of events for all switches in the fabric.

To access the Fabric Events View, click the Fabric Events icon at the lower left of the Switch Explorer View. (Refer to Figure 3-1 on page 3-2.)

Figure 3-2 shows a typical Fabric Events View.

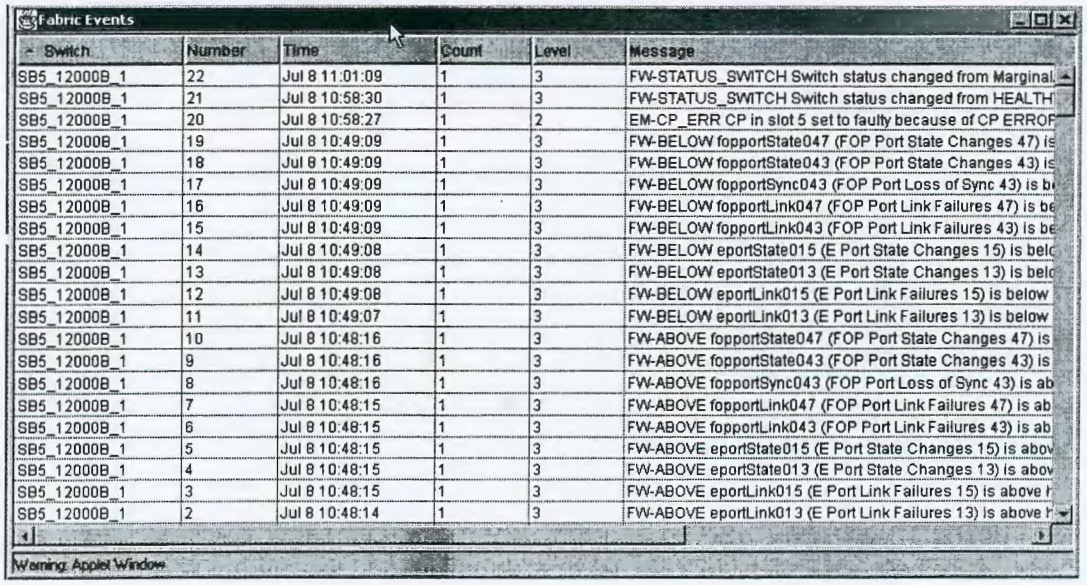


Figure 3-2 Fabric Events View

To sort the events by the items in a particular column, click the column heading. To resize a column, click the line between two columns, hold down the mouse button, and drag the line left or right.

Information in the Fabric Events View includes

- **Switch** — Name of the switch
- **Number** — Event number for the affected switch
- **Time** — Time of the event
- **Count** — Number of consecutive occurrences of the same event

- **Level** — Severity level of the event:
  - 0 — Panic (switch reboots)
  - 1 — Critical
  - 2 — Error
  - 3 — Warning
  - 4 — Information
  - 5 — Debug
- **Message** — Description of the event

Using the Fabric Topology View

The Fabric Topology View summarizes the physical configuration of the fabric from the perspective of the local domain (the domain of the switch entered as a URL in the web browser). This includes information about the destination domains (all other domains in the fabric) and the paths between each destination domain and the local domain.

To access the Fabric Topology View, click the Fabric Topology icon at the lower left of the Switch Explorer View. (Refer to Figure 3-1 on page 3-2.)

Figure 3-3 shows a typical Fabric Topology View.

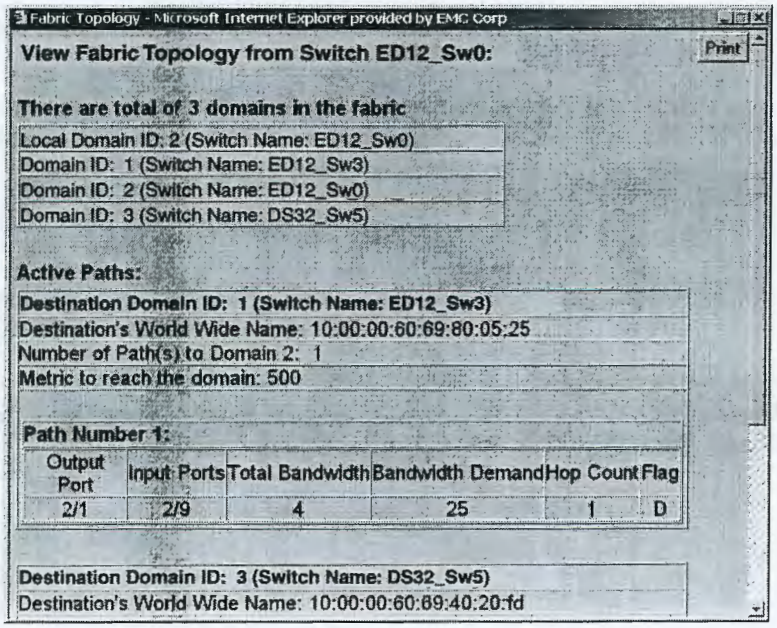


Figure 3-3 Fabric Topology View

Most of the information in the Fabric Topology View is self-explanatory. Some items are:

- **Active Paths** — Information about each destination domain, including information about each of the paths between that domain and the local domain.
- **Metric to Reach the Domain** — Cost of reaching the destination domain.
- **Output Port** — Port to which the incoming frame will be forwarded in order to reach the destination domain.
- **Input Ports** — Input ports that use the corresponding out port to reach the destination domain. This is the same information provided by `portRouteShow` and `uRouteShow`.
- **Total Bandwidth** — Maximum bandwidth of the out port.
- **Bandwidth Demand** — Maximum bandwidth demand by the in ports.

  The bandwidth is the total bandwidth for this path on the out port. The bandwidth demand is the percentage demand for this path from the in ports.
- **Hop Count** — Maximum number of hops to reach the destination domain.
- **Flag** — Always **D**, indicating a dynamic path. A dynamic path is discovered automatically by the FSPF path selection protocol.

Printing a Fabric Topology Report

If you want to print a copy of the Fabric Topology View, click **Print** at the upper right of the view.

Using the Name Server Table

The Name Server Table provides the name server entries listed in the Simple Name Server database. This includes all name server entries for the fabric, not only those that are local to the local domain. Each row in the table represents a different device.

To display the Name Server Table (shown in Figure 3-4), click the Name Server Table icon at the lower left of the Switch Explorer View. (Refer to Figure 3-1 on page 3-2.)

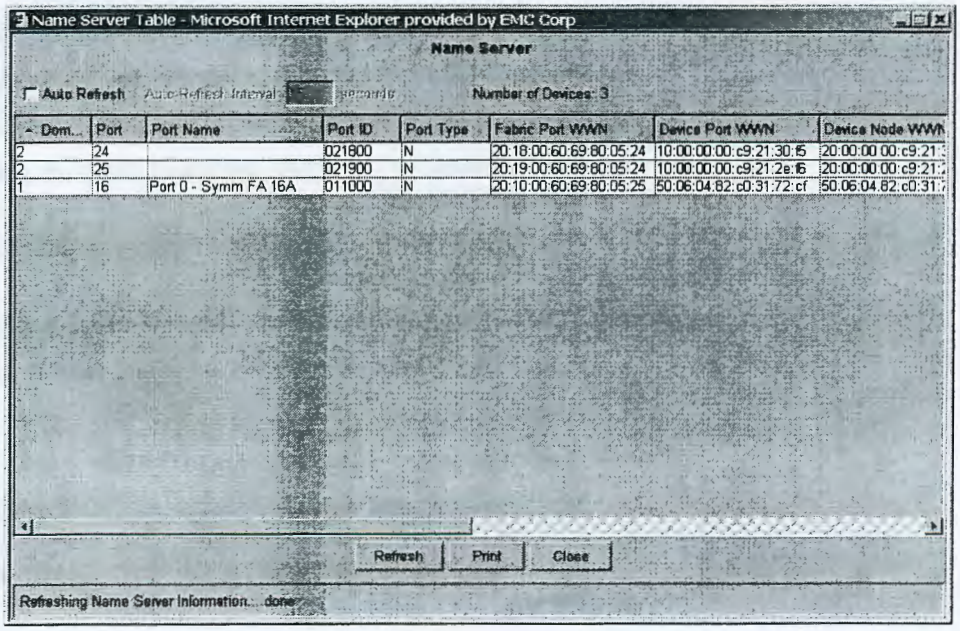


Figure 3-4 Name Server Table View

To sort the events by the items in a particular column, click the column heading. To resize a column, click the line between two columns, hold down the mouse button, and drag the line left or right.

The Name Server Table contains the following information:

- **Domain** — Domain ID of the switch to which the device is connected.
- **Port** — Number of the switch port to which the device is connected.
- **Port Name** — Name of the port.
- **Port ID** — Port ID of the device (24-bit hexadecimal value).
- **Port Type** — Port type of the device (N for fabric direct attached port or NL for fabric direct attached loop port).
- **Fabric Port WWN** — World Wide Name of the fabric port.
- **Device Port WWN** — World Wide Name of the device port.
- **Device Node WWN** — World Wide Name of the device node.
- **Device Name** — Symbolic name of the device assigned through the SCSI INQUIRY command.
- **FC4 Type** — Fibre Channel FC4 layer types supported by the device, such as IP or FCP.
- **COS** — Fibre Channel classes of service supported by the device.
- **Fabric Port Name** — Name of the fabric port in use by the device.
- **Port IP Address** — IP address of the fabric port.
- **Hard Address** — Hard address of the fabric port.
- **Member of Zones** — Zones to which this device belongs. This column is not updated when the table is refreshed. To view updated zoning information, close and reopen the Name Server Table.

Refreshing the Name Server Table View

If the **Auto Refresh** checkbox is checked, the view is refreshed automatically at the Auto Refresh Interval. To enable or disable auto refresh, select the checkbox to add or remove a checkmark. If enabling auto refresh, enter an interval in the **Auto Refresh Interval** field.

To refresh the view immediately, click **Refresh** at the bottom of the view.

Printing the Name Server Table

If you want to print a copy of the Name Server Table, click **Print** at the bottom of the view.

Administering Zones

Zoning enables you to partition your Storage Area Network (SAN) into logical groupings of devices that can access each other. For example, you can partition your SAN into two zones so that your Windows servers and storage do not interact with your UNIX servers and storage.

A zoning license and administrative privileges are required to access the Zone Administration View. If a switch or device is added or removed from the network, it is necessary to save the changes and relaunch the Zone Administration View for the changes to take effect.

This section is intended to describe zoning configurations when using Web Tools specifically. For more detailed information about zoning, refer to the *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Zoning Reference Manual.*

Administering Zoning

EMC recommends following these steps to administer zoning:

1. Define zone aliases to establish groupings. This is optional, but can save time.
2. Add zone members.
3. Place zones into one or more zone configurations.
4. Save the new/updated configuration.
5. Enable one of the zone configurations. (Only one configuration can be enabled at a time.)

Accessing Zone Administration

To access Zone Administration:

1. Click the Zone Administration icon at the lower left of the Switch Explorer View. (Refer to Figure 3-1 on page 3-2.)
2. When prompted, enter a name and password and click **OK**:
   - Logging in as **Admin** allows read and write access. The default Admin ID is **admin**.
   - Logging in as User allows only read access. The default User ID is **user**.

Figure 3-5 shows the Zone Administration window.

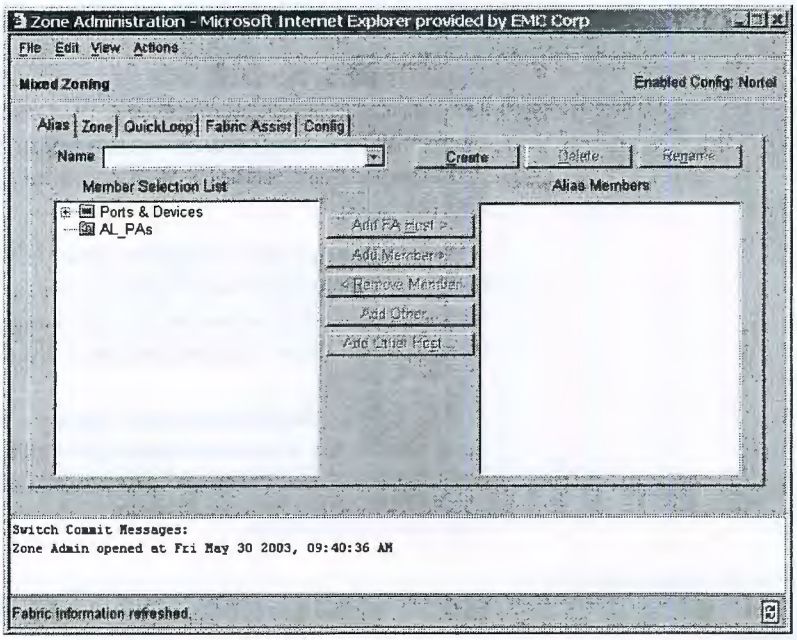


Figure 3-5 Zone Administration Window

The row of tabs (shown in Figure 3-5) provide different displays that allow you to configure:

- **Aliases** — An alias is a logical group of ports, WWNs, or AL_PAs. Creating aliases enables you to configure zones using short names rather than long strings of individual members.

  You can specify members of an alias using the following methods:

  - Switch domain and port area number pair, for example: **2, 20**.
  - WWN (device)
  - QuickLoop AL_PAs (device)

- **Zones** — A zone is a region within the fabric where switches and devices can communicate. A device can communicate only with other devices connected to the fabric within its specified zone.

  You can specify members of a Zone using the following methods:

  - Alias names
  - Switch domain and port area number pair, for example: **2, 20**.
  - WWN (device)

  - QuickLoop AL_PAs (device)
- **QuickLoop** — QuickLoop supports FC-AL devices in a fabric.
- **Fabric Assist** — Fabric Assist is a means of allowing private hosts to communicate with public targets across a switched fabric or in different fabrics.

  This option is not available if you are doing AL_PA zoning. (Refer to *Zoning Schemes* on page 3-11.)
- **Config** — A configuration (config) is a group of zones. Zoning is enabled on a fabric by enabling a specific config.

  You can specify members of a config using the following methods:

  - Zone names
  - QuickLoop names
  - FA (Fabric Assist) zone names

NOTE: Fabric Assist is not currently supported on EMC switches.

Sample Configuration

Table 3-1 shows a sample zoning configuration.

Table 3-1 Sample Zoning Database

Alias	Zone	Config
alias1 = WWN; WWN; WWN		
alias2 = WWN; <domain, portarea>		
alias3 = WWN; <AL_PA>	**zone1** = alias1; alias2; WWN; <domain, portarea>; <ALPA>	
alias4 = WWN; WWN; WWN	**zone2** = alias3, alias4, WWN	**myconfig** = zone1, zone2

Zoning Schemes

Various levels of zoning *schemes* are created to isolate systems that have different operating environments. For example, you can create a zone of all ports connected to UNIX Servers, or another zone of all ports connected to Windows Servers. Zones are created to limit access of devices to other devices connected to the fabric within the same zone.

Zones can be configured dynamically. They can vary in size depending on the number of fabric connected devices, and devices can belong to more than one zone. Because zone members can access only other members of the same zone, a device not included in a zone is not available to members of that zone.

Zoning can only be managed or accessed by the primary FCS switch when security is enabled; the Zoning icon only appears on the primary FCS switch. If security is not enabled, the Zone icon appears in the Fabric Tool bar of every licensed switch.

NOTE: At this time, Secure OS is not supported.

You can configure zoning using any of the schemes listed in Table 3-2. However, EMC recommends WWN zoning only.

Table 3-2 Zoning Schemes

Name	Description
Port Zoning	All aliases, zoning, and configuration file operations must be on ports. Aliases, zones, and configuration files which have objects other than ports cannot be selected or operated on.
WWN Zoning	All aliases, zoning, and configuration file operations must be on WWNs. Aliases, zones, and configuration files which have objects other than WWNs cannot be selected or operated on.
AL_PA Zoning	All aliases, zoning, and configuration file operations must be on AL_PA. Aliases, zones and configuration files which have objects other than AL_PAs cannot be selected or operated on.
Mixed Zoning	In this mode, any object can be selected to be a member of a zone, alias, or configuration file. This mode does not allow specification of a LUN.

To select a zoning scheme, click **View** on the Zone Administration menu bar, and select from the drop-down menu (shown in Figure 3-6).

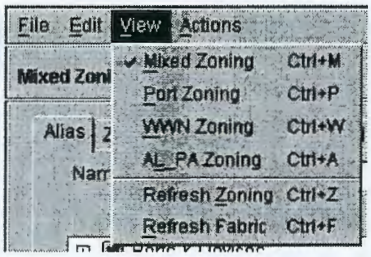


Figure 3-6 **Zone Administration View Menu**

Zoning Method and Hard or Soft Zoning Enforcement

Whether you are using *soft* or *hard* zoning is determined by the way the zone objects are defined:

- In hardware enforced zoning, zone or alias members are defined using <*domain, portarea*> exclusively or WWNs exclusively. That is, using one method or the other, to define all objects in the zoning database.
- In software enforced zoning, zone or alias members can be defined by a mixture of port IDs and WWNs.

Using the File Menu

The options available in the **File Menu** of the Zone Administration window are:

- **Print Summary** — Select to print a zoning configuration report. A window displays both the effective configuration and the defined zoning configuration, if one exists. (Refer to Figure 3-7 on page 3-14.)
- **Close** — Select to close the Zone Administration window.

Viewing the Zone Configuration Summary

To view the configuration summary, select **File, Print Summary** from the Zone Administration window menu bar. This displays a window similar to Figure 3-7 on page 3-14.

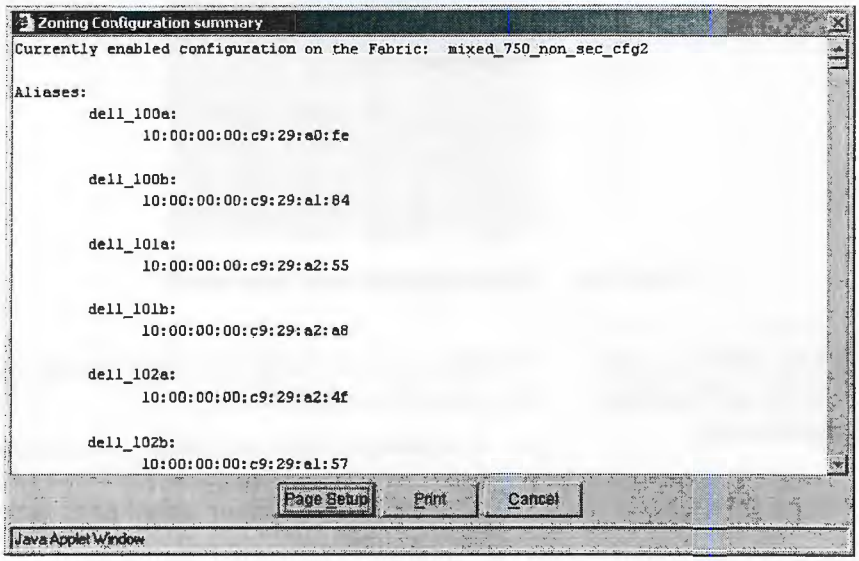


Figure 3-7 Zone Configuration Summary

Using the Edit Menu

The options available in the **Edit Menu** of the Zone Administration window are described in Table 3-3.

Table 3-3 Edit Menu Options

Option	Description
Add WWN	Select to add a WWN across Aliases, Zones or Fabric Assist Zones. A dialog box appears; enter the WWN number.
Delete WWN	Select to delete a WWN across Aliases, Zones or Fabric Assist Zones. A dialog box appears; enter the WWN number.
Replace WWN	Select to replace one WWN with another. A dialog box appears; enter first the WWN number to be replaced, and then the new WWN number.
Search Member	Select to search for a member of a zone. A dialog box appears; Enter any element that appears in the Member Selection List: Domain Name, Port name, Port Area ID, WWN, Device, Zone Name, or Alias Name. Narrow searches by checking one or more of the following boxes: • Match Case • Match Whole Words Only • Wrap around. Check the Wrap around box if you want the search engine to restart after it hits the end of the string. Leave unchecked if you want the search engine to stop once it hits the end of the string; a message appears to indicate the search is complete.

Adding a WWN in the Zoning Database

To add a WWN to the zoning database:

1. Select **Edit, Add a WWN** from the Zone Administration window menu bar.

   This displays an **Add WWN** dialog box.

2. Enter a WWN value in the **WWN** field, and click **OK**.

   An **Add WWN** window appears, listing all the zoning elements that will include the new WWN.

3. Click the item in the list to select or un-select and click **Add** to add the new WWN to all the selected zoning elements.

   The WWN is added to the zoning database and can be used as a member.

This WWN added does not need to currently exist in the Fabric. This procedures enables you to configure a WWN as a member in a Zone Configuration prior to adding that device to the fabric.

Deleting a WWN in the Zoning Database

To delete a WWN from the zoning database:

1. Select **Edit, Delete a WWN** from the Zone Administration window menu bar.

   This displays a **Delete WWN** dialog box.

2. Enter a WWN value in the **WWN** field, and click **OK**.

   A **Delete WWN** window appears, listing all the zoning elements that include the WWN.

3. Click the item in the list to select or unselect and click **Delete** to delete the WWN from all the selected zoning elements.

   The WWN is deleted from the zoning database.

Replacing a WWN in the Zoning Database

This procedure enables you to replace a WWN throughout the zoning database. This is helpful when exchanging out devices in your fabric, and easily maintaining your current configuration:

1. Select **Edit, Replace a WWN** from the Zone Administration window menu bar.

   This displays a **Replace WWN** dialog box.

2. Enter the WWN to be replaced in the **Replace** field.

3. Enter the new WWN in the **By** field, and click **OK**.

A **Replace WWN** window appears, listing all the zoning elements that include the WWN.

4. Click the item in the list to select or unselect and click **Replace** to replace the WWN in all the selected zoning elements.

   The old WWN is replaced in the zoning database by the new WWN, including within any alias or zone where the old WWN was a member.

Searching For a Zone Member

To search for a zone member:

1. Select **Edit, Search Member** from the Zone Administration window menu bar.

   This displays a **Search Member** dialog box (Figure 3-8).

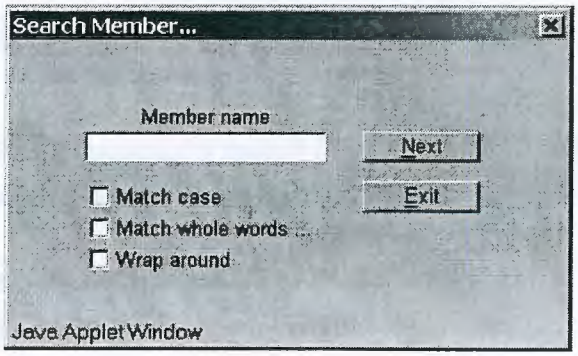


Figure 3-8 **Search Member Dialog Box**

2. Type the zone member name in the **Member name** field.
3. If you want to narrow the search, select one or more checkboxes.
4. Click **Next** to begin the zone member search.

Using the View Menu

The options available in the **View Menu** of the Zone Administration window are described in Table 3-4.

Table 3-4 View Menu Options

Option	Description
Mixed Zoning	Use the Mixed Zoning option when you want various objects to be selected as member of an alias, zone, or configuration file.
Port Zoning	Select the Port Zoning option when you want to include only ports in a group. Grouping zones by port alone is considered "hard zoning".
WWN Zoning	Select the WWN Zoning option when you want to zone by grouping World Wide Names. Grouping zones by WWN alone is considered "hard zoning".
AL_PA Zoning	Select the AL_PA Zoning option when you want to create or manage a zone of devices.
Refresh Zoning	Select the Refresh Zoning option to refresh the zone configuration image with current zone data from switch. Defined Aliases, Zones, QuickLoops and Fabric Assist zones, Configs, and the effective Config can be changed. It affects the Member List in the Alias tab, Zone tab, QuickLoop tab and Fabric Assist tab.
Refresh Fabric	Select the Refresh Fabric option to refresh the fabric image with current data from switch. It affects the Member Selection Tree in Alias tab, Zone tab, QuickLoop tab and Fabric Assist tab. Data can be changed if, for example, the fabric is reconfigured, or devices are removed.

Selecting a Zoning Method

The zoning method you choose determines how members are displayed in the various member selection windows. It also determines whether you are using hard or soft zoning.

Click **View** on the Zone Administration window menu bar, and select one of the following:

- **Mixed Zoning**
- **Port Zoning**
- **WWN Zoning**
- **AL_PA Zoning**

The zoning method you choose determines how members are displayed in the various member selection windows. Refer to *Zoning Schemes* on page 3-11 for more information.

Keep in mind that EMC recommends WWN zoning only.

Refreshing Zoning

To refresh the zoning database (with any saved changes), select **View, Refresh Zoning** from the Zone Administration window.

Any unsaved zoning changes are deleted.

You can display the current zoning database. Refer to *Viewing the Zone Configuration Summary* on page 3-13 for more information.

Refreshing the Fabric

To refresh the fabric (with any saved changes), select **View, Refresh Fabric** from the Zone Administration window.

Any unsaved zoning changes are deleted.

You can display the current zoning database. Refer to *Viewing the Zone Configuration Summary* on page 3-13 for more information.

Using the Actions Menu

The options available in the **Action Menu** of the Zone Administration window are described in Table 3-5.

Table 3-5 Actions Menu Options

Menu Item	Description
Enable Config	Select to save and enable the configuration selected from the Config tab Name field. This command also saves all other configurations in the zoning database.
Disable Zoning	Select to disable the Configuration that is currently enabled. This command also saves all other configurations in the zoning database.
Save Config Only	Select to save all defined zoning configurations. The saved changes will only apply to the defined configurations. Changes can be made to a Configuration that is currently enabled; changes will not appear until the Configuration is disabled and re-enabled.
Clear All	Select to delete all Aliases, Zones, Fabric Assist Zones, and Configurations; the cleared configuration is saved. Any enabled configuration will be disabled.

Enabling a Configuration

Several configurations can reside on a switch at once and you can quickly alternate between configurations. For instance, you may want to have one configuration enabled during the business hours, and another enabled overnight. Only one zone configuration can be enabled at a time.

To create a new configuration, refer to *Creating a Configuration* on page 3-39.

To enable a configuration:

1. Click **View** on the Zone Administration window menu bar, and select a zoning scheme.
2. On the Zone Administration window for the selected zoning scheme, select the **Config** tab.
3. Select **Actions, Enable Config** from the Zone Administration window menu bar.

   The **Enable Config** dialog box (Figure 3-9) appears.

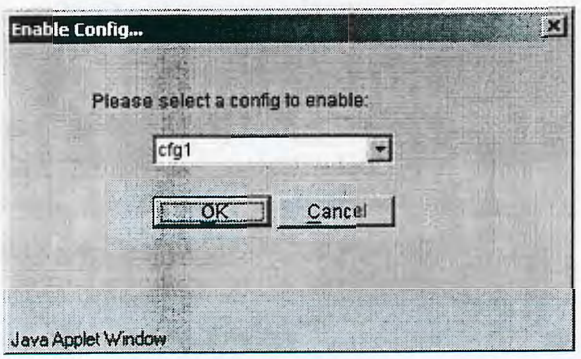


Figure 3-9 **Enable Config Dialog Box**

4. Select the configuration to be enabled from the drop-down menu, and click **OK**.
5. A warning dialog box appears.

   Click **Yes** to enable the selected configuration.

Disabling Zoning

When you disable the active configuration, the Zoning feature is disabled on the fabric and all devices within the fabric can communicate with all other devices. This does not mean that the zoning database is deleted however, only that there is no Configuration active on the fabric.

To disable zoning:

1. Select **Actions, Disable Zoning** from the Zone Administration window menu bar.
2. A warning dialog box appears.

   Click **Yes** to disable the current enabled Configuration.

Saving Changes to an Existing Configuration

To save configuration changes:

1. On the Zone Administration window for the selected zoning scheme, select the **Config** tab.
2. Make desired changes to the Configuration. (Refer to *Creating a Zone* on page 3-27.)

   You can make changes to a Configuration that is currently enabled; changes will not appear until the Configuration is disabled and re-enabled.
3. Select the **Actions, Save Config Only** option.

   The Configuration changes will be saved. Changes will not take effect until the Configuration is re-enabled.

   To enable the configuration, refer to *Enabling a Configuration* on page 3-19.

Clearing the Zoning Database

The following procedure disables any active Configuration and deletes the entire zoning database:

1. Select **Actions, Clear All** from the Zone Administration window menu bar.

CAUTION

This action not only disables zoning on the fabric, but also deletes the entire zoning database.

2. A **Clear All** warning appears.

   Click Yes to disable the current Configuration and delete the zoning database.

Using the Alias Tab

Use the **Alias** tab (shown in Figure 3-10) to create, modify, rename, or delete aliases in the zoning database.

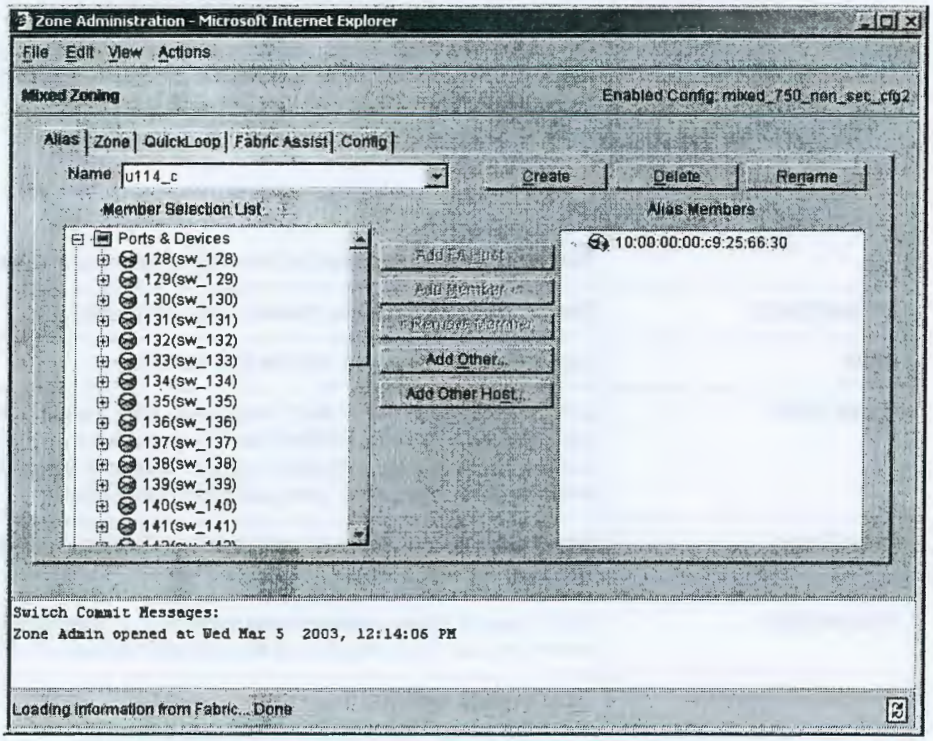


Figure 3-10 Alias Tab in the Zone Administration Window

The fields that appear in the following Alias tab are described in Figure 3-6.

Table 3-6 **Alias Tab Field Descriptions**

Field	Description
Zoning Method	This displays the method you have selected to add members to the zoning database. Choose the Zoning method in the View menu. Valid options are: • Mixed Zoning • Port Zoning • WWN Zoning • AL_PA Zoning The Zoning method determines the information displayed in the Member Selection List.
Enabled Config	This field displays the currently enabled Zone Configuration.
Name	Displays existing alias names from the drop-down menu.
Create Button	Click to create a new alias. A dialog box displays. Enter the name of the new alias. The maximum length allowed is 64 characters. All alias names must be unique and must consist of letters, numbers or the underscore character. Spaces or special characters are not allowed in alias names, and a name cannot start with a number.
Delete Button	Click to delete the alias selected in the Name field. Deleting an alias automatically removes it from all zones, and configs.
Rename Button	Click to rename the alias selected in the Name field. A dialog displays in which you can rename the alias. Renaming an alias automatically renames it in all zones, and configs.
Member Selection List	Select available items from the Member Selection List. In Mixed Zones you can select Ports, WWNs and AL_PAs.
Alias Members	Displays the current members of an Alias.
Add FA Host Button	Click to add a Fabric Assist Host to the member list.
Add Member Button	Click to add a member from the Member Selection List to the Alias Members. You must select a member within Member Selection List for this button to become active. If the item you selected from the member selection list (or at least one of the items you selected) is already a member in the member list, the button is disabled.
Remove Member Button	Click to remove a member from the Alias Members list. You must select a member within Alias Members for this button to become active.
Add Other Button: • **Other** • **Other Port** • **Other WWN** • **Other AL_PA**	Click to add a Port, WWN or AL_PA that is not currently part of the fabric. A dialog box will display for you to type in the host that is not a member of the fabric.

Table 3-6 Alias Tab Field Descriptions (continued)

Field	Description
Add Other Host Button: • **Other Host** • **Other Port Host** • **Other WWN Host**	Click to add a host that is not currently part of the fabric. The button displayed depends on the zoning method that you have selected.
Message area	Displays zoning commit messages on the switch.
QuickHelp Status Bar	Appears at the bottom of the window. Displays information for the current window.

Creating an Alias

To create an alias:

1. Click **View** on the Zone Administration window menu bar, and select a zoning scheme:
   - **Mixed Zoning**
   - **Port Zoning**
   - **WWN Zoning**
   - **AL_PA Zoning**

   The scheme you select determines how members appear in the Member Selection List window. Refer to *Using the View Menu* on page 3-17 for more information.
2. On the Zone Administration window for the selected zoning scheme, make sure the **Alias** tab is selected.
3. Click **Create**.

   The **Create New Alias** dialog box appears.
4. Enter a name for the new alias, and click **OK**.
5. Click on any plus (+) signs in the Member Selection List to view the nested elements.

   The choices available in the Member Selection List depend on the selection made in the **View** Menu.
6. Highlight an element in the Member Selection List that you want to include in your alias.

   The **Add Member** button becomes active.
7. Click **Add Member** or *drag and drop* members into the **Alias Members** window.

8. Repeat steps 5 through 7 to add more elements to your alias.

   Click **Add Other** to include a WWN, port, or QuickLoop (AL_PA) that is not currently a part of the fabric (optional).

Modifying the Members of an Alias

To modify the members of an alias:

1. On the Zone Administration window for the selected zoning scheme, select (if not already selected) the **Alias** tab.
2. From the **Name** drop-down menu, select the alias you want to modify.
3. Highlight an element in the Member Selection List that you want to include in your alias; or, highlight an element in the Alias Members that you want to delete.
4. Click **Add Member** to add an alias member; or, click **Remove Member** to remove an alias member.

Deleting an Alias

To delete an alias:

1. On the Zone Administration window for the selected zoning scheme, select (if not already selected) the **Alias** tab.
2. From the **Name** drop-down menu, select the alias you want to delete.
3. Click **Delete**.

   The **Confirm Deleting Alias** dialog box opens.
4. Click **OK**. The selected alias is deleted from the zoning database.

Renaming an Alias

To rename an alias:

1. On the Zone Administration window for the selected zoning scheme, select (if not already selected) the **Alias** tab.
2. From the **Name** drop-down menu, select the alias you want to rename.
3. Click **Rename**.

   The **Rename an Alias** dialog box appears.
4. Enter a new alias name, and click **OK**.

   The alias is renamed in the zoning database.

Using the Zone Tab

Use the **Zone** tab (shown in Figure 3-11) to create, modify, rename, or delete zones in the zoning database.

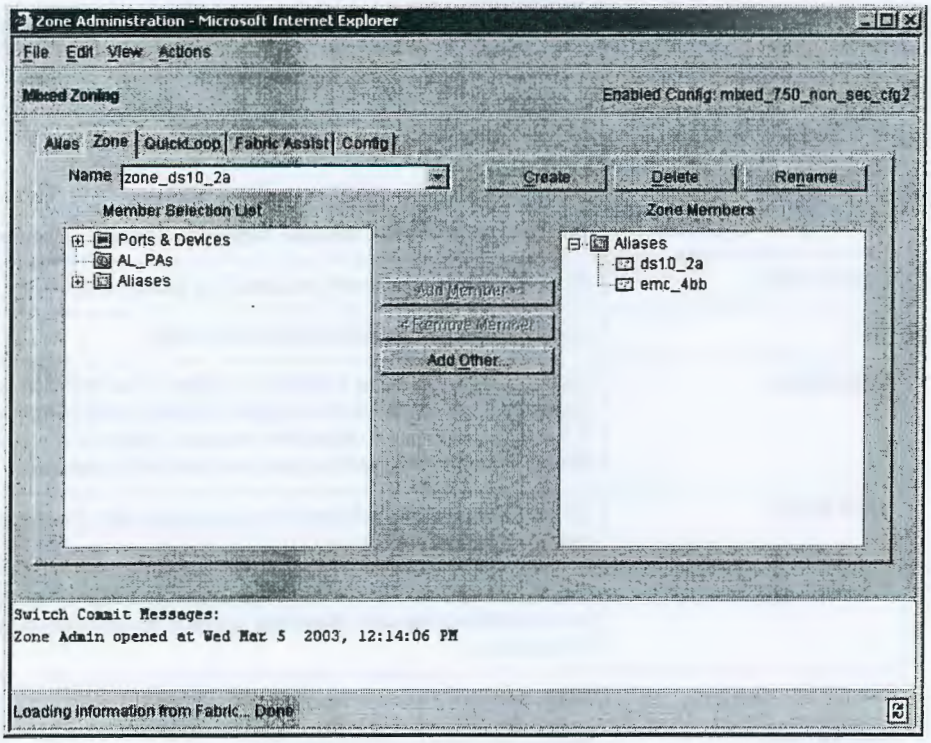


Figure 3-11 Zone Tab in the Zone Administration Window

The **Zone** buttons and fields are described in Table 3-7.

Table 3-7 Zone Tab Field Descriptions

Field	Descriptions
Zoning Method	This displays the method you have selected to add members to the Zoning database. Choose the Zoning method in the View menu. Valid options are: • Mixed Zoning • Port Zoning • WWN Zoning • AL_PA Zoning The Zoning method determines the information displayed in the Member Selection List.
Enabled Config	This field displays the currently enabled Zone Configuration.
Name	Displays existing zones from the drop-down menu.
Create Button	Click to create a new zone. A dialog box displays. Enter the name of the new zone. The maximum length allowed is 64 characters. All zone names must be unique and must consist of letters, numbers or the underscore character. Spaces or special characters are not allowed in zone names, and a name cannot start with a number.
Delete Button	Click to delete the zone selected in the Zone Name field. Deleting a zone automatically removes it from all configs.
Rename Button	Click to rename the Zone selected in the Zone Name field. A dialog box displays in which you can edit the zone name. Renaming a zone in the zone tab automatically renames it in all configurations.
Member Selection List	Select available items from the Member Selection List.
Zone Members	Displays the current members of a zone.
Add Member Button	Click to add a member from the Member Selection List to the Zone Members. You must select a member within Member Selection List for this button to become active. If the item you selected from the member selection list (or at least one of the items you selected) is already a member in the member list, the button is disabled.
Remove Member Button	Click to remove a member from the Zone Members list. You must select a member within Zone Members for this button to become active.
Add Other: • Other Port • Other WWN • Other AL_PA	Click to add a Port, WWN or AL_PA that is not currently part of the fabric. A dialog box will display for you to type in the host that is not a member of the fabric.
Message area	Displays zoning commit messages on the switch.
QuickHelp Status Bar	Appears at the bottom of the window. Displays information for the current window.

Creating a Zone

To create a zone:

1. Click **View** on the Zone Administration window menu bar, and select a zoning scheme:
   - **Mixed Zoning**
   - **Port Zoning**
   - **WWN Zoning**
   - **AL_PA Zoning**

   The scheme you select determines how members appear in the Member Selection List window. Refer to *Using the View Menu* on page 3-17 for more information.
2. Select the **Zone** tab.
3. Click **Create**.

   The **Create New Zone** dialog box appears.
4. Enter a name for the new zone, and click **OK**.
5. Click on any plus (+) signs in the Member Selection List to view the nested elements.

   The choices available in the Member Selection List depend on the selection made in the **View** menu.
6. Highlight an element in the Member Selection List that you want to include in your zone.

   The **Add Member** button becomes active.
7. Click **Add Member** or use *drag and drop* to add zone members. Selected members are moved to the Zone Members Window.
8. Repeat steps 5 through 7 to add more elements to your zone.

   Click **Add Other** to include a WWN, port, or QuickLoop (AL_PA) that is not currently a part of the fabric (optional).

   The new zone appears in the **Name** drop-down list.

Modifying the Members of a Zone

To modify the members of a zone:

1. On the Zone Administration window for the selected zoning scheme, select the **Zone** tab.
2. From the **Name** drop-down menu, select the zone you want to modify.

3. Highlight an element in the Member Selection List that you want to include in your zone; or, highlight an element in the Zone Members that you want to delete.
4. Click **Add Member** to add a zone member; or, click **Remove Member** to remove a zone member.

Deleting an Zone

To delete a zone:

1. On the Zone Administration window for the selected zoning scheme, select the **Zone** tab.
2. From the **Name** drop-down menu, select the zone you want to delete.
3. Click **Delete**.

   The **Confirm Deleting Zone** dialog opens.
4. Click **OK**.

   The selected zone is deleted from the zoning database.

Renaming a Zone

To rename a zone:

1. On the Zone Administration window for the selected zoning scheme, select the **Zone** tab.
2. From the **Name** drop-down menu, select the zone you want to rename.
3. Click **Rename**.

   The **Rename a Zone** dialog box appears.
4. Enter a new zone name, and click **OK**.

   The zone is renamed in the zoning database.

Using the QuickLoop Tab

Use the **QuickLoop** tab (shown in Figure 3-12) to manage QuickLoops in the zoning database. For more information regarding QuickLoops, refer to the *Quick Loop User's Guide*.

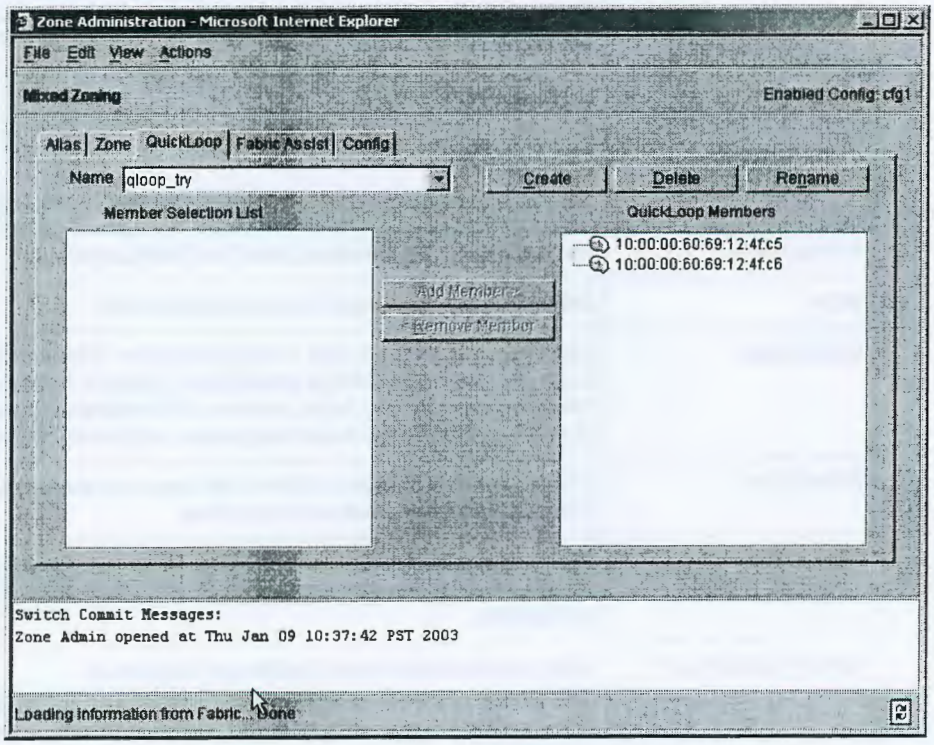


Figure 3-12 QuickLoop Tab in the Zone Administration Window

The QuickLoop tab are described in Table 3-8.

Table 3-8 QuickLoop Tab Field Descriptions

Field	Description
Zoning Method	This displays the method you have selected to add members to the Zoning database. Choose the Zoning method in the View menu. Valid options are: • Mixed Zoning • Port Zoning • WWN Zoning • AL_PA Zoning The Zoning method determines the information displayed in the Member Selection List.
Enabled Config	This field displays the currently enabled Zone Configuration.
Name	Displays existing QuickLoops from this drop-down menu.
Create Button	Click to create a new QuickLoop. A dialog box displays. Enter the name of the new QuickLoop. The maximum length allowed is 64 characters. All QuickLoop names must be unique and must consist of letters, numbers or the underscore character. Spaces or special characters are not allowed in QuickLoop names, and a name cannot start with a number.
Delete Button	Click to delete the QuickLoop selected in the Name drop-down menu. Deleting a QuickLoop automatically removes it from all configurations.
Rename Button	Click to rename the QuickLoop selected in the Name field. A dialog displays in which you can edit the QuickLoop name. Renaming a QuickLoop automatically renames it in all configurations.
Member Selection List	Select available members from the Member Selection List. QuickLoop is not supported on either the SilkWorm 12000 or SilkWorm 3900 switches. However you can manage a QuickLoop from these switches if it is attached to another switch in the fabric.
QuickLoop Members	Displays the current members of a QuickLoop.
Add Member Button	Click to add a member from the Member Selection List to the QuickLoop Members. You must select a member within Member Selection List for this button to become active. If the item you selected from the member selection list (or at least one of the items you selected) is already a member in the member list, the button is disabled.
Remove Member Button	Click to remove a member from the QuickLoop Members list. You must select a member within QuickLoop Members for this button to become active.
Message area	Displays zoning commit messages on the switch.
QuickHelp Status Bar	Appears at the bottom of the window. Displays information for the current window.

Creating a QuickLoop

To create an alias:

1. Click **View** on the Zone Administration window menu bar, and select a zoning scheme:
   - **Mixed Zoning**
   - **Port Zoning**
   - **WWN Zoning**
   - **AL_PA Zoning**

   The scheme you select determines how members appear in the Member Selection List window. Refer to *Using the View Menu* on page 3-17 for more information.
2. Select the **QuickLoop** tab.
3. Click **Create**.

   The **Create New QuickLoop** dialog box appears.
4. Enter a name for the new QuickLoop, and click **OK**.
5. Click on any plus (+) signs in the Member Selection List to view the nested elements.

   The choices available in the Member Selection List depend on the selection made in the **View** menu.

   Highlight an element in the Member Selection List that you want to include in your QuickLoop.

   The **Add Member** button becomes active.

   There is a limit of two members per QuickLoop.

   ---
6. Click **Add Member** or use *drag and drop* to add QuickLoop members. Selected members are moved to the QuickLoop Members Window.
7. Repeat steps 5 through 7 to add more elements to your QuickLoop.

   Click **Add Other** to include a WWN, port, or QuickLoop (AL_PA) that is not currently a part of the fabric (optional).

   The new QuickLoop appears in the **Name** drop-down list.

Modifying the Members of a QuickLoop

To modify the members of a QuickLoop:

1. On the Zone Administration window for the selected zoning scheme, select the **QuickLoop** tab.
2. From the **Name** drop-down menu, select the QuickLoop you want to modify.
3. Highlight an element in the Member Selection List that you want to include in your QuickLoop; or, highlight an element in the QuickLoop Members that you want to delete.
4. Click **Add Member** to add a QuickLoop member; or, click **Remove Member** to remove an QuickLoop member.

Deleting an QuickLoop

To delete a QuickLoop:

1. On the Zone Administration window for the selected zoning scheme, select the **QuickLoop** tab.
2. From the **Name** drop-down menu, select the QuickLoop you want to delete.
3. Click **Delete**.

   The **Confirm Deleting QuickLoop** dialog box opens.
4. Click **OK**.

   The selected QuickLoop is deleted from the zoning database.

Renaming a QuickLoop

To rename a QuickLoop:

1. On the Zone Administration window for the selected zoning scheme, select the **QuickLoop** tab.
2. From the **Name** drop-down menu, select the QuickLoop you want to rename.
3. Click **Rename**.

   The **Rename a QuickLoop** dialog box appears.
4. Enter a new QuickLoop name, and click **OK**.

   The QuickLoop is renamed in the zoning database.

Using the Fabric Assist Tab

NOTE: Fabric Assist is not currently supported.

Use the **Fabric Assist** tab (shown in Figure 3-13) to create and manage Fabric Assist zones. Fabric Assist is a means of allowing private hosts to communicate with public targets across a switched fabric. Fabric Assist also allows private hosts to communicate with public targets that are not resident in the same switched fabric.

Creating a Fabric Assist zone requires a fabric host.

The **Fabric Assist** tab is not available if you selected **View, AL_PA Zoning**.

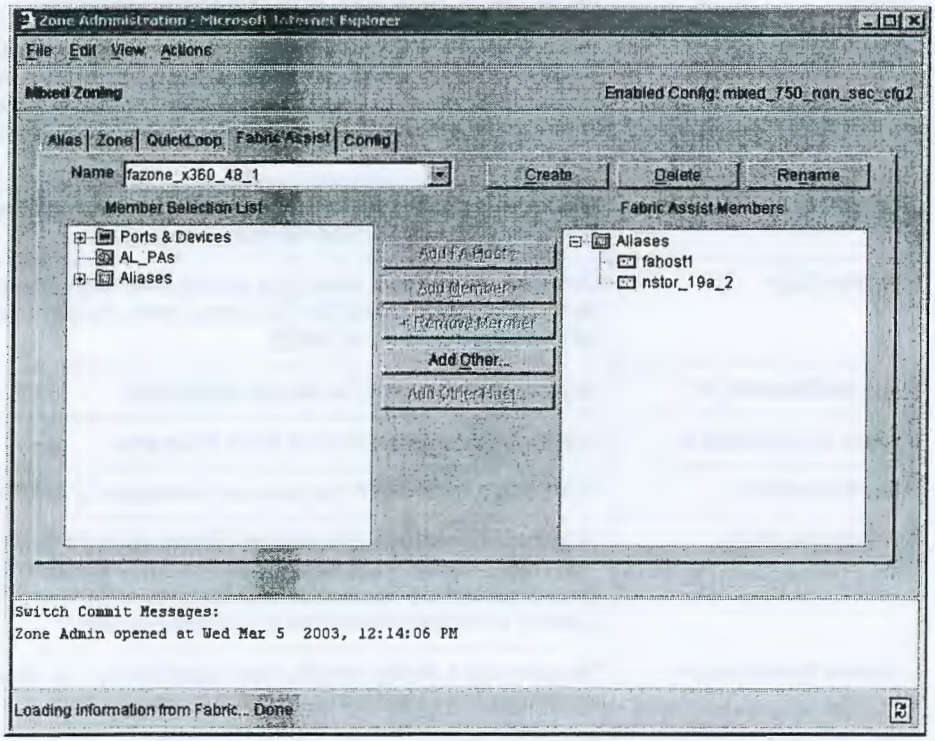


Figure 3-13 Fabric Assist Tab in the Zone Administration Window

The **Fabric Assist** fields are described in Table 3-9.

Table 3-9 Fabric Assist Fields Descriptions

Fields	Descriptions
Zoning Method	This displays the method you have selected to add members to the Zoning database. Choose the Zoning method in the View menu. Valid options are: • Mixed Zoning • Port Zoning • WWN Zoning • AL_PA Zoning The Zoning method determines the information displayed in the Member Selection List.
Enabled Config	This field displays the currently enabled Configuration.
Name	Displays existing Fabric Assist zones from the drop-down menu.
Create Button	Click to create a new Fabric Assist zone. A dialog box displays. Enter the name of the new Fabric Assist zone. The maximum length allowed is 64 characters. All Fabric Assist zone names must be unique and must consist of letters, numbers or the underscore character. Spaces or special characters are not allowed in Fabric Assist zone names, and a name cannot start with a number.
Delete Button	Click to delete the Fabric Assist Zone selected in the Name drop-down menu. Deleting a Fabric Assist Zone automatically removes it from configs.
Rename Button	Click to rename the Fabric Assist Zone selected in the Name drop-down menu. A dialog displays in which you can edit the Fabric Assist name. Renaming a Fabric Assist Zone automatically renames it in all configs.
Member Selection List	Select available items from the Member Selection List.
Fabric Assist Members	Displays the current members of an Fabric Assist zone.
Add FA Host Button	Click to Add a Fabric Assist Host that is not currently part of the fabric.
Add Member Button	Click to add a member from the Member Selection List to the Fabric Assist Members. You must select a member within Member Selection List for this button to become active. If the item you selected from the member selection list (or at least one of the items you selected) is already a member in the member list, the button is disabled.
Remove Member Button	Click to remove a member from the Fabric Assist Members list. You must select a member within Fabric Assist Members for this button to become active.
Add Other Button: • **Other** • **Other Port** • **Other WWN** • **Other AL_PA**	Click to add a Fabric Assist Zone that is not currently part of the fabric. A dialog box will display for you to type in the host that is not a member of the fabric.

Table 3-9 Fabric Assist Fields Descriptions (continued)

Fields	Descriptions
Add Other Host Button: • **Other Host** • **Other Port Host** • **Other WWN Host**	Click to add a host that is not currently part of the fabric. The button displayed depends on the zoning method that you have selected.
Message area	Displays zoning commit messages on the switch.
QuickHelp Status Bar	Appears at the bottom of the window. Displays information for the current window.

Creating a Fabric Assist Zone

To create a Fabric Assist zone:

1. Click **View** on the Zone Administration window menu bar, and select a zoning scheme from among these valid options:
   - **Mixed Zoning**
   - **Port Zoning**
   - **WWN Zoning**

   The scheme you select determines how members appear in the Member Selection List window. Refer to *Using the View Menu* on page 3-17 for more information.
2. Select the **Fabric Assist** tab.
3. Select **Create**.

   The **Create New FA** dialog box appears.
4. Enter a name for the new FA zone, and click **OK**.

   A fabric host is required.
5. Highlight the desired Fabric Assist zone members from the Member Selection List.
6. Click **Add Member**.

   The new members appear in the Fabric Assist Members window.

   The newly created FA zone also appears in the **Config** tab.

Modifying the Members of a Fabric Assist Zone

To modify the members of a Fabric Assist Zone:

1. On the Zone Administration window for the selected zoning scheme, select the **Fabric Assist** tab.
2. From the **Name** drop-down menu, select the Fabric Assist Zone you want to modify.
3. Highlight an element in the Member Selection List that you want to include in your Fabric Assist Zone; or, highlight an element in the Fabric Assist Zone Members that you want to delete.
4. Click **Add Member** to add a Fabric Assist Zone member; or, click **Remove Member** to remove an Fabric Assist Zone member.

Deleting an Fabric Assist Zone

To delete a Fabric Assist Zone:

1. On the Zone Administration window for the selected zoning scheme, select the **Fabric Assist** tab.
2. From the **Name** drop-down menu, select the Fabric Assist Zone you want to delete.
3. Click **Delete**.

   The **Confirm Deleting Fabric Assist Zone** dialog box opens.
4. Click **OK**.

   The selected Fabric Assist Zone is deleted from the zoning database.

Renaming a Fabric Assist Zone

To rename a Fabric Assist Zone:

1. On the Zone Administration window for the selected zoning scheme, select the **Fabric Assist** tab.
2. From the **Name** drop-down menu, select the Fabric Assist Zone you want to rename.
3. Click **Rename**.

   The **Rename a Fabric Assist Zone** dialog box appears.
4. Enter a new Fabric Assist Zone name, and click **OK**.

   The Fabric Assist Zone is renamed in the zoning database.

Using the Config Tab

Use the **Config** tab (shown in Figure 3-14) to create and manage configurations.

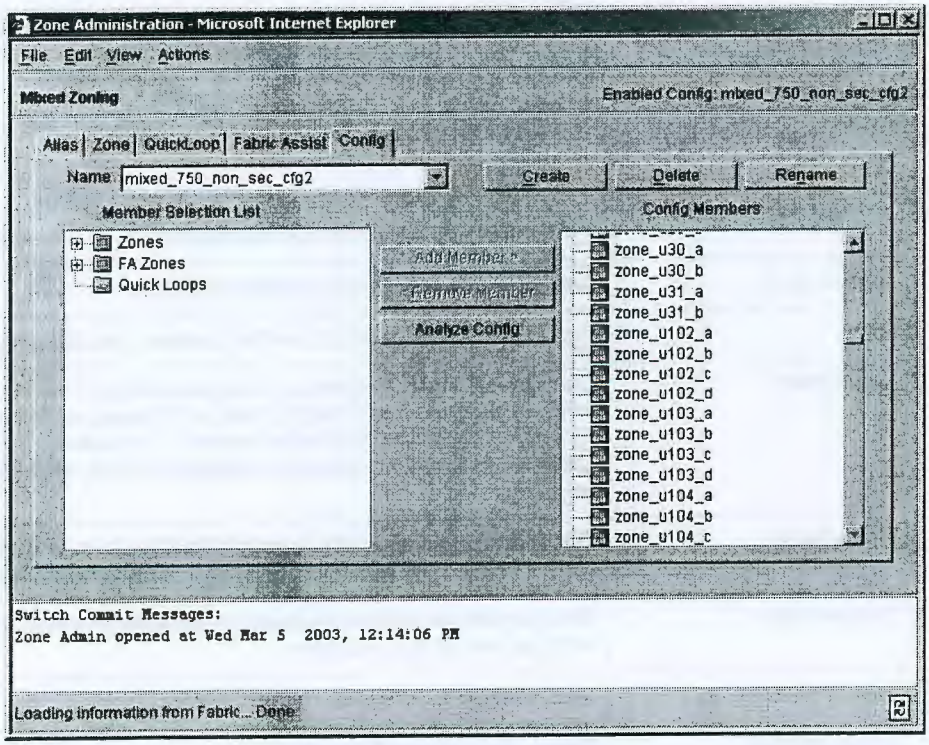


Figure 3-14 Config Tab in the Zone Administration Window

The **Config** tab fields are described in Table 3-10.

Table 3-10 Config Tab Field Descriptions

Field	Description
Zoning Method	This displays the method you have selected to add members to the Zoning database. Choose the Zoning method in the View menu. Valid options are: • Mixed Zoning • Port Zoning • WWN Zoning • AL_PA Zoning The Zoning method determines the information displayed in the Member Selection List.
Enabled Config	This field displays the currently enabled Configuration.
Name	Select an existing configuration from the drop-down menu to display or modify.
Create Button	Click to create a new configuration. A dialog box displays. Enter the name of the new configuration. The maximum length allowed is 64 characters. All configuration names must be unique and must consist of letters, numbers or the underscore character. Spaces or special characters are not allowed in configuration names, and a name cannot start with a number.
Delete Button	Click to delete the configuration selected in the Name drop-down menu. Deleting a configuration does not delete any of the elements contained in that configuration.
Rename Button	Click to rename the configuration selected in the Name drop-down menu. A dialog displays in which you can edit the Config name.
Member Selection List	Select available items from the Member Selection List.
Config Members	Displays the current config members.
Add Member Button	Click to add a member from the Member Selection List to the Config Members. You must select a member within Member Selection List for this button to become active. If the item you selected from the member selection list (or at least one of the items you selected) is already a member in the member list, the button is disabled.
Remove Member Button	Click to remove a member from the Config Members list. You must select a member within Config Members for this button to become active.
Analyze Config Button	Analyzes the configuration that is selected along with it's member zones. A report is created that lists: • SAN components (Ports, WWNs, and AL_PAs) that are not included in the configuration. • SAN components (Ports, WWNs, and AL_PAs) that are contained in the configuration but not in the fabric.
Message area	Displays zoning commit messages on the switch.
QuickHelp Status Bar	Appears at the bottom of the window. Displays information for the current window.

Creating a Configuration

To create a Configuration:

1. Click **View** on the Zone Administration window menu bar, and select a zoning scheme:
   - **Mixed Zoning**
   - **Port Zoning**
   - **WWN Zoning**
   - **AL_PA Zoning**

   The scheme you select determines how members appear in the Member Selection List window. Refer to *Using the View Menu* on page 3-17 for more information.
2. Select the **Config** tab.
3. Select **Create**.

   The **Create New Config** dialog box appears.
4. Enter a name for the new Config, and click **OK**.
5. Click on any plus (+) signs in the Member Selection List to view the nested elements.

   The choices available in the Member Selection List depend on the selection made in the **View** Menu.
6. Highlight an element in the Member Selection List that you want to include in your Config.

   The **Add Member** button becomes active.
7. Click **Add Member** or use *drag and drop* to add Config members. Selected members are moved to the Config Members window.
8. Repeat steps 5 through 7 to add more elements to your Config.
9. Select the **Actions**, **Save Config Only** option.

   The new Config appears in the Name drop-down list. To enable the configuration, refer to *Enabling a Configuration* on page 3-19.

Any changes made to the currently enabled configuration will not appear until the configuration is re-enabled.

Modifying the Members of a Config

To modify the members of a Config, perform the following steps:

1. On the Zone Administration window for the selected zoning scheme, select the **Config** tab.
2. From the **Name** drop-down menu, select the Config you want to modify.
3. Highlight an element in the Member Selection List that you want to include in your Config; or, highlight an element in the Config Members that you want to delete.
4. Click **Add Member** to add a Config member; or, click **Remove Member** to remove an Config member.

   You can make changes to a Configuration that is currently enabled; changes will not appear until the Configuration is disabled and re-enabled.

   ---

5. Select the **Actions, Save Config Only** option.

   The Configuration changes will be saved. Changes will not take effect until the Configuration is re-enabled.

   ---

6. To enable the configuration, refer to *Enabling a Configuration* on page 3-19.

Deleting a Config

To delete a config:

You cannot delete a currently enabled configuration.

---

1. On the Zone Administration window for the selected zoning scheme, select the **Config** tab.
2. From the **Name** drop-down menu, select the Config you want to delete.
3. Click **Delete**.

   The **Confirm Deleting Config** dialog opens.
4. Click **OK**.

   The selected Config is deleted from the Config database.

Renaming a Config

To rename a Config:

1. On the Zone Administration window for the selected zoning scheme, select the **Config** tab.
2. From the **Name** drop-down menu, select the Config you want to rename.
3. Click **Rename**.

   The **Rename a Config** dialog box appears.
4. Enter a new Config name, and click **OK**.

   The Config is renamed in the Config database.

   You can make changes to a Configuration that is currently enabled; changes will not appear until the Configuration is disabled and re-enabled.

   ---
5. Select the **Actions, Save Config Only** option.

   The Configuration changes will be saved. Changes will not take effect until the Configuration is re-enabled.

   ---
6. To enable the configuration, refer to *Enabling a Configuration* on page 3-19.

Creating a Configuration Analysis Report

To create a report:

1. On the Zone Administration window for the selected zoning scheme, select the **Config** tab.
2. From the **Name** drop-down menu, select the Config you want to be analyzed.
3. Click **Analyze Config**.

   An analysis window (shown in Figure 3-15) appears.

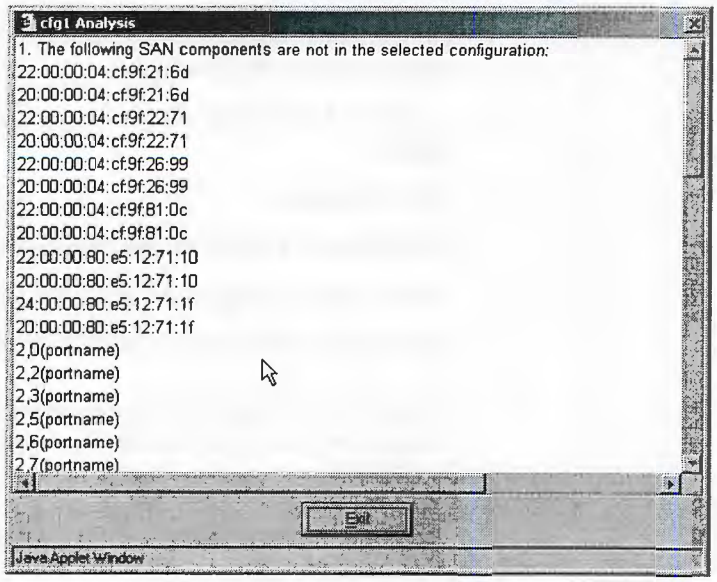


Figure 3-15 Analyze Config Report Example

4. View the configuration analysis. A report is created that lists:
   - SAN components (Ports, WWNs, and AL_PAs) that are not included in the configuration.
   - SAN components (Ports, WWNs, and AL_PAs) that are contained in the configuration but not in the fabric.

4

Switch View

This chapter describes the views and interfaces available through the Switch View of Web Tools.

Using the Switch View

The switch graphic is an interactive real-time display of the selected switch. The displays in Web Tools correspond to the front of the actual switch and its various switch and port LEDs.

Clicking a port displays a **Port Information** window, which contains functional and statistical information.

For the ED-12000B, the active CP is highlighted with an arrow at the bottom of the CP card display.

The Switch Explorer View (shown in Figure 4-1) is the first window that appears when you start Web Tools from a the web browser. In the browser, enter the switch name or IP address in the **Location/Address** field and press ENTER.

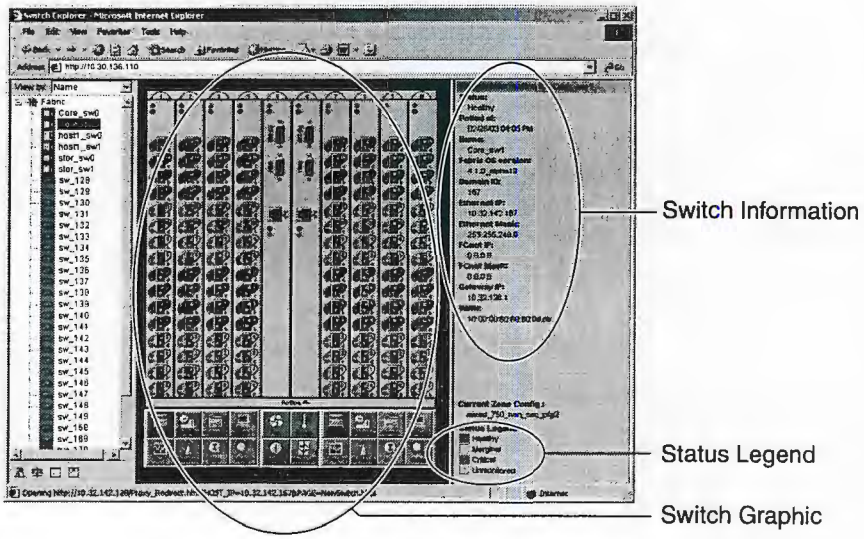


Figure 4-1 Switch Explorer View — ED-12000B Example

Port Icons

Figure 4-2 and Figure 4-3 show typical port icons on the switch graphic.

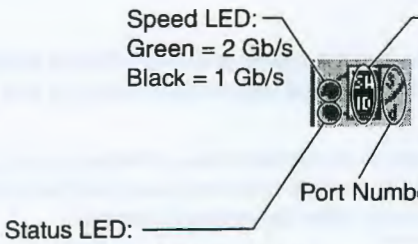


Figure 4-2 ED-12000B Port Icon

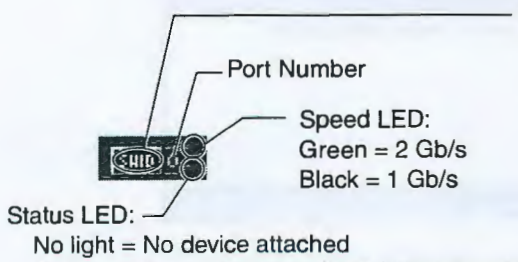


Figure 4-3 DS-32B2 Port Icon

Switch Graphic Toolbar

The buttons below the switch graphic enable you to access various configuration and monitoring functions for the switch. Some of these buttons may require a license key to activate. If the appropriate license key is not installed for a particular feature that button might not appear.

Status

Clicking the **Status** button opens a Switch Status window (Figure 4-4), which describes the overall status of the selected switch.

Switch status is stored as the variable `switchStatus`, and is calculated approximately once per second; however, the initial calculation does not occur until 30-60 seconds after the switch is booted.

The background color of the icon indicates the switch status:

- Green = Healthy
- Yellow = Marginal (mix of good and faulty readings)
- Red = Critical (more than two faulty readings)
- Gray = Unknown or unmonitored

If no data is available from a switch, the most recent background color remains displayed on the icon.

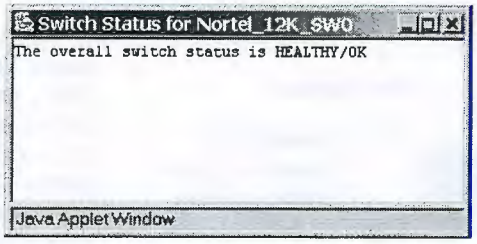


Figure 4-4 **Switch Status Window**

If the status changes while the Switch Status window is open, the information in the window also changes.

Events

Clicking the Events button displays the Switch Events log (Figure 4-5).

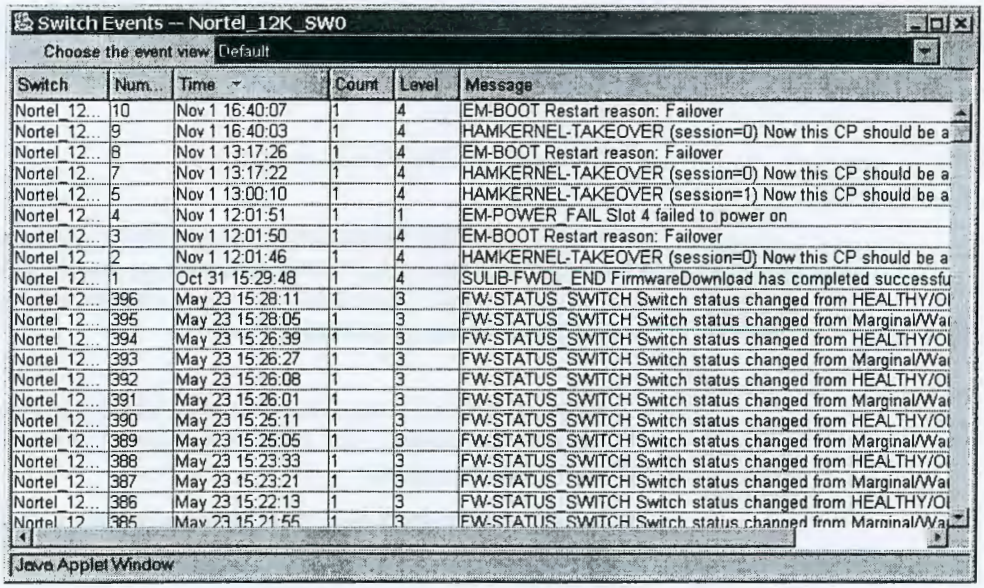


Figure 4-5 Switch Events Log

Contents of the display are:

- **Choose the Event View** — Select the type of event to display:
  - **Default** — Both active and persistent messages.
  - **Active** — Messages saved to RAM, these message are lost over a reboot or power-cycle.
  - **Persistent** — Messages saved to Flash; these messages are persistent and are saved over a reboot or power cycle.

  For more information on the Persistent Error Log feature refer to the *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS Procedures Manual*.
- **Switch** — Name of the switch, if one has been assigned.
- **Number** — Order of the event.
- **Time** — Date and time the event occurred.
- **Count** — Number of back-to-back occurrences of the same event.
- **Level** — Severity level of the event:
  - 0 = Panic (switch reboots)
  - 1 = Critical

- 2 = Error
- 3 = Warning
- 4 = Information
- 5 = Debug

- **Message** — Description of the event.

Admin

Clicking the **Admin** button and entering the correct password opens a **Switch Administration** window, which provides access to several administrative functions. Refer to *Administrative Interface* on page 4-36 for more information.

Telnet

Clicking the **Telnet** button launches the Fabric OS command line interface for the switch. You must have administrative privileges to access the Telnet option.

For information regarding controlling the switch through the Fabric OS command line, refer to:

- *Telnet Interface* on page 4-79
- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS Reference Manual*

Perf

Clicking the **Perf** button launches the Performance Monitor. Refer to *Performance Monitor* on page 4-24 for more information.

Beacon

Clicking the **Beacon** button toggles a beacon on the switch. If the beaconing function is on, this icon shows beams of light. The beaconing function helps to physically locate a switch by sending a signal to the specified switch, resulting in an LED light pattern flashing from side to side on the switch.

Info

Clicking the **Info** button opens a **Switch Information** window, which displays the following information about the switch:

- **WWN** — World Wide Name of the switch
- **Domain ID** — Domain ID of the switch (a unique number that identifies the switch to the fabric and is used in routing frames)
- **Role** — Principal or Subordinate (switch in the fabric)

- **State** — State of the switch: online or offline.
- **Firmware** — Version of firmware loaded on the switch
- **Manufacturer Serial #** — Manufacturer's serial number of the switch
- **Supplier Serial #** — Supplier's serial number of the switch, if applicable
- **Ether IP** — Ethernet IP address
- **Ether NM** — Ethernet mask
- **FC IP** — Fibre Channel IP address, if one exists
- **FC NM** — Fibre Channel Mask, if one exists
- **Gateway** — Gateway address of the switch
- **License ID**— License ID of the switch, required to get license keys for the switch

Watch

Clicking the **Watch** button launches the optional Fabric Watch function (if a Fabric Watch license is installed). Refer to *Fabric Watch* on page 4-11 for more information.

Fan

Clicking the **Fan** button displays a window listing the status of all fans.

The background color of the button indicates the overall status of the fans:

- Green = Healthy
- Yellow = Marginal (mix of good and faulty readings)
- Red = Critical (more than two faulty readings)
- Gray = Unknown or unmonitored

Temp

Clicking the **Temp** button displays a window listing the temperatures in the six slots.

The background color of the button indicates the overall temperature status:

- Green = Healthy
- Yellow = Marginal (mix of good and faulty readings)

- Red = Critical (more than two faulty readings)
- Gray = Unknown or unmonitored

Power

Clicking the **Power** button opens a window that identifies each power supply and shows its operational status.

The background color of the button indicates the overall status of the power:

- Green = Healthy.
- Yellow = Marginal (mix of good and faulty readings).
- Red = Down (more than two faulty readings).
- Gray = Unknown or unmonitored.

Hi Avail

Clicking the **Hi Avail** button and entering a name and password opens an **HA Admin** window (Figure 4-6).

Refer to *High Availability Aministration* on page 4-81 for more information on using this window.

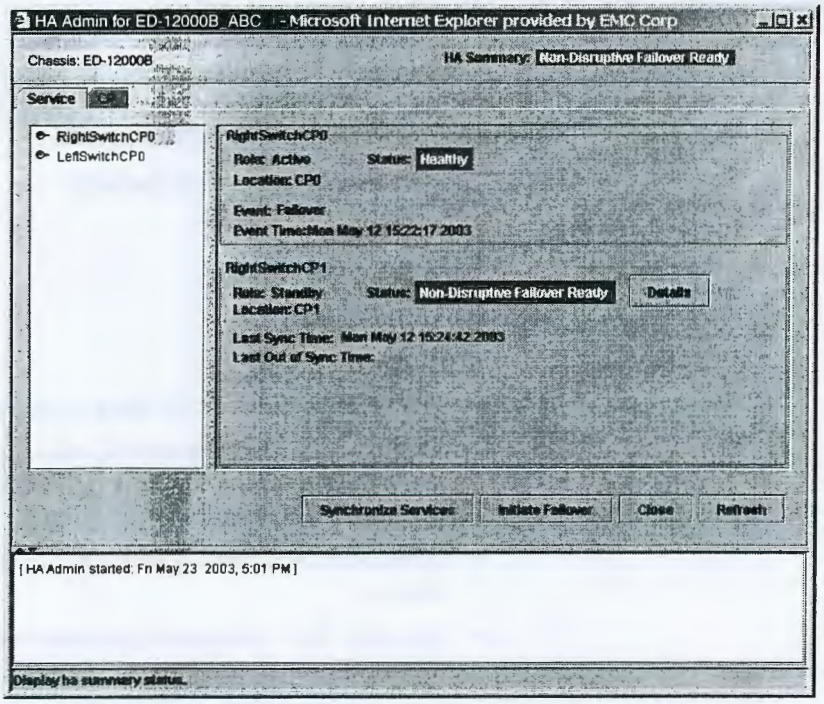


Figure 4-6 HA Admin Window

Understanding the Switch Information

The switch information area of the Switch Explorer View (shown in Figure 4-1 on page 4-2) is located to the right of an ED-12000B graphic and below a DS-32B2 graphic.

The displayed information includes:

- **Status**:
  - **Healthy**.
  - **Marginal**.
  - **Down**.
- **Polled at** — Time of the last successful status check.
- **Name** — Name of the switch, taken from the name configured on the **Switch Admin** tab. Refer to *About the Switch Information Tab* on page 4-37 for more information.
- **Fabric OS version** — Fabric OS version currently installed on the switch.
- **Domain ID** — Domain ID number that uniquely identifies the switch within the fabric.
- **Ethernet IP** — Ethernet IP address.
- **Ethernet Mask** — Ethernet subnetmask.
- **FCnet IP** — Fibre Channel IP address.
- **FCnet Mask** — Fibre Channel subnet mask.
- **Gateway IP** — Gateway IP address.
- **WWN** — World Wide Name, assigned by the switch manufacturer.

Fabric Watch

Fabric Watch is optional software that requires a license and administrative privileges.

Fabric Watch software monitors the performance and status of switches and can alert SAN administrators when problems arise. The real-time alerts from Fabric Watch software help SAN administrators solve problems before they become costly failures.

The Fabric Watch icon appears in Web Tools only when a Fabric Watch license is installed on the switch. SAN managers can configure Fabric Watch software to monitor any of the following:

- Fabric events (such as topology reconfigurations and zone changes)
- Physical switch conditions (such as fan speeds, power supply status, and chassis temperature)
- Port behavior and availability (such as state changes, errors, and performance)
- Small form factor pluggables (SFPs)
- Security events (violations and attempted violations)

For detailed information about Fabric Watch, refer to the *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric Watch Reference Manual*.

Accessing Fabric Watch

To access Fabric Watch:

1. Launch Web Tools.
2. Select a switch icon from the Fabric Tree at the left of the Switch Explorer window.
3. Select the **Watch** button (Figure 4-7) below the switch graphic.

Figure 4-7 Fabric Watch Button

4. If prompted, enter an administrative user name and password.

The Fabric Watch View appears, with the **Alarm Notification** tab (described in the following section) selected by default.

Default vs. Custom

Fabric Watch includes default threshold values that you cannot change. Instead, you can configure custom values, then configure Fabric Watch to use those values.

After you configure custom values, you must configure Fabric Watch to run current values, or your settings will not apply.

Fabric Watch Navigation Tree

The Fabric Watch navigation tree displays the classes of elements that you can configure with Web Tools. Click a class to see the appropriate area and element information in the various tabs in the Fabric Watch window. Figure 4-8 shows the Fabric Watch navigation tree.

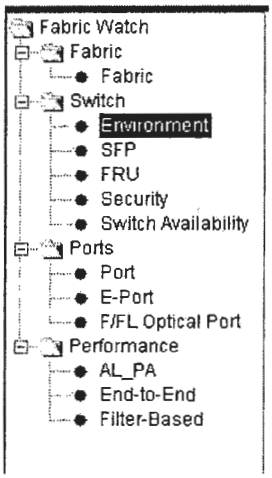


Figure 4-8 Fabric Watch Navigation Tree

Alarm Notification Tab

Use the Alarm Notifications tab of the Fabric Watch software to view the information for all elements of the Fabric, Switch, Ports, or Performance Monitor classes.

The Alarm Notification tab polls current events from fabric watch and refreshes the displayed information according to the threshold configuration.

Figure 4-9 is an example of the Alarm Notification tab.

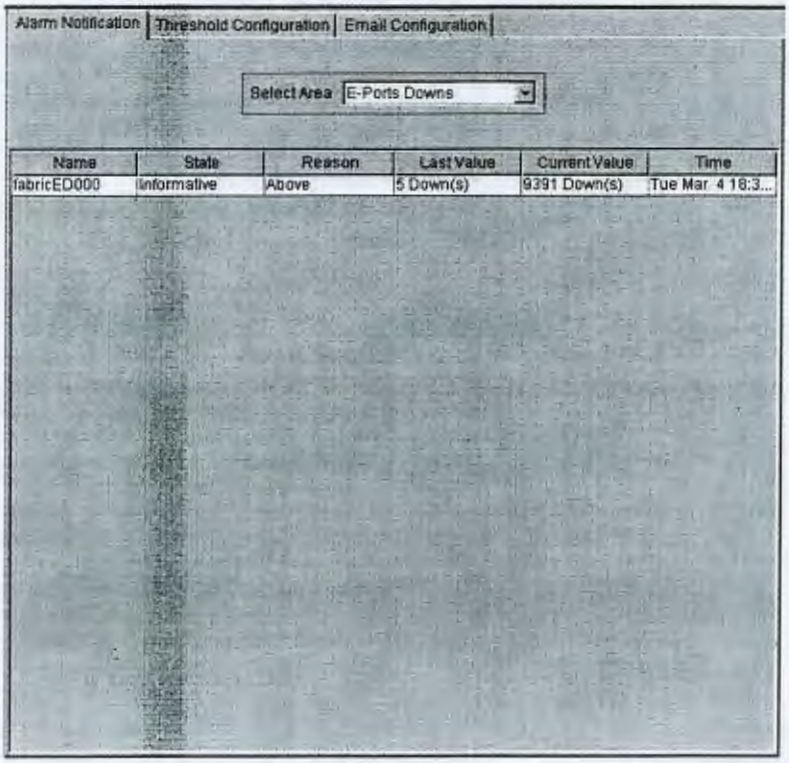


Figure 4-9 Alarm Notification Tab of Fabric Watch

Table 4-1 describes the Alarm Notification fields.

Table 4-1 Alarm Notification Field Descriptions

Field	Description
Selected Area	Displays the configurable areas in the drop-down menu. The items listed will change depending on the item selected in the Navigation tree.
Name	Displays the name of the alarm. The name of the alarm is a combination of the fabric element whose behavior set off the alarm: • Class • Area • Index number
State	Displays the severity of the alarm that governs what kind of traps Fabric Watch employs a response to an event. The State of the alarm can be Informative, Normal, or Faulty.
Reason	Displays the reason that an alarm notification was sent, such as Started, Changed, Exceeded, Below, Above, or In between.
Last Value	Displays the value of a counter (behavior variable) prior to the alarm.
Current Value	Displays the value of the counter (behavior variable) that set off the alarms.
Time	Displays the time and date the notification was sent from the switch.

Threshold Configuration Tab

Use the Threshold Configuration tab to view and configure Fabric Watch thresholds for the Fabric Watch class that you select in the Fabric Watch navigation tree.

Figure 4-10 shows the Area Configuration tab of the Threshold Configuration tab.

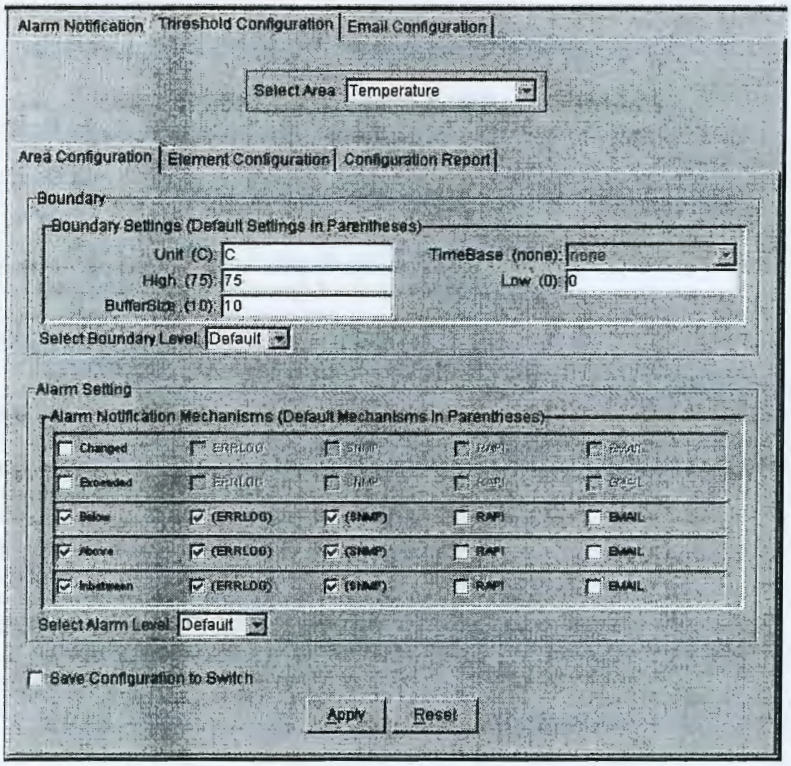


Figure 4-10 **Threshold Configuration Area Configuration Tab**

Table 4-2 lists and describes the components of the Threshold Configuration tab.

Table 4-2 **Threshold Configuration Tab Components**

Component	Description
Select Area pulldown menu	Lists the areas of thresholds that you can configure. The areas that appear in the pulldown menu depend on the class that you select from the Fabric Watch navigation tree.
Area Configuration tab	Provides fields to configure Fabric Watch threshold boundaries and alarms. For more information, refer to *Area Configuration Tab* on page 4-16.
Element Configuration tab	Provides fields to configure Fabric Watch threshold traits. For more information, refer to *Element Configuration Tab* on page 4-17.
Configuration Report tab	Displays the Fabric Watch settings for the class that you select from the Fabric Watch navigation tree. For more information, refer to *Configuration Report Tab* on page 4-18.

Area Configuration Tab

Table 4-3 lists and describes the components of the Area Configuration tab.

Table 4-3 Area Configuration Components

Component	Description
Boundary Partition	
Unit field	Set or display the selected unit values used for the chosen area. Depending on the area of interest, this is figured in units of "downs, reconfigs, errors, changes, logins", etc.
High field	Set or display the number of high boundaries (the highest limit at which an element will not trigger an event) for the selected area.
BufferSize field	Set or display the threshold boundary buffer size of the selected area.
TimeBase pulldown menu	Set or display the basic unit of time in which events are recorded for the selected area. The units available from the pulldown menu are: none, second, minute, hour, or day.
Low field	Set or display the number of low boundaries (the lowest limit at which an element will not trigger an event) for the selected area.
Select Boundary Level pulldown menu	Select either a default or custom setting for the boundary levels from the pulldown menu. The default values are shown in parenthesis.
Alarm Setting Partition	
Alarm Notification Mechanisms checkboxes.	Select Alarm settings for Errorlog, SNMP, RAN, Portlog and Email to be active on the switch side.
Select Alarm Level pulldown menu	Select either a custom or default setting for the alarm level from the pulldown; this setting will be active on the switch side menu.

Element Configuration Tab

Table 4-4 lists and describes the components of the Element Configuration tab.

Table 4-4 Element Configuration Tab Components

Component	Description
Select Element pulldown menu	Use the pulldown menu to chose a specific element to configure.
Status Partition	
Enable radio button	Select the radio button to enable alarms.
Disable radio button	Select the radio button to disable alarms.
Behavior Type Partition	
Triggered radio button	Select the Triggered Behavior mode if you want Fabric Watch to register an event when a variable exceeds a threshold. An event will not be triggered again until the variable falls and exceeds the threshold again.
Continuous radio button	Select Continuous mode if you want Fabric Watch to register an event when a variable exceeds a threshold and continue to register an event for every time interval.
Time Interval Partition	
Time Interval (in secs) pulldown menu	Select the amount of time (in seconds) that you want Fabric Watch to poll for a new event.

Configuration Report Tab

Table 4-5 describes the contents of the Configuration Report tab.

Table 4-5 Threshold Configuration Report Component Descriptions

Component	Description
Configuration for Class	Describes the class that is being reported. The item selected in the Navigation tree appears here.
Begin Area	Describes the current settings configured for the selected area.
Begin Element	Describes the current settings configured for the selected area.
Changed	Displays thresholds that have changed.
Exceeded	Displays thresholds that have been exceeded.
Below	Displays thresholds that have fallen below the configured level.
Above	Displays thresholds that have risen above the configured levels.
In between	Displays thresholds that have are in within the configured level.

Email Configuration Tab

Use the Email Configuration tab to enable and configure Email alarm notifications. A different Email Configuration can be set for each Class. For example, one Email notification can be set for SFPs and another can be set for E-Ports (see the navigation tree).

Figure 4-11 is an example of the Email Configuration tab.

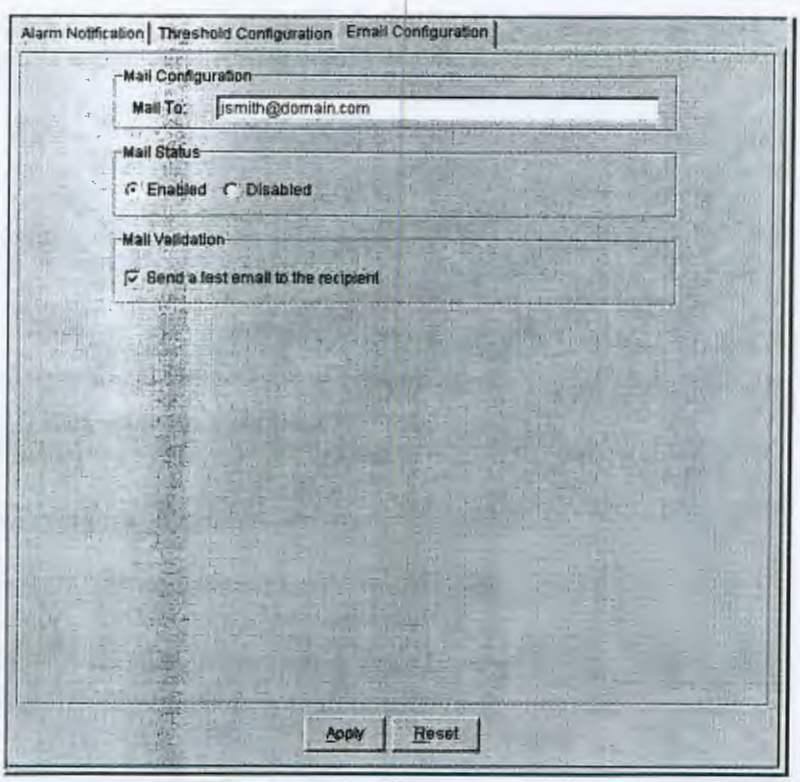


Figure 4-11 **Email Configuration Tab**

Table 4-6 describes the Fabric Watch Email Configuration fields.

Table 4-6 **Email Configuration Field Descriptions**

Field	Description
Mail Configuration	
Mail To:	Enter a valid mail recipient email address.
Mail Status	
Enabled/Disabled	Select the Enabled or Disabled radio button to enable or disable email alarm notifications.
Mail Validation	
Send a test email to the recipient	Check this box to send a validation email.

Using Fabric Watch

To customize Fabric Watch, you must assign custom settings and configure Fabric Watch to use those settings. Fabric Watch lets you monitor:

1. If a value changes.
2. If a value exceeds a limit.
3. If a value exceeds an acceptable range.

To use Fabric Watch, you must:

- Access Fabric Watch.
- Choose elements that you want to monitor.
- Place limits on the acceptable values of those elements and enable the custom limits (configure threshold boundaries).

  This procedure only applies to preceding items 2 and 3.

- Choose if and how Fabric Watch alerts you to errant values and enable your choices (configure alarms).
- Choose if and how frequently Fabric Watch identifies unacceptable values (configure threshold traits).

Configuring Boundary and Alarm Settings

To configure threshold boundaries and alarms, perform the following steps:

1. Access Fabric Watch (refer to *Accessing Fabric Watch* on page 4-11).
2. In the Fabric Watch navigation tree, click the class that you want configure.
3. Click the Threshold Configuration tab.
4. Click the Area Configuration subtab.
5. From the **Select Area** pulldown menu, select the area that you want to configure.
6. Enter custom values in the trait fields (such as Unit, High, and Low) in the Boundary Settings (Default Settings in Parentheses) partition.
7. From the **Select Boundary Level** pulldown menu in the Boundary partition, select **Custom**.

8. In the Alarm Notification Mechanisms (Default Mechanisms in Parentheses) partition, check the events that you want to trigger an alarm. You can choose from the following events:
   - Changed
   - Exceeded
   - Below
   - Above
   - In-Between

   After you click an event, you can select alarms to notify you when the event occurs.
9. Check the checkbox of each alarm that you want to associate with the event(s) that you checked.
10. From the **Select Alarm Level** pulldown menu in the Alarm Setting partition, select **Custom**.
11. Click Apply.

Configuring Your Switch to Run E-mail Alert

To set up the e-mail notification recipient's DNS Server and Domain name:

1. In the Switch Explorer window, click the **Admin** icon.
2. Click the Switch Information tab.
3. In the Email Configuration partition of the Switch Admin window, enter your primary domain name server IP address in the DNS Server 1 field.
4. Enter your secondary Domain Name Server IP address in the DNS Server 2 field.
5. Enter the domain name in the Domain Name field.

Configuring E-Mail Alert Recipients

To configure the Email Alert alarm, perform the following steps:

1. Access Fabric Watch (refer to *Accessing Fabric Watch* on page 4-11).
2. From the Fabric Watch navigation tree, select a class.
3. Click the Email Configuration tab.
4. In the **Mail To:** field, enter the email address of the administrator who receives email alerts.
5. In the Mail Status partition, click the **Enabled** radio button, then click the **Apply** button.

Configuring Threshold Traits

Configure threshold traits to designate if and when Fabric Watch monitors an element.

Enable/Disable Thresholds

Perform the following steps to enable or disable alarms:

1. Access Fabric Watch (refer to *Accessing Fabric Watch* on page 4-11).
2. In the Fabric Watch navigation tree, click the class with the alarms that you want to enable or disable.
3. Click the Threshold Configuration tab.
4. From the **Select Area** pulldown menu, select the area with the alarms that you want to enable or disable.
5. Click the Element Configuration subtab.
6. From the **Select Element** pulldown menu, select the element that you want to enable or disable.
7. In the Status partition, click the **Enabled** or **Disabled** radio button.
8. Click **Apply**. Web Tools enables or disable the element.

Configure Behavior

To configure threshold behavior, perform the following steps:

1. Access Fabric Watch (refer to *Accessing Fabric Watch* on page 4-11).
2. In the Fabric Watch navigation tree, click the class that you want to configure to a different behavior.
3. Click the Threshold Configuration tab.
4. From the **Select Area** pulldown menu, select the area that you want to configure to a different behavior.
5. Click the Element Configuration subtab.
6. From the **Select Element** pulldown menu, select the element that you want to configure to a different behavior.
7. Click the **Triggered** radio button to configure triggered behavior or click the **Continuous** radio button to configure continuous behavior.

If you click the **Continuous** radio button, enter a time interval in the **Time Interval** pulldown menu, or select an interval from the pulldown menu.

---

8. Click Apply.

Viewing an Alarm Configuration Report

To view an alarm configuration report, perform the following steps:

1. Access Fabric Watch (refer to *Accessing Fabric Watch* on page 4-11).
2. Select the Threshold Configuration tab.
3. Select the Configuration Report subtab.
4. Select a previously configured element from the navigation tree (refer to *Configuring Boundary and Alarm Settings* on page 4-20).
5. Select the alarm area report to be viewed from the **Area** drop-down menu.
6. Select the Configuration Report sub tab.

Viewing Alarms

To view alarms, perform the following steps:

1. Access Fabric Watch (refer to *Accessing Fabric Watch* on page 4-11).
2. In the Fabric Watch navigation tree, click the class that you want to check for alarms.
3. Click the Alarm Notification tab.
4. From the **Select Area** pulldown menu, select the area that you want to check for alarms. All alarms for that area appear. For troubleshooting responses to alarms, refer to the Fabric Watch documentation for your firmware.

Performance Monitor

The Performance Monitor graphically displays throughput (megabytes per second) for each port and for the entire switch. Port throughput is the number of bytes received at a port plus the number of bytes transmitted. Switch throughput is the sum of the throughput for all the ports. Performance Monitoring also allows the graphing of traffic based on the Source ID and the Destination ID hardware filtering mechanism.

Performance Monitoring features require a license. For more information about the Performance Monitor, see the *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Performance Monitoring User Guide.*

Accessing the Performance Monitor

To access the Performance Monitor:

1. Launch Web Tools, displaying the Switch Explorer.
2. Select the desired switch from the Fabric Tree.

   The Switch View of that switch appears.
3. Click the **Performance** button (Figure 4-12) below the switch graphic.

Figure 4-12 Performance Button

The Performance Monitor appears, as shown in Figure 4-13.

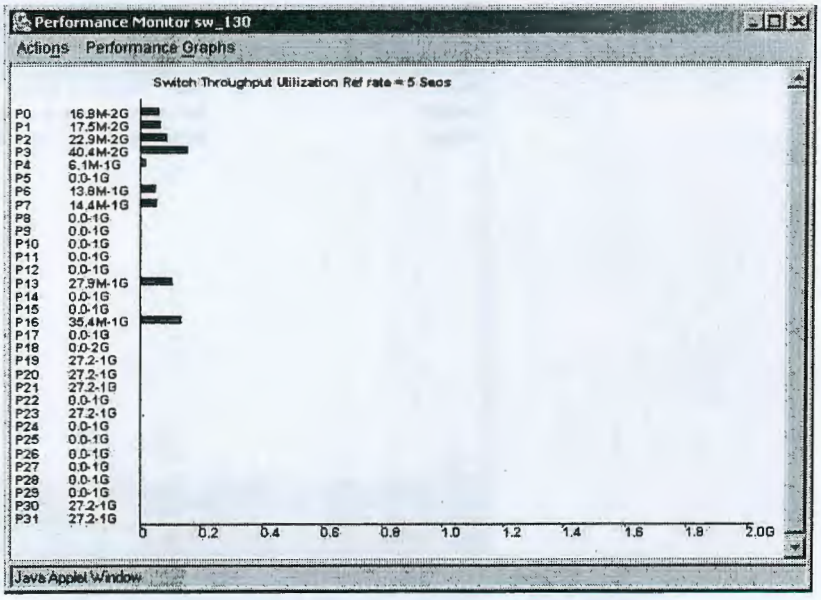


Figure 4-13 **Performance Monitor**

About the Actions Menu

Use the Actions Menu to access the following options:

- Save Current Canvas Configuration
- Display Canvas Configurations
- Display Resource Usage (This option requires a Performance Monitor license)
- Print All Graphs (on a selected canvas)

Display Canvas Configurations Example

An example of the Display Canvas Configurations window is shown in Figure 4-14.

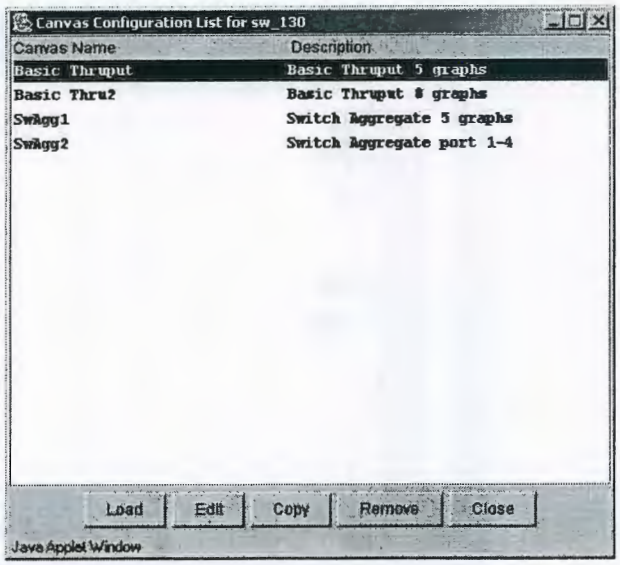


Figure 4-14 **Display Canvas Configuration Example**

Display Canvas Configuration Descriptions

The Display Canvas Configuration Field Descriptions are listed in Table 4-7.

Table 4-7 **Display Canvas Configuration**

Field	Description
Canvas Name	Displays the name of the saved canvas configuration.
Description	Displays the saved description of the canvas.
Load	Select a canvas name from the list, and click the load button to load that canvas.
Edit	Select to edit the highlighted canvas configuration. A dialog box appears, containing the following options: • **Save** - Saves a selected canvas. • **Edit** - Change specifications of a selected graph. • **Add** - Add a graph to a canvas. • **Remove** - Remove a graph from the main canvas. • **Cancel** - Closes the Edit Canvas window.

Table 4-7 Display Canvas Configuration (continued)

Field	Description
Copy	Use to make a copy of a selected canvas and save it to the switch. The copied canvas appears in the list of canvases.
Remove	Use this button to remove a selected canvas from the switch.
Close	Use this button to close this dialog box.

Save Canvas Configuration Example

An example of the Save Canvas Configuration option is shown in Figure 4-15.

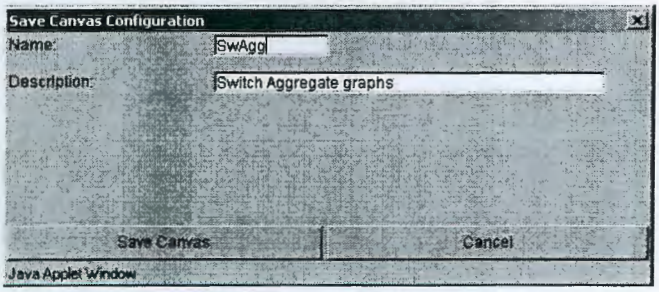


Figure 4-15 Save Canvas Configuration Example

Save Canvas Configuration Descriptions

The Save Canvas Configuration options are displayed in Table 4-8.

Table 4-8 Save Canvas Configuration Descriptions

Field	Description
Name	Enter a name of the canvas to be saved.
Description	Enter a description that will help you remember the information on the canvas.
Save Canvas	Select to save the canvas after entering name and description.
Cancel	Select to exit the Save Canvas Configuration window without saving changes.

Display Resource Usage Example

An example of the Display Resource Usage window is shown in Figure 4-14.

This screen requires a Performance Monitor License to display.

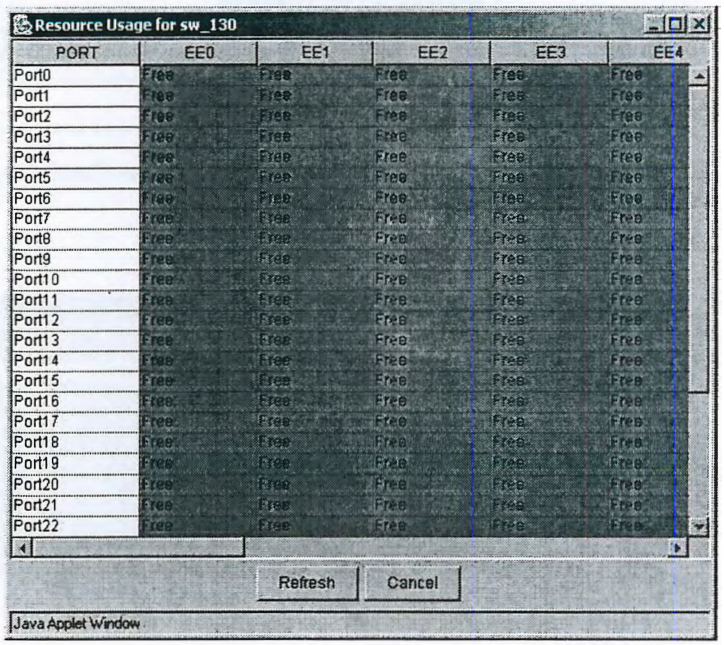


Figure 4-16 Display Resource Usage Example

Display Resource Usage Descriptions

The Display Resource Usage Field Descriptions are listed in Table 4-7.

Table 4-9 Display Resource Usage

Field	Description
Port	This column displays all the ports available for monitoring in the switch.
EE 0-7	Displays the number of End to End Monitors are configured for a particular port. Each port can have a maximum of 8 monitors.
FL24-31	Displays the number of Filter Monitors are configured for a particular port. Each port can have a maximum of 8 monitors.

Print All Graphs

Use the Print All Graphs option in the Actions menu to print all the graphs displayed on the selected canvas configuration. Only one canvas configuration can be opened at a time. Each Canvas Configuration can have a total of eight monitors.

Using the Actions Menu

This section describes using the Actions menu.

Adding a Graph to a Canvas

To add a graph:

1. Access the Performance Monitor functionality. Refer to *Accessing the Performance Monitor* on page 4-24 for more information.
2. Select **Actions, Display Canvas Configurations**.

   The Canvas Configuration List appears. A message `No Canvas configuration to display` will pop up if there are no saved canvas configurations.
3. Highlight the desired canvas in the list.
4. Click **Edit**.

   The Edit Canvas dialog box appears.
5. Click **Add**. A list of graphs will appear and you can click to add a graph to the canvas.

Changing an Existing Graph

To change a graph:

1. Access the Performance Monitor functionality. Refer to *Accessing the Performance Monitor* on page 4-24 for more information.
2. Select **Actions, Display Canvas Configurations**.

   The Canvas Configuration List appears (refer to the example: *Creating a Port Throughput Graph* on page 4-32 if a graph has not yet been created).
3. Select the desired canvas from the list.
4. Click **Edit**.

   The **Edit Graph** dialog box appears.
5. Select the desired graph from the list and click **Edit**. The **Edit** button will only be enabled for the graphs that are configurable or editable.

6. Click **Save** to save the changes and close the **Edit Canvas** dialog box.
7. Click **Cancel** to close the Canvas list window.

Printing Graphs

To print a graph:

1. Access the Performance Monitor functionality. Refer to *Accessing the Performance Monitor* on page 4-24 for more information.
2. Select **Actions, Display Canvas Configurations**.

   The Canvas Configuration List appears (refer to the example: *Creating a Port Throughput Graph* on page 4-32 if a graph has not yet been created).
3. Select the desired graph from the list.
4. Click the **Load Canvas** button.

   The graph appears on the canvas.
5. Repeat to add more graphs to the canvas (add up to 8 graphs).
6. Select the **Actions, Print All Graphs** option.

   The print dialog box appears.
7. Click **Ok**.

About Performance Graphs

The Performance Graphs drop-down menu consists of the following submenus:

- *About Basic Monitoring*
- *About Advanced Monitoring* on page 4-33

About Basic Monitoring

The **Performance Graphs, Basic Monitoring** menu provides the following type of graphs:

- Port Throughput Graph
- Switch Aggregate Throughput Graph
- Blade Aggregate Throughput Graph (ED-12000B Only)
- Switch Throughput Utilization Graph
- Port Error Graph
- Switch Percent Utilization Graph
- Ports SnapShot Error Graph

Basic Monitoring Example

An example of a **Port Throughput Setup** window is shown in Figure 4-17.

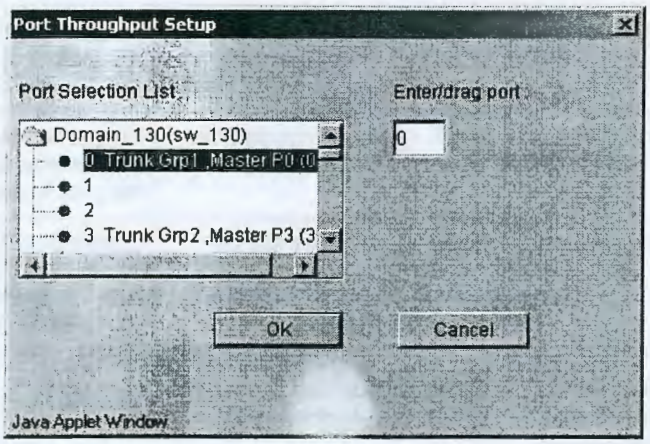


Figure 4-17 Port Throughput Setup Example on a DS-32B2

Basic Monitoring Descriptions

The Basic Monitoring options are described in Table 4-10.

Table 4-10 Basic Monitoring Graph Descriptions

Name of Basic Monitoring Graph	Scope of Graph	Graph Type	Graph Description
Port Throughput Graph	Port	Line	Displays the performance of a port based on four-byte frames received and transmitted. The snapshot rate for this graph is every 15 seconds with a 60 minute lifespan for each snapshot.
Switch Aggregate Throughput Graph	Switch	Line	Displays the aggregate performance of all ports of a switch. The snapshot rate for this graph is every 15 seconds with a 60 minute lifespan for each snapshot.
Blade Aggregate Throughput Graph	Switch	Line	Displays the aggregate performance of all blades of a switch. The snapshot rate for this graph is every 15 seconds with a 60 minute lifespan for each snapshot. Available for the ED-12000B Only.
Switch Throughput Utilization Graph	Switch	Horizontal Bar	Displays the port throughput at the time the sample is taken. The snapshot rate for this graph is every 5 seconds.

Table 4-10 Basic Monitoring Graph Descriptions (continued)

Name of Basic Monitoring Graph	Scope of Graph	Graph Type	Graph Description
Port Error Graph	Port	Line	Displays the CRC error rate over time for a given port. The snapshot rate for this graph is every 15 seconds with a 60 minute lifespan for each snapshot.
Switch Percent Utilization Graph	Switch	Horizontal Bar	Displays the percentage of usage of a chosen switch at the time the sample is taken. The snapshot rate for this graph is every 5 seconds.
Ports SnapShot Error Graph	Switch	Vertical Bar	Displays the CRC error rate between sampling periods for all the ports on a switch. The snapshot rate for this graph is every 15 seconds with a 60 minute lifespan for each snapshot.

Using Basic Performance Monitoring

Creating a Port Throughput Graph

1. Access the Performance Monitor functionality. Refer to *Accessing the Performance Monitor* on page 4-24 for more information.
2. Select the **Performance Graphs** drop-down menu.
3. Select **Performance Graphs, Basic Monitoring**.
4. Select the Port Throughput Graph.
5. The Port Throughput setup window is displayed.
6. Double-click on a switch folder to see available ports.
7. Type or click and drag the selected port number from the Port Selection list to the Enter/Drag Port window.
8. Click **Ok**.

Creating a Snapshot of Port Errors

1. Access the Performance Monitor functionality. Refer to *Accessing the Performance Monitor* on page 4-24 for more information.
2. Select the **Performance Graphs** drop-down menu.
3. Select **Performance Graphs, Basic Monitoring**.
4. Select **Port Snapshot Errors**.

   The Port Snapshot errors graph is displayed on the canvas.
5. Select **Actions, Save Current Canvas Configuration** to save the graphs on the canvas.

About Advanced Monitoring

The (optional) Advanced Monitoring menu provides the following graphs:

- SID/DID Performance Graph
- SCSI Commands Graph
- SCSI vs. IP Graph
- AL_PA Error Graph

Advanced Monitoring Example

An example of the **SCSI Write on a LUN Per Port Setup** window is shown in Figure 4-18.

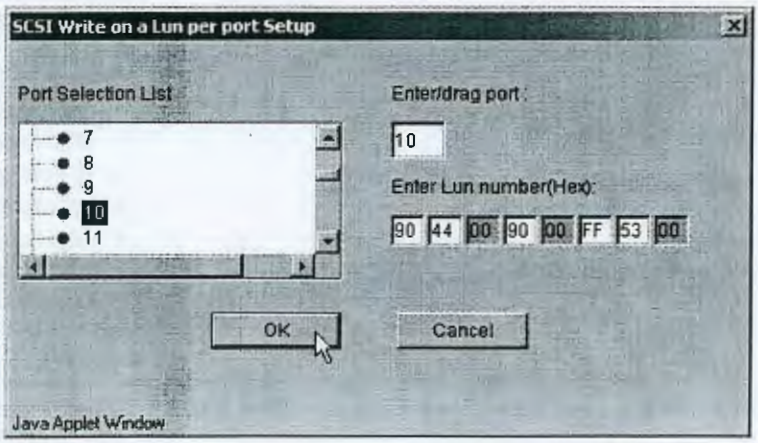


Figure 4-18 SCSI Write on a LUN Per Port Setup Example on a DS-32B2

Only 2 out of 8 fields can be set for LUN masks.

Advanced Monitoring Descriptions

The Advanced Monitoring graphs are described in Table 4-11.

Table 4-11 Advanced Monitor Graph Descriptions

Name of Advanced Monitoring Graph	Scope of Graph	Graph Type	Graph Description
SID/DID Performance Graph	Switch	Line	Charts the traffic between a SID and a DID pair on the switch being managed. The snapshot rate for this graph is every 15 seconds with a 60 minute lifespan for each snapshot. See *Creating a SID/DID Performance Graph* on page 4-35.
SCSI Commands Graph	Switch	Line	Displays the total number of Read/Write commands per second on a given port to a specific LUN. Provides the following choices: • SCSI Read/Write on a LUN per port. • SCSI Read on a LUN per port. • SCSI Write on a LUN per port. • SCSI Read/Write per port. • SCSI Read per port. • SCSI Write per port. The snapshot rate for this graph is every 15 seconds with a 60 minute lifespan for each snapshot.
SCSI vs IP Graph	Switch	Vertical Bar	Shows percentage of SCSI vs. IP frame traffic on each individual port. See *Creating a SCSI vs. IP Traffic Graph* on page 4-35. The snapshot rate for this graph is every 5 seconds.
AL_PA Error Graph	Switch	Line	Displays the CRC error rate over time for a given port and a given AL_PA. The snapshot rate for this graph is every 15 seconds with a 60 minute lifespan for each snapshot.

Using Advanced Performance Monitor

Creating a SID/DID Performance Graph

To create a SID/DID performance graph:

1. Access the Performance Monitor functionality. Refer to *Accessing the Performance Monitor* on page 4-24 for more information.
2. Select the **Performance Graphs** drop-down menu.
3. Select **Performance Graphs, Advanced Monitoring**.
4. Select **SID/DID Performance Graph**.

   The **SID/DID Performance Monitor** setup window appears.
5. Double-click on a folder in the Port Selection List window.

   A drop-down list of ports appear.
6. Type or drag/drop the port that you want to monitor or change.
7. Type or drag/drop the SID/DID that you want to monitor or change.
8. Click **OK**.

Creating a SCSI vs. IP Traffic Graph

To create a SCSI vs. IP Traffic graph:

1. Access the Performance Monitor functionality. Refer to *Accessing the Performance Monitor* on page 4-24 for more information.
2. Select the **Performance Graphs** drop-down menu.
3. Select **Performance Graphs, Advanced Monitoring**.
4. Select **SCSI vs IP Traffic**.

Administrative Interface

The Administrative Interface provides access to the administrative functions though the following tabs:

- Switch Information tab
- Network Config tab
- Upload/Download tab
- SNMP Admin tab
- License Admin tab
- Port Settings tab
- Configure tab
- Routing tab
- Extended Fabric tab
- Trunk Information tab

The Administrative Interface requires administrative privileges. Once an administrative login is entered, administrative privileges remain available until the Web browser is exited.

Accessing the Administrative Interface

To access the Administrative Interface:

1. Launch Web Tools.
2. Select a Switch icon from the Fabric Tree of the Switch Explorer.

   The selected switch appears in the Switch view.
3. Click the **Admin** icon (Figure 4-19) beneath the switch graphic.

Figure 4-19 Admin Icon

   The login dialog box appears.
4. Enter the admin user name and password.
5. Select the desired tab.

For reference information on the specific tabs, refer to the remainder of this chapter.

About the Switch Information Tab

Use the Switch Information tab to manage basic switch setup for items such as switch name, switch domain ID and enabling and disabling the switch. For additional Switch Setting information, refer to *Using the Network Config Tab* on page 4-42.

Switch Information Tab Example

An example of the Switch Information tab is shown in Figure 4-20.

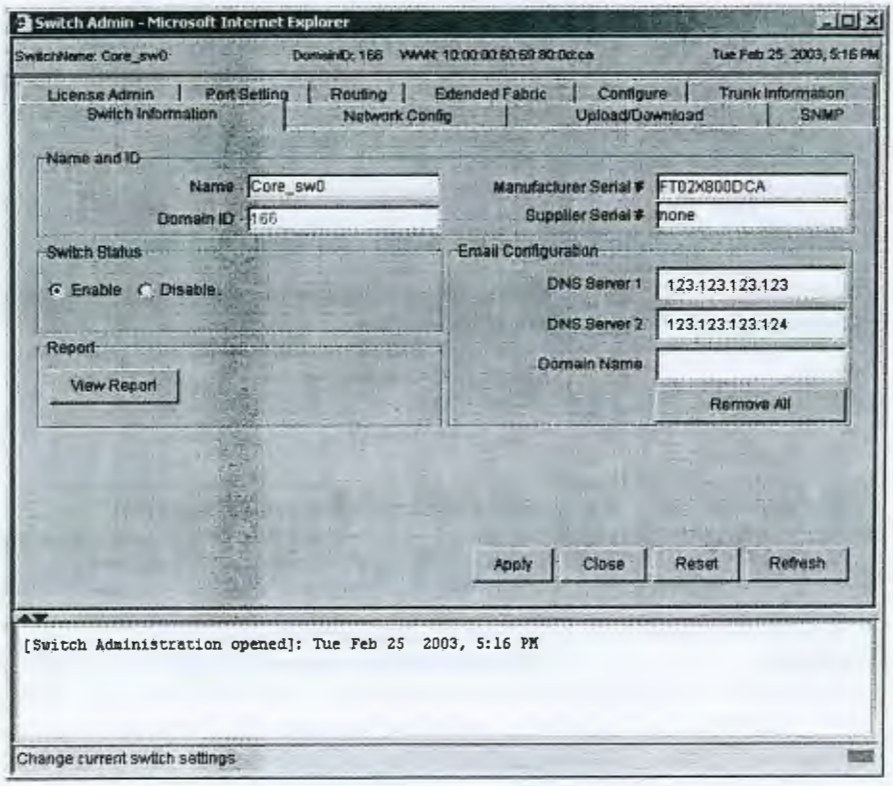


Figure 4-20 Switch Information Tab of the Switch Admin Window

Switch Information Field Descriptions

The Switch Information fields are described in Table 4-12.

Table 4-12 Switch Information Field Descriptions

Field	Description
Name and ID	
Name	Display or modify the current switch name. The switch name can be from 1 to 15 characters in length.
Domain ID	Displays or sets switch domain ID. Domain IDs must be unique within a fabric. Domain ID can only be modified when the switch is disabled. The switch must be disabled to change domainID. To change domain ID, enter new domain ID in this field. Use a number from 1 to 239 for normal operating mode (FCSW compatible) Use a number from 0 to 31 for VC encoded address format mode. Use a number from 97 - 127 for Interop mode.
Manufacturers Serial #	Displays the Manufacturers serial number of the switch (Read only).
Supplier Serial #	Displays the Supplier serial number of the switch, if applicable (Read only).
Switch Status Enable / Disable	Select the Enable radio button to enable the switch, or the Disable radio button to disable the switch.
Report View Report	Click this button to view a report of the selected switch.
Email Configuration	
DNS Server 1	Display or modify the first DNS Server IP address.
DNS Server 2	Display or modify the second DNS Server IP address.
Domain Name	Display or modify the Domain name of the DNS Server.
Remove All	Delete all information configured for Domain name and DNS Servers.

Using the Switch Information Tab

This section describes the functions available on the Switch Information tab.

Enabling/Disabling a Switch

To enable or disable a switch:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Switch Information tab.
4. Select the **(Switch Status) Enable** radio button to enable the switch;
   or, select the **(Switch Status) Disable** radio button to disable the switch.
5. Click **Apply**.

Viewing/Printing a Switch Report

To view or print a report:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Switch Information tab.
4. Click **View Report**.

   A switch report appears.
5. View or print the report using your browser or the **Print Screen** option of your computer.

About the Network Config Tab

Use the Network Config tab of the Administrative interface to manage the IP networking functionality of the switch.

For more detailed information regarding network configuration, refer to the *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS Procedures Manual* or **configure** command in the *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS Reference Manual*.

Syslog IP

The Syslog IP represents the IP address of the server that is running the syslog process. The Syslog daemon reads and forwards system messages to the appropriate log files and/or users, depending on the system configuration. When one or more IP addresses are configured,

the switch forwards all error log entries to the syslog on the specified server(s). Up to six servers are supported. Refer to the *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS Procedures Manual* for more information on configuring the syslog daemon.

Switch Identification

If both the Fibre Channel IP and Ethernet IP are present, the switch is identified by the Fibre Channel IP.

Network Config Tab Example

An example of the Network Config tab is shown in Figure 4-21.

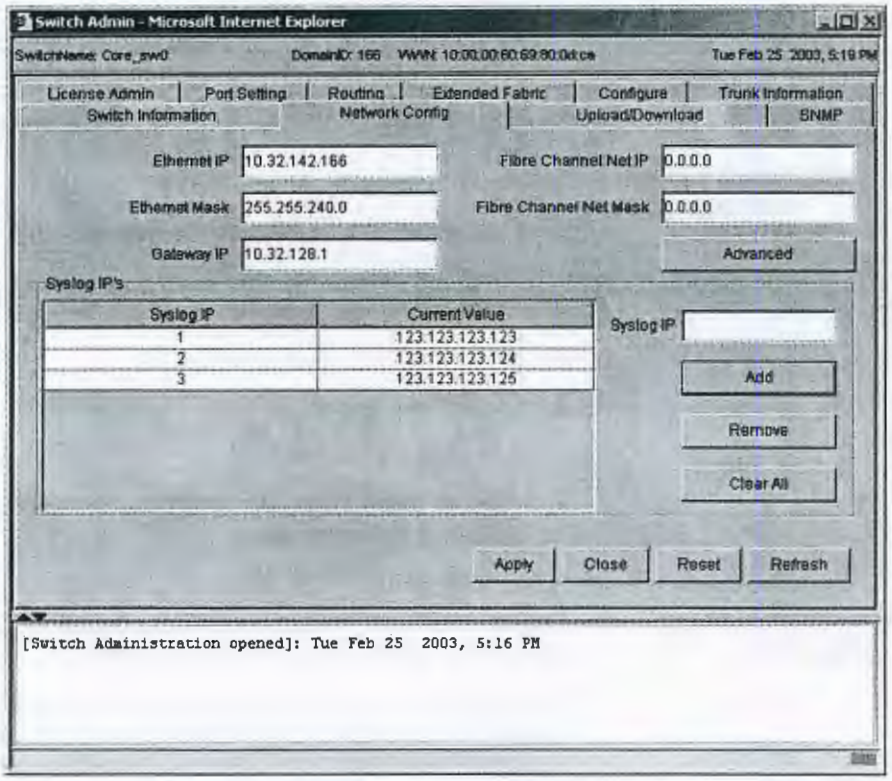


Figure 4-21 Network Configuration Tab of the Switch Admin Window

An example of the Advanced IP Configuration window (ED-12000B only) is shown in Figure 4-22.

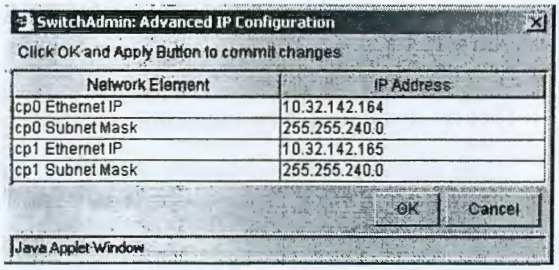


Figure 4-22 **ED-12000B Advanced IP Configuration Window**

Network Config Field Descriptions

The Network Config fields are described in Table 4-13.

Table 4-13 **Network Config Field Descriptions**

Field	Description
Ethernet IP	Displays the Ethernet IP address.
Ethernet Mask	Displays the Ethernet SubnetMask address.
Gateway IP	Displays the Gateway IP address.
Fibre Channel Net IP	Displays the Fibre Channel IP address, if one exists.
Fibre Channel NetMask	Displays the Fibre Channel subnet mask address, if one exists.
Advanced Button	Displays the Advanced IP Configuration window (Figure 4-22). This window displays the IP information configured for each network element (CP1, CP1, Logical Switch 0, and Logical Switch 1) in the ED-12000B. This window is read-only and is only available for the ED-12000B.
Syslog IPs	
Syslog IP window	Displays the currently configured Syslog recipients. Refer to the *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS Procedures Manual* for more information about configuring the syslog daemon.
Syslog IP Field	Enter any valid IP for a host and click the Add button to configure that IP as a recipient of syslog messages.

Table 4-13 Network Config Field Descriptions (continued)

Field	Description
Add Button	Click the Add button to add the IP specified in the Syslog IP field to the Syslog IP window. You must click the Apply button to make your changes persistent over a switch reboot.
Remove Button	Click the Remove button to delete the IP specified in the Syslog IP field from the Syslog IP window. You must click the Apply button to make your changes persistent over a switch reboot.
Clear All Button	Click the Remove button to delete all the configured Syslog IPs. You must click the Apply button to make your changes persistent over a switch reboot.

Using the Network Config Tab

This section describes the functions available on the Network Config tab.

Configuring an Ethernet IP or FC IP Address

To configure an Ethernet IP or Fibre Channel IP address:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Network Config tab.
4. Select the Ethernet or Fibre Channel IP address you want to configure.

   If both the Fibre Channel IP and Ethernet IP are present, the switch is identified by the Fibre Channel IP.

5. Enter an Ethernet or Fibre Channel address in the appropriate field (for example, 123.123.123.123).
6. Click **Apply**.
7. You must close and re-open Web Tools to continue working.

   When changing either the Ethernet IP/netmask, Gateway IP, Fibre channel net IP/netmask from WebTools - Switch Admin - Network Config panel, there is a normal loss of network connection to the switch while these parameters are updated. If the IP properties have been changed you must close all current windows, and restart Web Tools with the new IP address.

Configuring a Syslog IP Address

To configure a Syslog IP address:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Network Config tab.
4. Enter a non-null IP address in one of the Syslog IP Field (for example, 123.123.123.123).
5. Click **Add**. The configured IP is displayed in the Syslog IP window.
6. Click **Apply**.

About the Upload/Download Tab

Use the Upload/Download tab of the Switch Admin window to complete tasks such as:

- Download firmware
- Upload a Configuration file to the host
- Download the configuration from a host to the switch

You must provide host information for all the upload and download tasks listed above.

Upload/Download Tab Example

An example of the Upload/Download tab is shown in Figure 4-23.

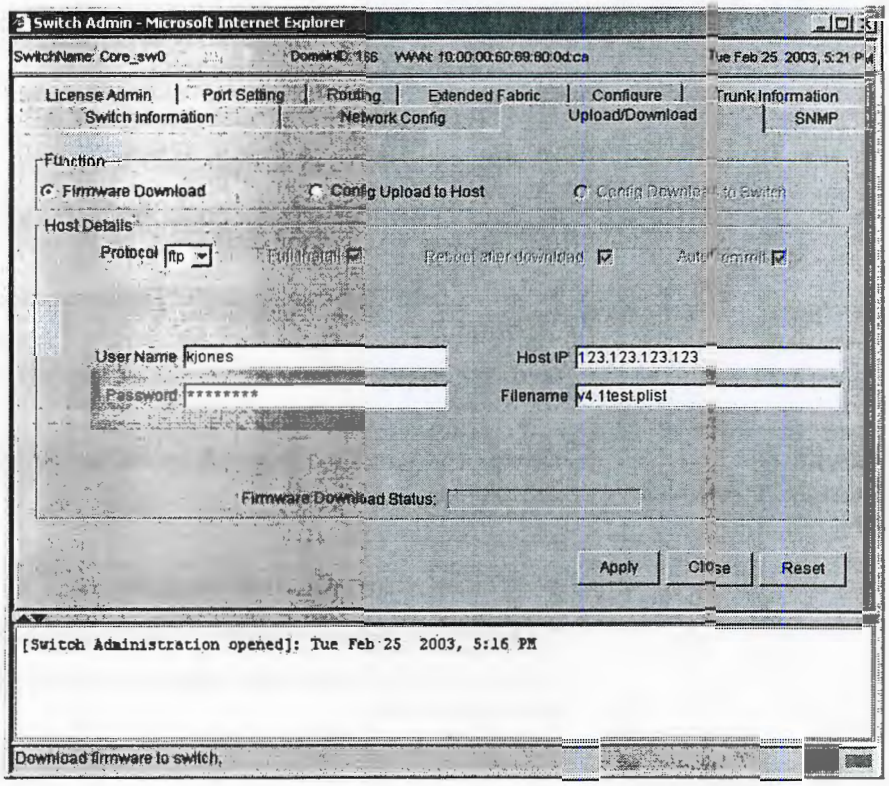


Figure 4-23 Upload/Download Tab of the Switch Admin Window

Upload/Download Field Descriptions

The Upload/Download fields are described in Table 4-14.

Table 4-14 Upload/Download Field Descriptions

Field	Descriptions
Function	
Firmware Download	Select the radio button to download firmware. The Fastboot After Download option becomes enabled. Refer to the **Firmware Download** chapter of the *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS Procedures Manual* for limitations when changing Fabric OS versions. When installing Fabric OS v4.1, the procedure may vary depending on which version of the Fabric OS you are migrating from.
Config Upload to Host	Select the radio button to upload the configuration file to a specified host. Using this options allows you to save the configuration file to the switch using the specified filename (full path). The Username and Password must be valid for the specified host, and the file path must be read-write capable by the user. The switch must be disabled for this option to be available.
Config Download to Switch	Select the radio button to download a configuration file to the switch. The Config Download option requires that the switch first be disabled; it will be set to the original switch status after the config download is complete. The switch must be disabled for this option to be available.
Host Details	
Protocol	Displays the supported downloading protocol: FTP.
Full Install	This option is a required value for Firmware Download. A full install replaces every file rather than only the delta files.
Reboot After Download	This option is a required value for Firmware Download. This option automatically reboots the switch after the Firmware Download is complete.
AutoCommit	This option is a required value for Firmware Download. This option automatically commits the firmware download to both partitions of a switch or CP in the ED-12000B.
User Name	Enter the User Name who owns the firmware package on the host.
Host IP	Enter the IP address of the host.
Password	Enter the password of the User who owns the firmware package on the host.
Filename	Enter the file name of the firmware package to be downloaded.
Download/Upload Status	Indicates the progress of the firmware download or upload.

Using the Upload/Download Tab

This section describes the functions available on the Upload/Download tab.

Performing a Firmware Download

To download firmware:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Upload/Download tab.
4. Click the **Firmware Download** radio button.
5. Select the FTP transfer protocol from the drop-down menu.

   FTP is the only supported transfer protocol in Fabric OS v4.1.

6. Enter the User Name, Password, and Host IP information.
7. Enter the fully qualified path to the firmware file.
8. Click **Apply**.

Backing Up a Firmware Config File

To back up a firmware config file:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Upload/Download tab.
4. Click the **Config Upload to Host** radio button.
5. Select the FTP transfer protocol from the drop-down menu.

   FTP is the only supported transfer protocol in Fabric OS v4.1.

6. Enter the User Name, Password, and Host IP information.
7. Click **Apply**.

Performing a Config Download to Switch

To download the configuration from the switch:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.

3. Select the Upload/Download tab.
4. Click the **Config Download to Switch** radio button.
5. Select the FTP transfer protocol from the drop-down menu.

   FTP is the only supported transfer protocol in Fabric OS v4.1.

6. Enter the User Name, Password, and Host IP information.
7. Enter the fully qualified path to the config file.
8. Click **Apply**.

About the SNMP Tab

Use the SNMP tab of the Administrative Interface to perform administration of the SNMP Subsystem. Use the SNMP tab to specify the switch community string, location, trap level and trap recipients.

For more detailed information regarding SNMP, refer to the **agtcfgset** command in the *Fabric OS Command Reference*.

Security

Secure OS is not currently supported.

The SNMP tab is affected by the use of Secure Fabric OS; the ACL list will not be visible if security is enabled.

In order for the switches to send SNMP traps, you must first enter the CLI command **snmpmibcapset**. This enables the MIBs on all switches to be monitored.

SNMP Tab Example An example of the SNMP window is shown in Figure 4-24.

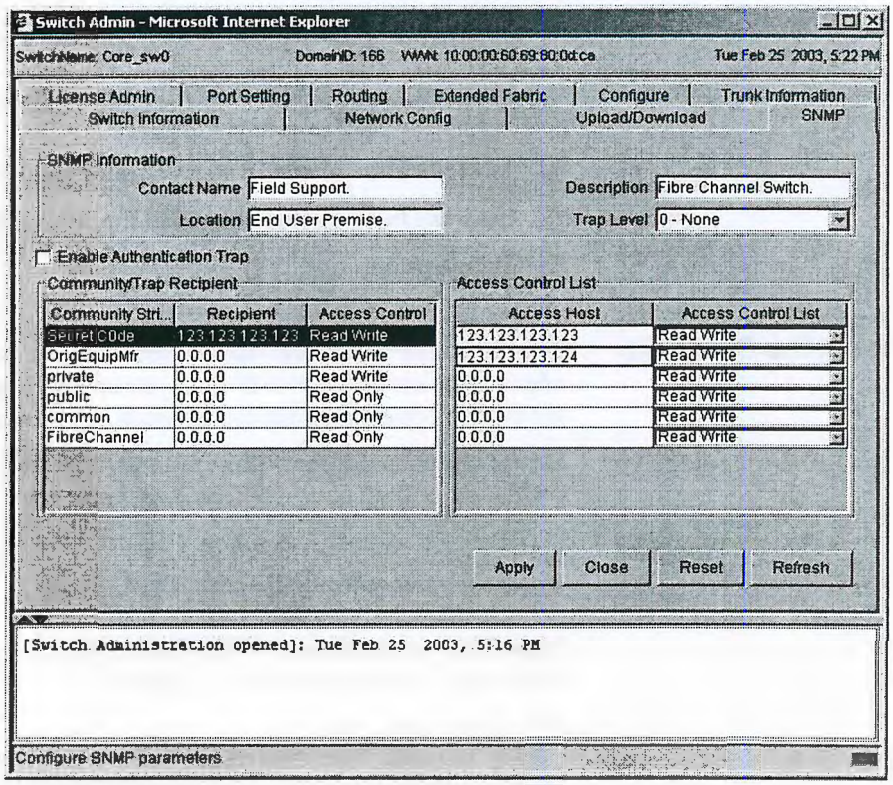


Figure 4-24 SNMP Tab of the Switch Admin Window

SNMP Field Descriptions

The SNMP fields are described in Table 4-15.

Table 4-15 SNMP Field Descriptions

Field	Description
SNMP Information	
Contact Name	Use to display or configure contact information for switch. Default is Field Support. Valid range of values are from 0 to 255 characters.
Description	Use to display or configure system description. Default is Fibre Channel Switch.Valid range of values are from 0 to 255 characters.
Location	Use to display or configure the location of switch. Default is End User Premise.Valid range of values are from 0 to 255 characters.
Trap Level	Use to set the severity level of switch events that will prompt SNMP traps. Default is 0.
Enable Authentication Trap	Check box to enable authentication traps; uncheck box to disable (disable is recommended).
Community/Trap Recipient	
Community String	Displays the community strings that are available. A community refers to a relationship between a group of SNMP managers and an SNMP agent, in which authentication, access control, and proxy characteristics are defined. A maximum of six community strings can be saved to the switch. Valid range of values are from 2 to 16 characters.
Recipient	Displays the IP address of the Trap Recipient. A trap recipient receives the message sent by an SNMP agent to inform the SNMP management station of a critical error.
Permissions	Displays the Read/Write access of a particular community string. READ ONLY access means that a member of a community string has the right to view, but cannot make changes. READ/WRITE access means that a member of a community string can be both viewed and make changes.
Access Control List The fields described below do not display if security is enabled on the switch.	
Access Host	Enter the IP address for the host workstations you want to add to the Access Control List.
Access Control List	Select the control level for the specified Host.

Using the SNMP Tab

This section describes the functions available on the SNMP tab.

Setting Trap Levels

To set trap levels:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the SNMP tab.
4. Select a Trap level from the drop-down menu. The level you select refers to the Event level that will prompt a trap. Refer to *Events* on page 4-4.
5. Click **Apply**.

About the License Admin Tab

Use the License Administration tab to install and remove license keys that are provided to you.

License Admin Tab Example

An example of the License Admin Tab is shown in Figure 4-25.

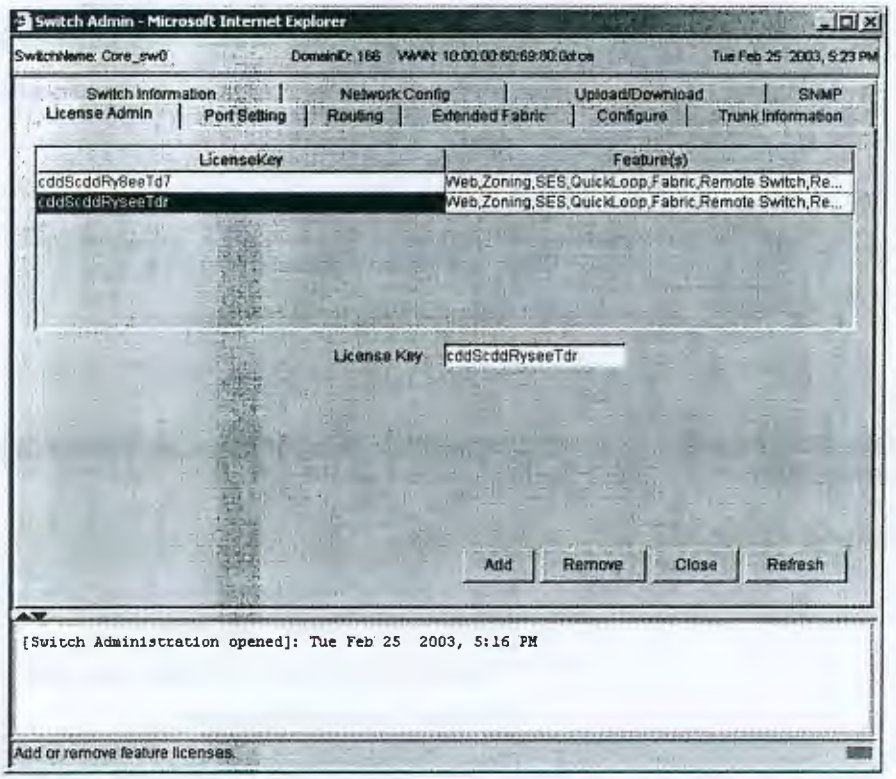


Figure 4-25 License Admin Tab of the Switch Admin Window

License Admin Field Description

The License Admin fields are described in Table 4-16.

Table 4-16 License Admin Field Descriptions

Field	Description
LicenseKey column	Displays a list of license keys currently installed on the switch.
Feature(s) column	Displays a list of the feature names associated with the license keys installed on the switch.
License Key field	Enter a license key to be added or double-click a license key from the LicenseKey column to have it display in this field.
Add	Click to add the specified license.
Remove	Click to remove the specified license.
Close	Click to close the Admin window
Refresh	Click to refresh the information in the window.

Using the License Admin Tab

This section describes the functions available on the License Admin tab.

Adding a License to a Switch

To add a license:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the License Admin tab.
4. Enter a new license key in the License Key field.
5. Click **Add**.

Removing a License From a Switch

To remove a license:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the License Admin tab.
4. Enter the license key to remove, or double-click a license key from the LicenseKey column to have it display in License Key field.

5. Click **Remove**.

About the Port Setting Tab

Use the Port Setting tab of the Administrative interface to perform functions such as: disable/enable ports on the switch, set port speed to 1GB/2GB/Negotiate, enable/disable Trunking, or name a port.

The port speed is displayed as follows:

- **1G** = 1 Gb/s
- **2G** = 2 Gb/s
- **N1** = Negotiated 1 Gb/s
- **N2** = Negotiated 2 Gb/s

Port Settings Tab Example

An example of the Port Settings Tab is shown in Figure 4-26.

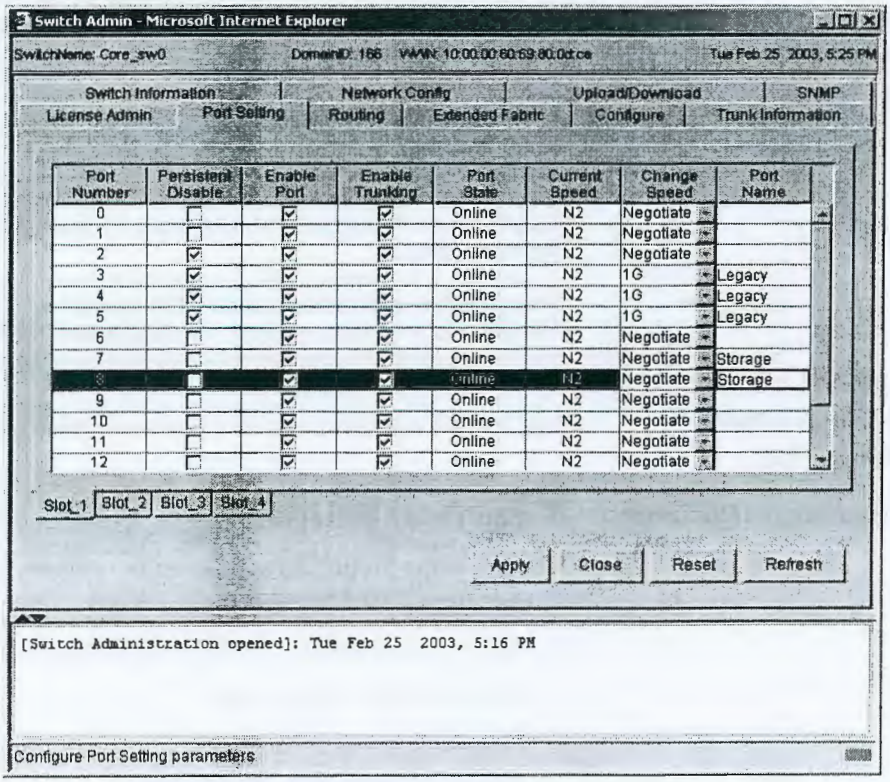


Figure 4-26 Port Settings Tab of the Switch Admin Window

Port Settings Field Descriptions

The Port Setting fields are described in Table 4-17.

Table 4-17 Port Setting Field Descriptions

Field	Description
Port Number	Displays the Port Number.
Persistent Disable	Check this box to disable the port and maintain this state over switch reboot.
Enable Port	Check this box to enable a port. You can check both the Enable Port and the Persistent Disabled boxes. This currently enables the port, but upon a switch reboot the port is disabled.
Enable Trunking	Check this box to enable trunking on a port. Uncheck the box to disable trunking on this port.
Enable Port	Check box to enable the affiliated port. Uncheck box to disable the port.
Port State	Displays the state of the port, such as Online, No Light or No Module.
Current Speed	Displays the speed at which the port is currently set. Valid values are: • 1G - 1 Gbit/sec • 2G - 2 Gbit/sec • N1 - Negotiated 1 Gbit/sec • N2 - Negotiated 2 Gbit/sec
Change Speed	Use to change the port speed. Port speed can be fixed to 1G, 2G, or Negotiate (auto-negotiate). If the speed is set to Negotiate, the subsequent current speed will display the negotiated result.
Port Name	Use optionally to assign a name to a port. The name can be from 0 to 32 characters length. Port names do not need to be unique. The default value is no port name.

Using the Port Setting Tab

This section describes the functions available on the Port Setting tab.

Enabling or Disabling a Port

To enable or disable a port:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Port Setting tab.
4. Check or uncheck the enabled port box that corresponds to the port you wish to enable/disable.
5. Click **Apply**.

6. Check the log at the bottom of the screen for information regarding the switch configuration changes.

Enabling Trunking on a Port

To enable a trunk:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Port Setting tab.
4. Check the **Trunk** box that corresponds to the port you wish to trunk.
5. Click **Apply**.

Configuring Port Speed

To configure the port speed:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Port Setting tab.
4. Select the desired speed for the corresponding port. (Refer to *About the Port Setting Tab* on page 4-53.)
5. Click **Apply**.

Assigning a Name to a Port

You can optionally name a port:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Port Setting tab.
4. Click in the **Name** column; select the field that corresponds to the port you want to name.
5. Enter a name for the port, up to 32 alphanumeric characters. Port names do not need to be unique.
6. Click **Apply**.

Disabling a Port over Reboots

To optionally disable a port, so that it is disabled over reboots:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Port Setting tab.
4. Select the slot and port you want to disable over reboots.
5. Check the **Persistent Disable** checkbox for that port.
6. Click **Apply**.

About the Configure Tab

Use the Configure tab of the Administrative Interface to configure Fabric Parameters, Virtual Channel parameters, Arbitrated Loop parameters, and System Services parameters. For more detailed information regarding the fields available in this tab, refer to the **configure** command in the *Fabric OS Command Reference*.

Many parameter fields and checkboxes within the Configure tab can only be modified if the switch is disabled. If a parameter value is shaded gray, that value is currently read-only. To modify the value, you must first disable the switch.

Configure (Fabric) Tab Example

An example of the Configure (Fabric) Tab is shown in Figure 4-27.

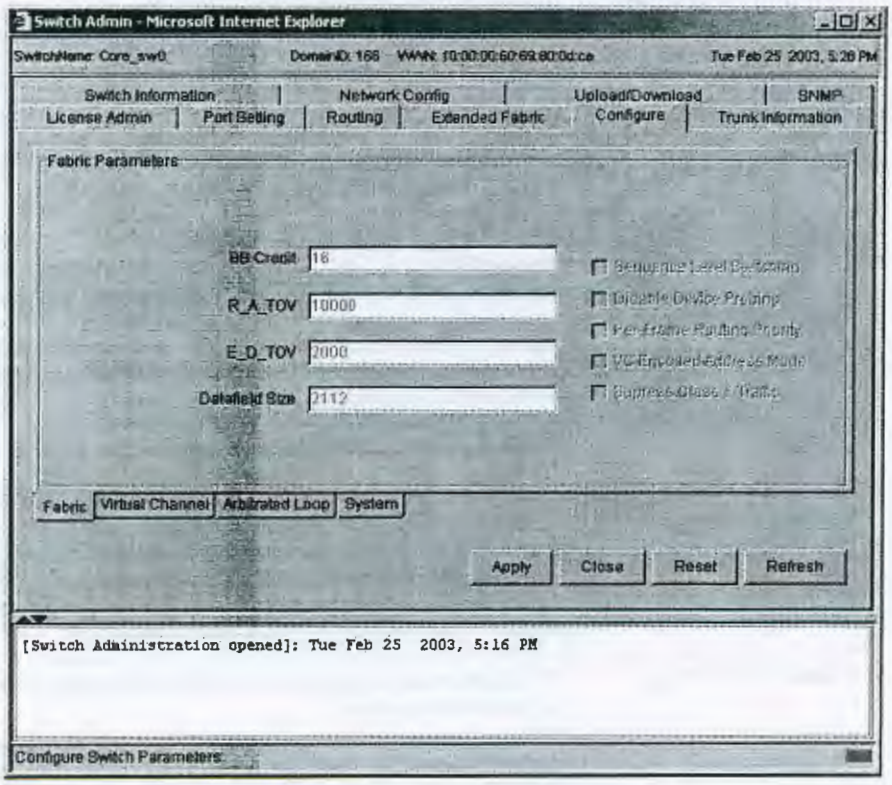


Figure 4-27 Configure (Fabric) Tab of the Switch Admin Window

Configure (Virtual Channel) Tab Example

An example of the Configure (Virtual Channel) Tab is shown in Figure 4-28.

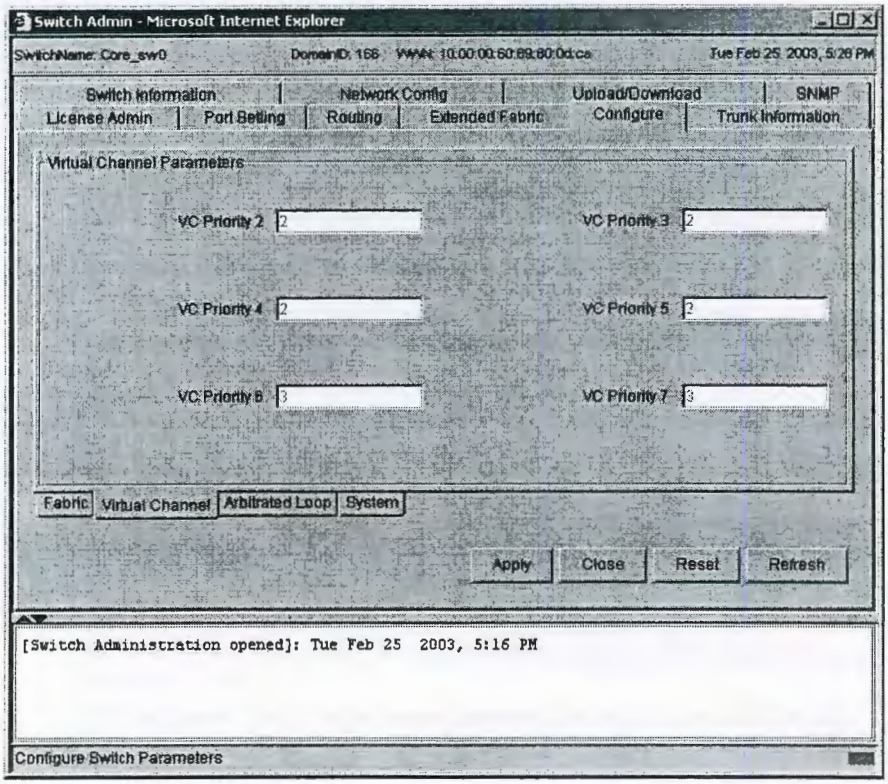


Figure 4-28 Configure (Virtual Channel) Tab of the Switch Admin Window

Configure (Virtual Channel) Field Descriptions

The fields available on the Configure Virtual Channel Tab are described in Table 4-20

Table 4-20 Virtual Channel Field Descriptions

Field	Descriptions
Virtual Channel Parameters	
VC Priority 2 - 7	Enables fine tuning for a specific application by configuring the parameters for eight virtual channels. The default Virtual Channel priorities have already been set for optimal performance; changing the default settings can improve the performance, but can also degrade performance. For default values, refer to Table 4-19.

Configure (Arbitrated Loop) Tab Example

An example of the Configure (Arbitrated Loop) Tab is shown in Figure 4-29.

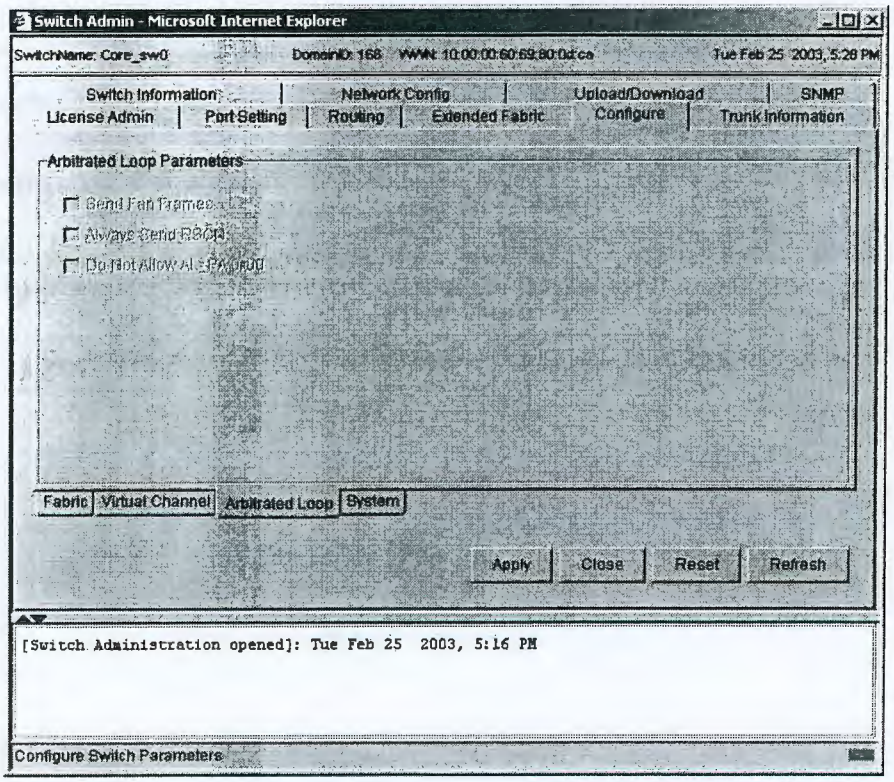


Figure 4-29 Configure (Arbitrated Loop) Tab of the Switch Admin Window

Configure (Arbitrated Loop) Field Descriptions

The fields available on the Configure (Arbitrated Loop) Tab are described in Table 4-21.

Table 4-21 Configure (Arbitrated Loop) Field Descriptions

Field	Descriptions
Arbitrated Loop Parameters	
Send FAN Frames	Specify that Fabric Access Notification frames be sent to public loop devices and notify them of their node ID and address. Default is enabled.
Always Send RCSN	Check this box to issue a Remote State Change notification; following the completion of loop initialization, FL_Ports detect the presence of new devices or the absence of preexisting devices.
Do Not Allow ALPA_0x00	Check box to specify that AL_PA value 0x00 is not allowed.

Configure (System) Tab Example

An example of the Configure (System) Tab is shown in Figure 4-30.

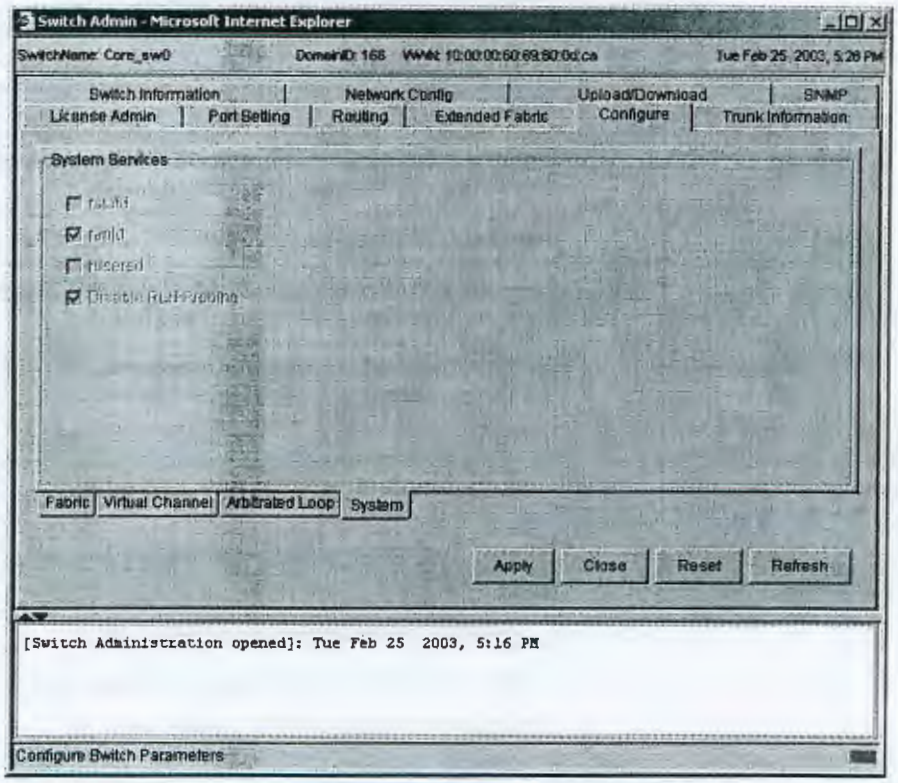


Figure 4-30 Configure (System) Tab of the Switch Admin Window

Configure (System) Field Descriptions

The fields available in the Configure System Tab are described in Table 4-22.

Table 4-22 Configure (System) Field Descriptions

Field	Descriptions
System Parameters	
rstatd	Check box to dynamically enable or disable a server that returns information about system operation information through remote procedure calls.
rapid	Check box to enable rapid system service. Default is enabled.
ruserd	Check box to dynamically enable or disable a server that returns information about the user who is logged into the system through remote procedure calls.
RLS Probing	Check box to enable Read Link Status probing of AL_PAs. Default is enabled.

Using the Configure Tab

This section describes the functions available on the Configure tab.

Configuring FAN Frame Notification Parameters

To configure FAN frame notification parameters:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Switch Information tab.
4. Disable the switch.
5. Click **Apply**.
6. Select the Configure tab.
7. Select the Arbitrated Loop tab.
8. Check or uncheck the **FAN Frame Notification** box in the Arbitrated Loop Parameters section.
9. Click **Apply**.

About the Routing Tab

Use the Routing Tab of the Administrative Interface to perform tasks such as:

- View the Fabric Shortest Path First (FSPF) routing information.
- Add or delete a static route.
- Set the link cost for the selected ports.

If a switch has one or more ISLs attached to itself, and no attached devices, the Routing tab will not display any information.

Navigation Tree

The Routing tab contains a Routing Navigation Tree, from which you can access the specific routing areas. Fields will change depending on the routing interface you have chosen to view. For information regarding using the Routing Tab, refer to *Using the Routing Tab* on page 4-70.

Dynamic Load Sharing

Dynamic Load Sharing (DLS) can be enabled using the Routing tab. DLS refers to a dynamic distribution of traffic over available paths. Enabling this feature allows a path to be discovered automatically by the FSPF path selection protocol. Refer to *Routing (FSPF Route) Field Descriptions* on page 4-67.

In-Order Delivery

In-Order Delivery can be enabled using the Routing tab. Enabling IOD guarantees that frames are either delivered in order or dropped.

Routing (FSPF Route) Tab Example

An example of the Routing (FSPF Route) Tab is shown in Figure 4-31.

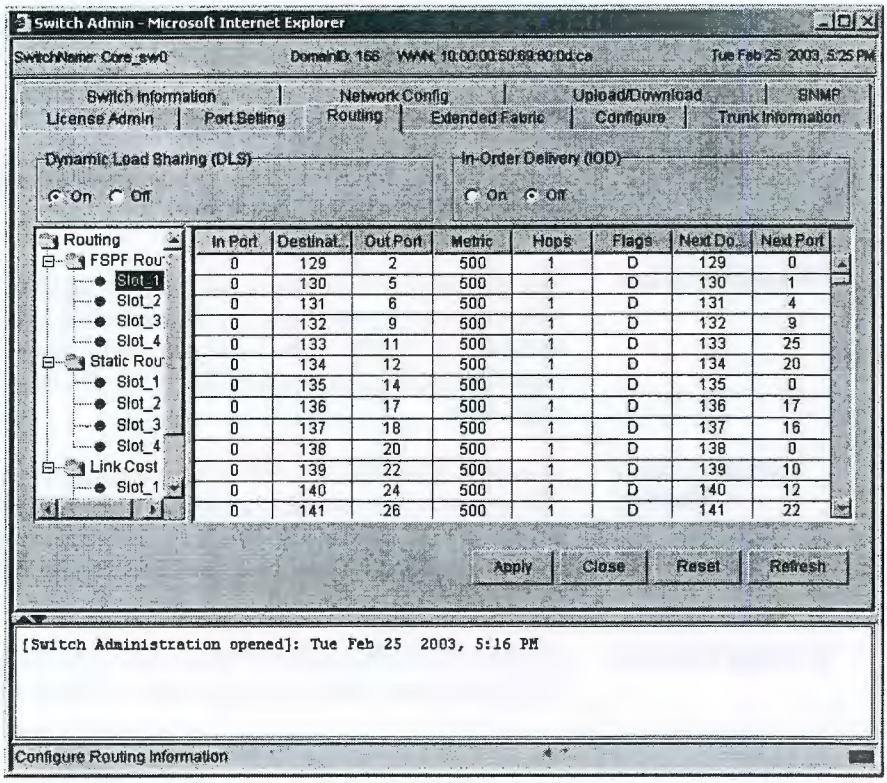


Figure 4-31 Routing (FSPF Route) Tab of the Switch Admin Window

Routing Field Descriptions

Descriptions of the fields available in the Routing Tab are shown in Table 4-23. These fields are displayed for all the routing tabs.

Table 4-23 Routing Field Descriptions

Fields	Descriptions
Dynamic Load Sharing (DLS)	Click the appropriate radio button to turn Dynamic Load Sharing on or off.
In-Order Delivery (IOD)	Click the radio button to turn In-Order Delivery on or off. Enabling IOD guarantees that frames are either delivered in order or dropped
Routing Navigation Tree	Select the item in the Routing Navigation tree to be viewed, either FSPF, Static Route, or Link Cost.

Routing (FSPF Route) Field Descriptions

NOTE: No information appears in the Routing tab if the switch has one of more ISLs attached to itself, and no attached devices.

Select FSFP Route Tab on the Routing Navigation tree to display the fields described in Table 4-24.

Table 4-24 Routing (FSPF Route) Field Descriptions

Field	Description
In Port	Displays the Port number to which you want frames to come in.
Destination	Displays the destination domain ID for the participating static routes for a particular In Port. The destination domain IDs match the outports in the cell.
Out Port	Displays the Out port. It should be within the range of ports that are available for static routes for the current domain. More than one out port can be used for any In port with a different domain id. Each domain id requires an out port.
Metric	Displays the cost of reaching the destination domain.
Hops	Displays the number of hops in the "shortest path" route.
Flags	Displays whether the route is Static (S) or Dynamic (D). Refer to *About the Routing Tab* on page 4-65.
Next Domain	Displays the next domain ID in the routing path. The Next Domain is the switch that the "Out Port" is connected to.
Next Port	Displays the next Port in the routing path. The Next Port is the port number that the "Out Port" is connected to.

Routing (Static Route) Tab Example

An example of the Routing (Static Route) Tab is shown in Figure 4-32.

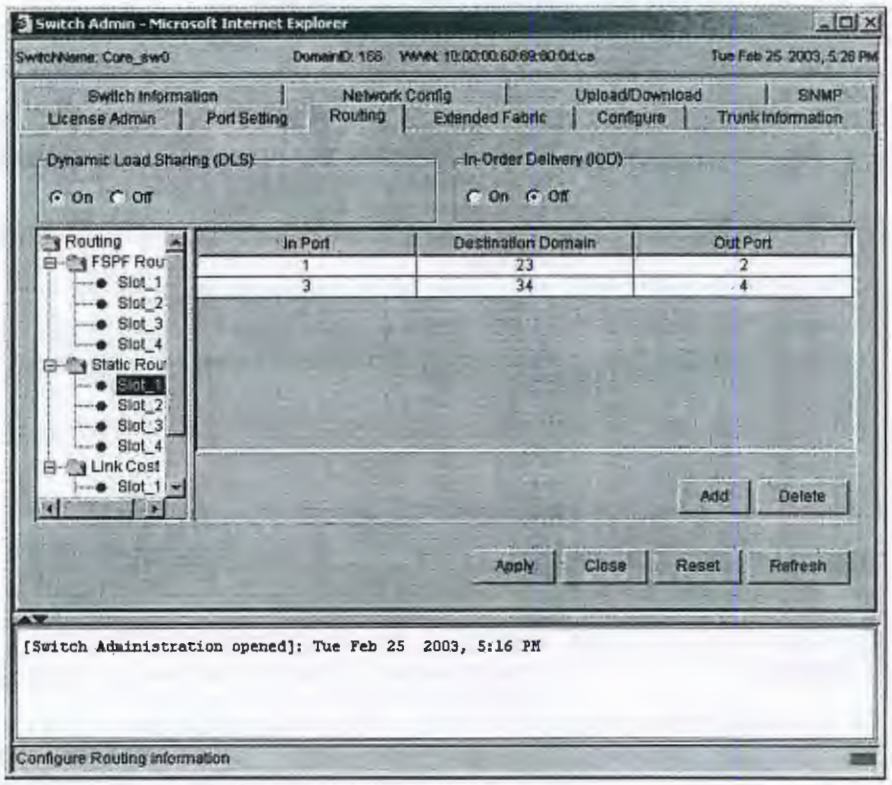


Figure 4-32 Routing (Static Route) Tab of the Switch Admin Window

Routing (Static Route) Field Descriptions

Select Static Route from the Routing Navigation tree to display the fields described in Table 4-25.

Table 4-25 Routing (Static Route) Field Descriptions

Field	Description
In Port	Enter the number of the port to which frames to come in.
Destination Domain	Displays the destination domain ID for the "comma-separated" participating static routes for a particular inport. The destination domain IDs match the outports in the cell.

Table 4-25 Routing (Static Route) Field Descriptions (continued)

Field	Description
Out Port	Enter the Out port. It should be within the range of ports that are available for static routes for the current domain. More than one out port can be used for any In port with a different domain id. Each domain id requires an out port.
Add	Click to create a new static route. A new column appears in the window. The Add button only modifies the static route table, click Apply to apply these changes to the switch.
Delete	Click to delete a selected route. This button is gray-out if no static route is selected.

Routing (Link Cost) Tab Example

An example of the Routing (Link Cost) Tab is shown in Figure 4-33.

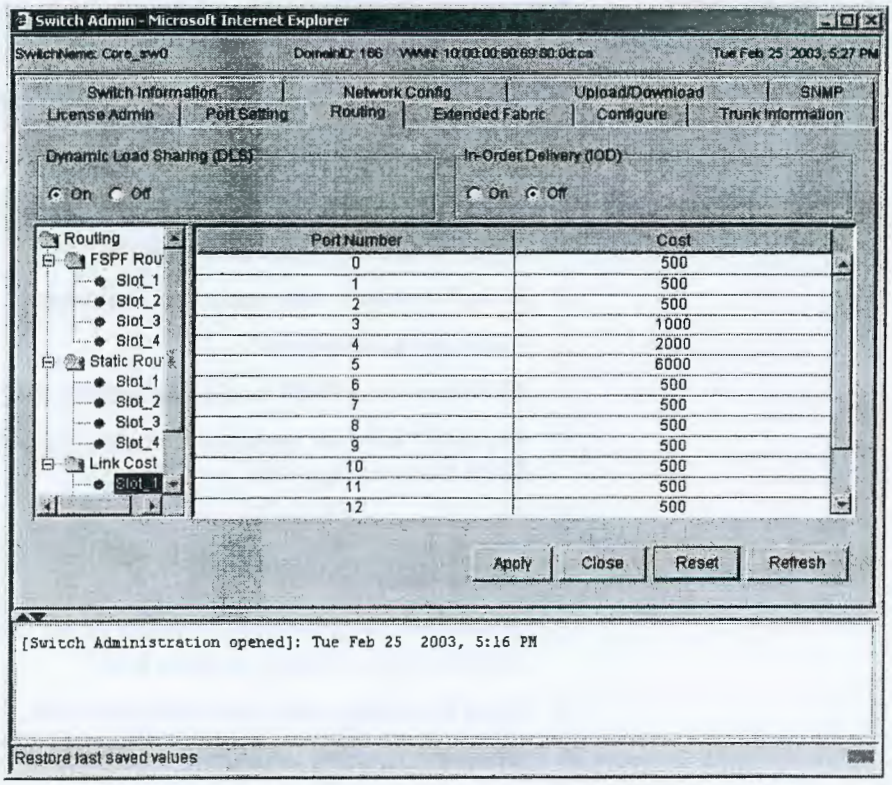


Figure 4-33 Routing (Link Cost) Tab of the Switch Admin Window

Routing (Link Cost) Field Descriptions

Select Link Cost from the Routing Navigation tree to display the fields described in Table 4-26.

Table 4-26 Routing (Link Cost) Field Descriptions

Fields	Descriptions
Port Number	Displays the port number.
Cost	Displays the link cost for the associated port. Select to change the link cost. For a 1 Gbit/sec per second ISL, the default cost is 1000. For a 2 Gbit/sec ISL, the default cost is 500. Valid values for link cost are from 1 to 9999.

Using the Routing Tab

This section describes the functions available on the Routing tab.

Viewing FSPF Routing

For information regarding FSPF, refer to *About the Routing Tab* on page 4-65.

To view FSPF routing:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Routing tab.
4. Click the word **FSFP** on the Navigation tree.

   The FSFP window appears. If no information appears, refer to Table 4-24 on page 4-67.
5. View Hops and Metrics.

Setting up a Static Route

To set up a static route:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Routing tab.
4. Click the words **Static Route** in the Navigation tree.

   The Static Route window appears.
5. Click on a slot number under the static route node in the tree.

6. Click **Add**.

   A new blank line appears in the window.
7. Enter the In Port number for the route.
8. Enter the Destination Domain. The destination domain IDs match the outports in the cell.
9. Enter the Out Port number for the route.
10. Click **OK** to add the static route.
11. Click **Apply**.

Enabling/Disabling Dynamic Load Sharing

For information regarding Dynamic Load Sharing (DLS), refer to *About the Routing Tab* on page 4-65.

To enable or disable dynamic load sharing:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Routing tab.
4. Select the **On** radio button to enable Dynamic Load Sharing; or, select the **Off** radio button to disable Dynamic Load Sharing.
5. Click **Apply**.

Enabling/Disabling In-Order Delivery

For information regarding Dynamic Load Sharing (DLS), refer to *About the Routing Tab* on page 4-65.

To enable or disable in-order delivery:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Routing tab.
4. Highlight a type of routing from the navigation tree.
5. Select the **On** radio button to enable In-Order Delivery; or, select the **Off** radio button to disable In-Order Delivery.
6. Click **Apply**.

Configuring Link Cost

For information regarding Dynamic Load Sharing (DLS), refer to *About the Routing Tab* on page 4-65.

To configure the link cost:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Routing tab.
4. Click **Link Cost** from the navigation tree.
5. Click in the **Link** column that corresponds to the appropriate port.
6. Enter the desired link cost. For a 1 Gb/s ISL, the default cost is 1000. For a 2 Gb/s ISL, the default cost is 500. Valid values for link cost are from 1 to 9999.
7. Click **Apply**.

About the Extended Fabrics Tab

Use the Extended Fabric tab to manage the Extended Fabrics feature. From the Extended Fabric tab you can specify which ports to be configured for distance and at what level. All switches come with L0 and LE (extended normal) settings. An Extended Fabric license allows additional settings of L1 and L2. For ports that are disabled, the rows appear grayed-out in the table within the Extended Fabric tab.

For more detailed information regarding the Extended Fabrics feature, refer to the *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Extended Fabrics User's Guide.*

VCXLT Initiation

Enabling Virtual Channel link translation mode allocates enough full-size frame buffers on a particular port to support a long-distance link up to 100km. Refer to the **portcfglongdistance** command in the *Fabric OS Command Reference* for more information.

Note: Support for distances greater than 100 km may be available for certain applications and configurations. Support parameters for extended distance solutions, such as those around DWDM technology, can be obtained from the EMC Support Matrix. Please note that the information found in the EMC Support Matrix specifies support parameters around connectivity. You

should work closely with EMC field personnel and professional services to determine whether application requirements will be met over these extended distances.

Port Speed

The port speed is displayed as follows:

- **1G** = 1 Gb/s
- **2G** = 2 Gb/s
- **N1** = Negotiated 1 Gb/s
- **N2** = Negotiated 2 Gb/s

Long Distance Settings

These values do not require an Extended Fabric license:

- L0 — No long distance setting enabled.
- LE — Extended Normal setting enabled, less than 10 km or 6 miles.

These values require an Extended Fabric license:

- L0.5 — Less than 25 km.
- L1 — Medium long distance setting enabled, less than 50 km or 31 miles.
- L2 — Long distance setting enabled, less than 100 km or 62 miles.
- LD — Dynamic setting.

Extended Fabrics Tab Example

An example of the Extended Fabrics tab is shown in Figure 4-34.

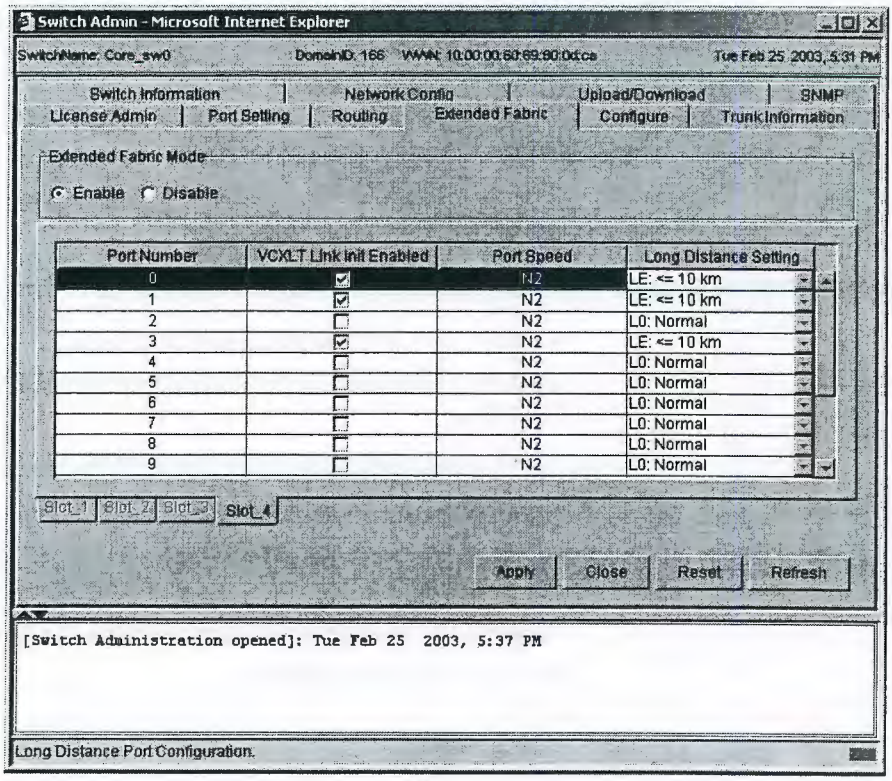


Figure 4-34 Extended Fabric Tab of the Switch Admin Window

Extended Fabric Field Descriptions

The fields available in the Extended Fabrics Tab are described in Table 4-27.

Table 4-27 Extended Fabric Field Descriptions

Fields	Descriptions
Extended Fabric Mode	
Enable	Click the radio button to enable the Extended Fabric mode. The switch must be disabled to enable the Extended Fabric mode.
Disable	Click to disable the Extended Fabric Mode.
Port Number	Displays the port number being used for the Extended Fabric.
VCXLT Link Init Enabled	Check the box to enable Virtual Channel link translation. Refer to *About the Upload/Download Tab* on page 4-43.
Port Speed	Displays the current port speed. The possible port speeds are described in *About the Upload/Download Tab* on page 4-43.
Long Distance Setting	Display or configure the long distance setting. Change by selecting from the drop-down menu. The below values do not require an Extended Fabric license: • L0 - No long distance setting enabled. • LE - Extended Normal setting enabled, less than 10 km or 6 miles. The below values require an Extended Fabric license: • L0.5 - Less than 25 km. • L1 - Medium long distance setting enabled, less than 50 km or 31 miles. • L2 - Long distance setting enabled, less than 100 km or 62 miles. • LD - Dynamic setting.

Using the Extended Fabric Tab

This section describes the functions available on the Extended Fabric tab.

Configuring a Port For Long-Distance

To configure a port for long distance:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Extended Fabric tab.
4. Click the **Enable** radio button.

5. Check the **VCXLT** box.
6. Select the desired distance from the **Long-Distance Setting** drop-down menu.

   Depending on the distance selected, this may require an optional license. For information about the various distances, refer to *About the Upload/Download Tab* on page 4-43.
7. Click **Apply**.

About the Trunk Information Tab

The Trunk Information tab is a read-only tab and has only the Close and Refresh button functions.

- For information regarding enabling Trunking, refer to *Using the Port Setting Tab* on page 4-54.
- For more information regarding Trunking, refer to the EMC *Trunking User's Guide*.

Trunk Information Tab Example

An example of the Trunk Information Tab is shown in Figure 4-35.

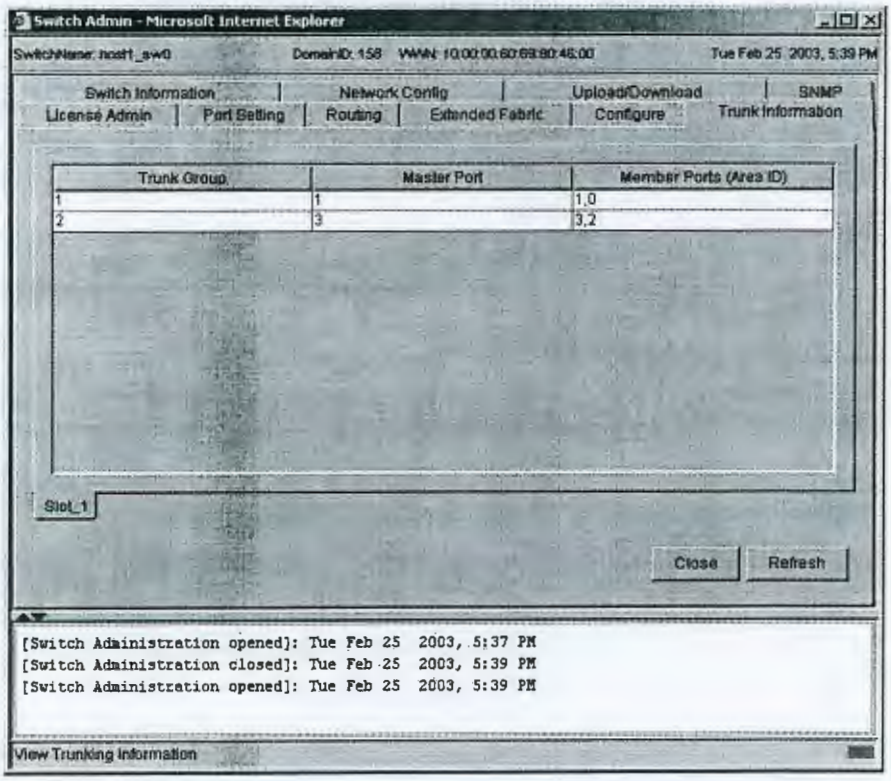


Figure 4-35 Trunk Information Tab of the Switch Admin Window

Trunk Information Field Descriptions

Descriptions of the fields available in the Trunk Information tab are shown in Table 4-28.

Table 4-28 Trunk Information Field Descriptions

Field	Description
Trunk Group	Displays all the Trunking Groups on a switch. All of the ports that are part of the Trunking Group are displayed.
Master Port	Displays whether the trunking port connection is the Master Port connection for this trunking group.
Member Ports (Area ID)	Displays a list of Member Ports. Ports are identified by area ID.

Using the Trunk Information Tab

The Trunk tab is a read-only tab. Trunking is enabled through the Port Setting tab of the Administrative Interface; refer to *Using the Port Setting Tab* on page 4-54.

Accessing the Trunk Information Tab

To access the Trunk Information tab:

1. Access the Switch Admin Window (refer to *Accessing the Administrative Interface* on page 4-36).
2. Enter the admin user name and password.
3. Select the Trunk tab.

Telnet Interface

Accessing the Telnet Interface

To access the Telnet Interface:

1. Launch the web browser.
2. Enter the switch name or IP address in the **Location/Address** field and press ENTER.

Example **http://switch name or IP address/**

Web Tools launches, displaying the Switch Explorer.

3. Click the **Telnet** icon (Figure 4-36) beneath the switch graphic.

Figure 4-36 Telnet Icon

The Telnet Interface displays, as shown in Figure 4-37.

Figure 4-37 The Telnet Interface

Using the Telnet Interface

Up to six Telnet sessions can be running simultaneously on a 4.0 chassis:

- Two sessions for Admin
- Four sessions for User

ESN Manager requires that one Admin Telnet session be available.

High Availability Administration

Use the HA Admin interface to display information about High Availability configuration on a chosen switch.

Accessing the HA Admin Interface

To access the HA Admin interface:

1. Launch the web browser.
2. Enter the switch name or IP address in the **Location/Address** field and press ENTER.

   Example: **`http://switch name or IP address/`**

   Web Tools launches, displaying the Switch Explorer.
3. Click the **Hi Avail** icon (Figure 4-38) beneath the switch graphic.

Figure 4-38 **Hi Avail Icon**

The HA Admin window (Figure 4-39) appears.

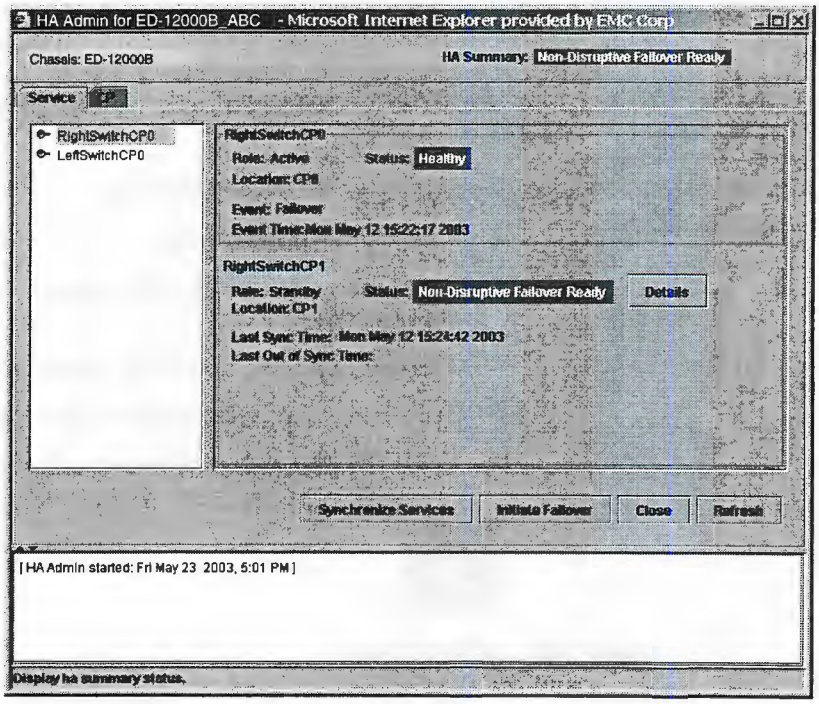


Figure 4-39 HA Admin Window (Displaying Service Tab)

Common Field Descriptions

The common fields available in the HA Admin window are described in Table 4-29.

Table 4-29 HA Admin Common Field and Button Descriptions

Field	Description
Chassis	Displays the switch type.
HA Summary	Displays the HA summary status. Valid values can be: Non-Disruptive Failover Ready Disruptive Failover Ready No Failover
Action Buttons	
Synchronize Services Button	Click this button to begin a synchronization of services on both CPs. Once the services of both CPs are synchronized and there is full redundancy then a non-disruptive failover can be initiated.
Initiate Failover Button	Click this button to initiate a failover from the active CP to the standby CP.
Close Button	Click this button to close the HA Admin page.
Refresh Button	Click this button to refresh the information on this page.

Service Tab Field Descriptions

The fields available in the Service Tab view are described in Table 4-30.

Table 4-30 HA Admin Service Tab Field Descriptions

Field	Description
Logical Switch selection window	This window enables you to select the RightSwitch service view or the LeftSwitch service view. In the ED-12000 chassis, logical switch 0 is the leftswitch, and logical switch 1 is the rightswitch as seen from the cable side of the switch. When you select a Switch Service view, the Service status for that switch is displayed.
Active Service	Displays information for the Active Service. Depending on which service you selected in the Logical Switch window and the current configuration of the CPs, valid values can be: • RightSwitchCP0 • RightSwitchCP1 • LeftSwitchCP0 • LeftSwitchCP1
Role	Indicates if the Service is Active or Standby.

Table 4-30 HA Admin Service Tab Field Descriptions (continued)

Field	Description
Status	Displays the status of the Active Service. Valid values for the Active Service are: • Non-Disruptive Failover Ready • Disruptive Failover Ready • No Failover
Location	Displays the location of the Active CP as CP0 or CP1.
Event	Displays the last event. Valid values for this field are: • Failover • Arbitration
Event Time	Displays the day, date, hour, and year of the last event.
Standby Service	Displays information for the Standby Service. Depending on which switch you selected in the Logical Switch window and the current configuration of the CPs, valid values can be: • RightSwitchCP0 • RightSwitchCP1 • LeftSwitchCP0 • LeftSwitchCP1
Role	Indicates if the Service is Active or Standby.
Status	Displays the status of the Standby Service. Valid values for the Standby Service are: • Non-Disruptive Failover Ready • Disruptive Failover Ready • No Failover
Details Button	Displays whether the CP services are in-sync.
Location	Displays the location of the Standby CP as CP0 or CP1.
Last Sync Time	Displays day, date, hour, and year of the last in-sync time.
Last Out of Sync Time	Displays day, date, hour, and year of last out-of-sync time.

HA Admin CP Tab Example

An example of the HA Admin window (CP Tab) is shown in Figure 4-40.

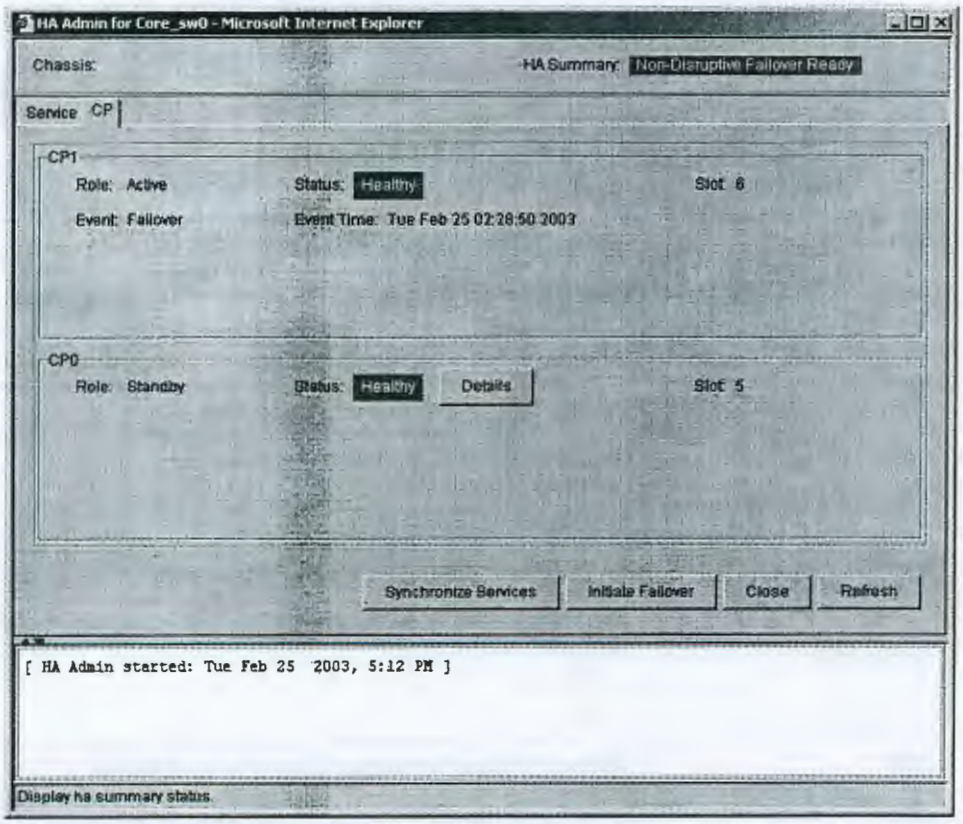


Figure 4-40 HA Admin Window (Displaying CP Tab)

CP Tab Field Descriptions

The fields available in the CP Tab view are described in Table 4-31.

Table 4-31 HA Admin CP Tab Field Descriptions

Field	Description
Active CP (**CP0** or **CP1**)	Displays information for the Active CP. The top CP in this view is always the Active CP. Depending on the current configuration of the CPs this can be: • CP0 • CP1
Role	Displays the Role of the selected CP as the Active or Standby.
Status	Displays the status of the Active CP. Valid values for the Active CP are: • Healthy • Faulty
Slot	Displays the slot of the Active CP as slot 5 or slot 6.
Event	Displays the last event. Valid values for this field are: • Failover • Arbitration
Event Time	Displays the day, date, hour, and year of the last event.
Standby CP (**CP0** or **CP1**)	Displays information for the Standby CP. Depending on the current configuration of the CPs this can be: • CP0 • CP1
Role	Displays the Role of the selected CP as the Active or Standby.
Status	Displays the status of the Standby CP. Valid values for the Standby CP are: • Healthy • Faulty
Details Button	Displays the status of faulty devices.
Slot	Displays the slot of the Active CP as slot 5 or slot 6.

Using HA Admin

This section describes the functions available on the HA Admin window.

Synchronizing Services on the CP

A non-disruptive CP Failover is only possible when all the services have been synchronized. To synchronize the services, verify that the HA Summary field displays **Non-Disruptive Failover Ready**.

- If the HA Summary field displays **Disruptive Failover Ready**, click the Synchronize Services Button and wait for the CPs to complete a synchronization of services, so that a Non-Disruptive Failover is ready.
- Once the HA Summary field displays **Non-Disruptive Failover Ready** a failover can be initiated without disrupting frame traffic on the fabric.

Initiating a CP Failover

To initiate a CP failover:

1. Verify that HA Summary field displays **Non-Disruptive Failover Ready** or **Disruptive Failover Ready**. Refer to *Synchronizing Services on the CP* for more information.
2. Click **Initiate Failover**.

   A non-disruptive failover may take a few minutes to complete. You may loose connection to the switch for a few minutes during the failover, Web Tools will automatically resume the connection after the failover.

5 Port View

This chapter describes the views and interfaces available through the Port View in Web Tools.

Switches can be accessed through different methods, such as through the Telnet, SNMP, and the Web, any of which can occur simultaneously. To verify that modifications are correctly applied, ensure that the switch is modified from only one connection at a time.

Port Information View

The Port Information View displays statistics for the selected port. This information is automatically updated when the view is opened, and is also refreshed periodically while the view remains open.

To access the Port Information View:

1. Launch Web Tools.
2. In the Fabric Tree pane of the Switch Explorer View, click the switch from which you want to extract port information (unless that switch is already displayed).
3. On the switch graphic, click the port for which you want to display information.

   The Port Information View (Figure 5-1) appears.

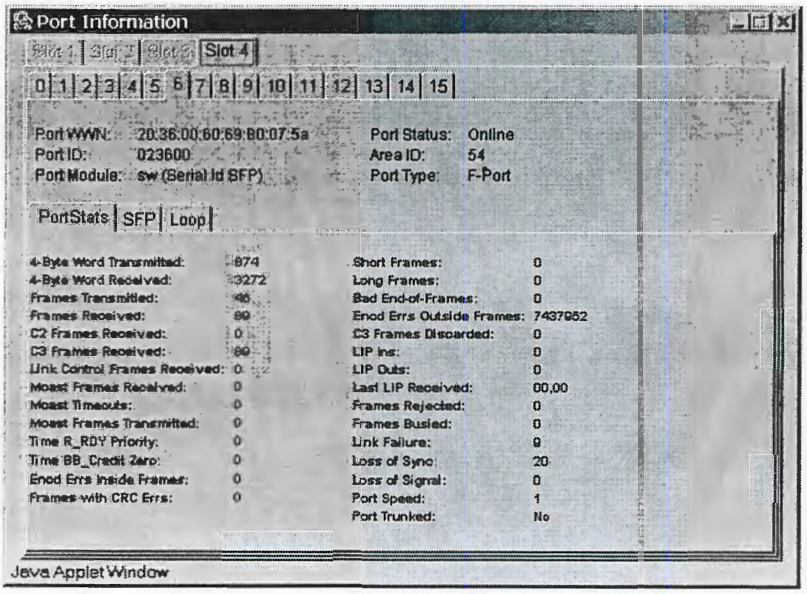


Figure 5-1 Port Information View

The following information appears on all views within the Port Information View:

- Port Name
- Port WWN
- Port ID
- Port Module — Type of SFP (Small form factor pluggable) installed on the port:
  - No SFP present
  - SW — Short wave SFP
  - LW — Long wave SFP
  - CU — Copper SFP
  - SWID — Short wave serial ID SFP
  - LWID — Long wave serial ID SFP
  - CUID — Copper serial ID SFP
- Port Status:
  - No_Module — No SFP module is in this port
  - No_Light — Module is not receiving light
  - No_Sync — Module is receiving light but out of sync
  - In_Sync — Module is receiving light and in sync
  - Laser_Flt — Module signaling a laser fault (defective SFP)
  - Port_Flt — Port is marked faulty (defective SFP, cable, or device)
  - Diag_Flt — Port failed diagnostics
  - Online — Port is up and running
  - Lock_Ref — Port is locking to reference signal
- Area ID — Area ID of the port
- Port Type:
  - E_Port — Switch link port
  - G_Port — Generic port
  - U_Port — Universal port
  - F_Port — Fabric port
  - FL_Port — Fabric loop port
  - L_Port — Loop port

The following tabs, described later, provide various information:

- PortStats
- SFP
- Loop
- Slot (ED-12000B only)

PortStats Tab

The **PortStats** tab (shown in Figure 5-1) provides information about transmission speed, reception speed, and the volume of traffic through the selected port.

Table 5-1 provides a description of the fields on the **PortStats** tab.

Table 5-1 PortStats Tab Field Descriptions

Field	Description
4-Byte Word Transmitted	Number of four-byte words transmitted
4-Byte Word Received	Number of four-byte words received
Frames Transmitted	Number of frames transmitted
Frames Received	Number of frames received
C2 Frames Received	Number of class 2 frames received.
C3 Frames Received	Number of class 3 frames received
Link Control Frames Received	Number of link control frames received
Mcast Frames Received	Number of multicast frames received
Mcast Time-Outs	Number of multicast timeouts
Mcast Frames Transmitted	Number of multicast frames transmitted
Time R_RDY Priority	Number of times R_RDY has priority over frames to be sent
Time BB_Credit Zero	Number of times BB_Credit went to zero
Encd Errs Inside Frames	Number of encoding errors inside frames
Frames With CRC Errs	Number of frames with CRC errors
Short Frames	Number of frames shorter than minimum
Long Frames	Number of frames longer than maximum

Table 5-1 PortStats Tab Field Descriptions (continued)

Bad End-of-Frames	Number of frames with faulty end-of-frames
Encd Errs Outside Frames	Number of frames with encoding errors outside frames
C3 Frames Discarded	Number of class 3 frames discarded
LIP Ins	Number of LIPs received
LIP Outs	Number of times loop initialized by FL_Port
Last LIP Received	Last LIP received: AL_PD, AL_PS
Frames Rejected	Number of F_RJTs sent
Frames Busied	Number of F_BSYs sent
Link Failure	Number of times NOS received/sent
Loss of Sync	Number of times loss of sync occurred
Loss of Signal	Number of times loss of signal occurred
Port Speed	Displays the speed of the port
Port Trunked	Displays whether Trunking is enabled or disabled

SFP (GBIC) Tab

The **SFP** tab (shown in Figure 5-2 on page 5-6) provides information about the about the SFP or GBIC installed in the selected port. The information displayed depends on the type of SFP installed.

All references to SFP also refer to GBICs. The terms are interchangeable.

- Standard SFP Module type (short wave, long wave, copper, etc.)
- Serial ID SFP Module type, plus extended information about capabilities, interfaces, and manufacturer
- Smart Finisar SFP All of the above information, plus SFP active status

If the port does not contain a SFP, or a Serial/Smart GIBC, the following information displays:

```
Not a serial ID GBIC. No GBIC info available.
```

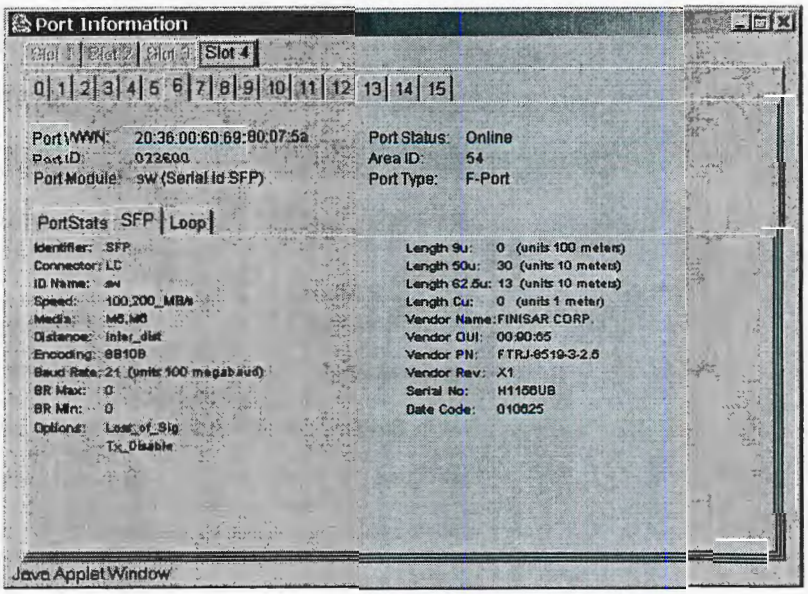


Figure 5-2 **SFP (GBIC) Tab in the Port Information View**

Table 5-2 provides descriptions of the fields on the **SFP** tab.

Table 5-2 **SFP (GBIC) Tab Descriptions**

Field	Description
Identifier	Indicates the type of serial transceiver, which can be SFP or GBIC
Connector	Indicates the external connector type, which can be one of the following: • SC • LC
ID Name	The SFP type, as follows: • -- -No SFP present • SW-Short wave SFP • LW-Long wave SFP • CU — Copper SFP • SWID — Short wave serial ID SFP • LWID — Long wave serial ID SFP • CUID — Copper serial ID SFP
SFP Speed	Indicates the SFP speed, which can be 100, 200, or 400 MB/sec

Table 5-2 SFP (GBIC) Tab Descriptions (continued)

SFP Media	Indicates the transmission media, which can be: • SM — Single mode • M5 — Multi mode, 50u • M6 — Multi mode, 62.5u
SFP Distance	Indicates the length of the fibre channel link, which can be long distance, intermediate distance, or short distance
Encoding	Indicates the serial encoding mechanism, which can be 8B10B
Baud Rate	Nominal baud rate in units of 100 Megabytes
BR Max	Upper limit at which SFP meets its specifications (in units of 1 percent above nominal baud rate)
BR Min	Lower limit at which SFP meets its specifications (in units of 1 percent below nominal baud rate)
Options	May indicate any of the following: • Loss of Signal • Loss of Signal Inverted • Transmission Fault • Transmission Disable
Length 9u	Length of link using single mode fibre
Length 50u	Length of link using 50um multi-mode fibre
Length 625u	Length of link using 62.5um multi-mode fibre
Length Cu	Minimum length of link using copper cable (Symmetrix Supported)
Vendor Name	Name of vendor
Vendor OUI	Unique identifier for vendor
Vendor P/N	Vendor part number (Not EMC part number)
Vendor Rev	Vendor revision number
Serial No.	Vendor serial number
Date Code	Vendor date code
Smart SFP Data (displays only if a smart SFP or GBIC is present):	
Temperature	Module temperature (in Centigrade)

Table 5-2 SFP (GBIC) Tab Descriptions (continued)

Rx Power	Received optical power in micro Watts
Tx Power	Transmitted optical power in micro Watts (longwave only)
Current	Laser diode drive current in mAmps

Loop Tab

The **Loop** tab (shown in Figure 5-3) provides information about any loop on the port, including the following:

- Loop statistics
- Local AL_PA statistics

If the port is not a loop-enabled port, the following information displays:

```
Not an L_Port. No loop info available.
```

Figure 5-3 Loop Tab in the Port Information View

Table 5-3 provides a description of the fields on the **Loop** tab.

Table 5-3 Loop Tab Field Descriptions

FL Port Transfer	Displays number of times FL_Port used transfer state
FL Tenancies	Displays the number of times FL_Port opens loop tenancy
NL Tenancies	Displays the number of times NL_Port opens loop tenancy
Local AL_PA List	Displays list of AL_PAs associated with devices connected to loop

A

Customer Support

This appendix reviews the EMC process for detecting and resolving software problems, and provides essential questions that you should answer before contacting the EMC Customer Support Center.

This appendix covers the following topics:

Overview of Detecting and Resolving Problems

EMC software products are supported directly by the EMC Customer Support Center in the United States.

EMC uses the following process to resolve customer problems with its software products (Figure A-1).

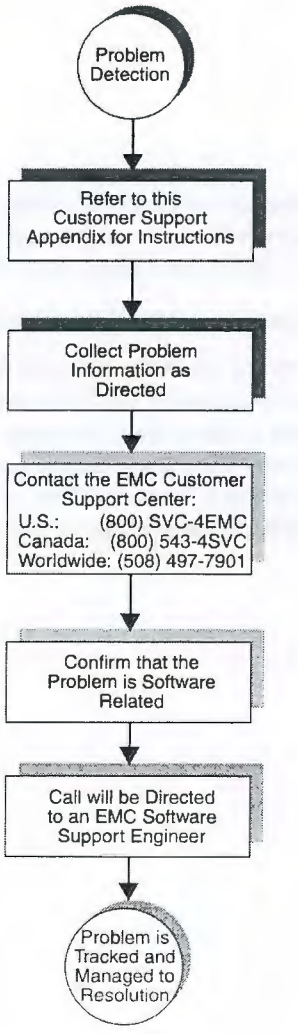


Figure A-1 Problem Detection and Resolution Process

Troubleshooting the Problem

Please perform the relevant diagnostic steps before you contact the EMC Customer Support Center:

1. Read the documentation carefully.
2. Reconstruct the events leading up to the problem and describe them in writing.
3. Run some test cases to reproduce the problem.

If you encounter a problem that requires technical programming or analysis, call the nearest EMC office or contact the EMC Customer Support Center at one of the following numbers:

United States: **(800) 782-4362 (SVC-4EMC)**

Canada: **(800) 543-4782 (543-4SVC)**

Worldwide: **(508) 497-7901**

Please do not request a specific support representative unless one has already been assigned to your particular system problem.

For additional information on EMC products and services available to customers and partners, refer to the EMC Powerlink website at:

```
http://powerlink.EMC.com
```

Before Calling the Customer Support Center

Have the following information available before calling the Customer Support Center or your support representative (if one has been assigned to you):

- ❑ Your company name
- ❑ Your name
- ❑ Your phone number
- ❑ For an existing problem, the problem tracking system ID, if one was previously assigned to the problem by a support representative
- ❑ For an MVS problem, the JESLOG, SYSPRINT, all STDOUT DD members of the server job output and similar output for the client, and the relevant portion of the SYSLOG

Documenting the Problem

If the EMC Customer Support Center requests information regarding the problem, please document it completely, making sure to include the following information:

- ❑ Your company name and address
- ❑ Your name
- ❑ Your telephone number
- ❑ The importance of the problem, so that it can be assigned a priority level

To expedite the processing of your support request, you can photocopy this list and include it with the package.

Reporting a New Problem

For a new problem, please provide the following information:

- ❑ Release level of the software that you are running
- ❑ Software installation parameters
- ❑ Host type on which you are running
- ❑ Operating system you are running and its release number
- ❑ Functions of the software that you are running
- ❑ Whether you can reproduce the problem
- ❑ Previous occurrences of the problem
- ❑ Whether the software has ever worked correctly
- ❑ Time period that the software did work properly
- ❑ Conditions under which the software worked properly
- ❑ Changes to your system between the time the software worked properly and the problem began
- ❑ Exact sequence of events that led to the system error
- ❑ Message numbers and complete text of any messages that the system produced
- ❑ Log file dated near the time the error occurred
- ❑ Results from tests that you have run
- ❑ Other related system output
- ❑ Other information that may help solve the problem

Sending Problem Documentation

Use one of the following methods to send documentation of the problem to the EMC Customer Support Center:

- E-mail
- FTP
- U.S. mail to the following address:

  EMC Customer Support Center
  45 South Street
  Hopkinton, MA 01748-9103

  If the problem was assigned a number or a specific support representative, please include that information in the address as well.

Glossary

The terms in the glossary relate to the switch and Fibre Channel connections. Many of these terms are used in this manual.

Numbers

8b/10b Encoding An encoding scheme that converts each 8-bit byte into 10 bits. Used to balance ones and zeros in high speed transports.

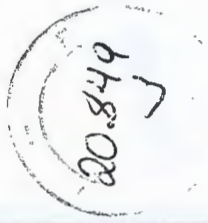
16-Port Card The fibre channel port card provided with ED-12000B. Contains 16 fibre channel ports and the corresponding LEDs indicating port status and speed. See also *Port Card*.

A

Access Control List Enables an organization to bind a specific WWN to a specific switch port or set of ports, preventing a port in another physical location from assuming the identity of a real WWN. May also refer to a list of the read/write access of a particular community string. See also *Device Connection Controls*.

Address Identifier A 24-bit value or 8-bit value used to identify the source or destination of a frame.

Admin Account A login account intended for use by the customer to control switch operation.



Alias An alternate name for an element or group of elements in the fabric. Aliases can be used to simplify the entry of port numbers and WWNs when creating zones.

Alias Address Identifier An address identifier recognized by a port in addition to its standard identifier. An alias address identifier may be shared by multiple ports.

Alias Server A fabric software facility that supports multicast group management.

AL_PA Arbitrated loop physical address. A unique 8-bit value assigned during loop initialization to a port in an arbitrated loop.

ANSI American National Standards Institute. The governing body for Fibre Channel standards in the U.S.A.

API Application programming interface. A defined protocol that allows applications to interface with a set of services.

Arbitrated Loop A shared Fibre Channel transport structured as a loop. Supports up to 126 devices and one fabric attachment. See also *Topology*.

Area Number A number assigned to each potential port location in the ED- 12000B. Used to distinguish ED- 12000B ports that have the same port number but are on different port cards.

ASIC Application-specific integrated circuit.

ATM Asynchronous transfer mode. A transport used for transmitting data over LANs or WANs that transmit fixed-length units of data. Provides any-to-any connectivity, and allows nodes to transmit simultaneously.

Auto-Negotiate Speed Process that allows two devices at either end of a link segment to negotiate common features, speed (e.g., 1 or 2 Gb/s) and functions.

Autosense Process during which a network device automatically senses the speed of another device.

B

Backup FCS Switch Backup fabric configuration server switch. The switch or switches assigned as backup in case the primary FCS switch fails. See also *FCS Switch* and *Primary FCS Switch*.

Bandwidth The total transmission capacity of a cable, link, or system. Usually measured in bps (bits per second). May also refer to the range of transmission frequencies available to a network. See also *Throughput*.

BB_Credit Buffer-to-buffer credit. The number of frames that can be transmitted to a directly connected recipient or within an arbitrated loop. Determined by the number of receive buffers available. See also *Buffer to Buffer Flow Control* and *EE_Credit*.

Beacon When all the port LEDs on a switch are set to flash from one side of the switch to the other, to enable identification of an individual switch in a large fabric. A switch can be set to beacon by Telnet command or through Web Tools.

Beginning Running Disparity The disparity at the transmitter or receiver when the special character associated with an ordered set is encoded or decoded. See also *Disparity*.

BER Bit error rate. The rate at which bits are expected to be received in error. Expressed as the ratio of error bits to total bits transmitted. See also *Error*.

Blade See *16-Port Card*.

Block As applies to Fibre Channel, upper-level application data that is transferred in a single sequence.

Blower Assembly A fan that prevents a switch (or individual elements within a switch) from over heating.

Boot Flash Flash memory that stores the boot code and boot parameters. The processor executes its first instructions from boot flash. Data is cached in RAM.

Boot Monitor Code used to initialize the CP (control processor) environment after powering on. Identifies the amount of memory available and how to access it, and retrieves information about system buses.

Broadcast The transmission of data from a single source to all devices in the fabric, regardless of zoning. See also *Multicast* and *Unicast*.

Buffer to Buffer Flow Control Management of the frame transmission rate in either a point-to-point topology or in an arbitrated loop. See also *BB_Credit*.

C

Cascade The interconnection means through which data flows from one switch to another in a fabric.

Chassis The metal frame in which the switch and switch components are mounted.

Circuit An established communication path between two ports. Consists of two virtual circuits capable of transmitting in opposite directions. See also *Link*.

Class 1 The class of frame-switching service that provides a dedicated connection between two communicating ports (also called connection- oriented service), with acknowledgment of delivery or nondelivery of frames.

Class 2 A connectionless class of frame switching service that includes acknowledgment of delivery or nondelivery of frames.

Class 3 A connectionless frame switching service that does not include acknowledgment of delivery or nondelivery of frames. Can be used to provide a multicast connection between the originator and recipients, with acknowledgment of delivery or nondelivery of frames.

Class F The class of frame switching service for a direct connection between two switches, allowing communication of control traffic between the E_Ports, with notification of delivery or nondelivery of data.

Class of Service A specified set of delivery characteristics and attributes for frame delivery.

CLI Command line interface. Interface that depends entirely on the use of commands, such as through Telnet or SNMP, and does not involve a graphical user interface.

Comma A unique pattern (either 1100000 or 0011111) used in 8b/10b encoding to specify character alignment within a data stream. See also *K28.5*.

Community (SNMP) A relationship between a group of SNMP managers and an SNMP agent, in which authentication, access control, and proxy characteristics are defined. See also *SNMP*.

Compact Flash Flash memory that stores the run time operating system and is used like hard disk storage. Not visible within the processor's memory space. Data is stored in file system format.

Configuration How a system is set up. May refer to hardware or software.

Hardware: The number, type, and arrangement of components that make up a system or network.

Software: The set of parameters that guide switch operation. May include general system parameters, IP address information, domain ID, and other information. Modifiable by any login with administrative privileges.

Connection Initiator A port that has originated a Class 1 dedicated connection and received a response from the recipient.

Connection Recipient A port that has received a Class 1 dedicated connection request and transmitted a response to the originator.

Control Panel Refers to the left-side panel of Web Tools, which accesses fabric-wide functions such as zoning and events.

Core Switch A switch whose main task is to interconnect other switches. See also *Edge Switch*.

CP Card Control processor card. The central processing unit of the ED-12000B, which contains two CP card slots to provide redundancy. Provides ethernet, serial, and modem ports with the corresponding LEDs.

CRC Cyclic redundancy check. A check for transmission errors included in every data frame.

Credit As applies to Fibre Channel, the number of receive buffers available for transmission of frames between ports. See also *BB_Credit* and *EE_Credit*.

Cut-through A switching technique that allows the route for a frame to be selected as soon as the destination address is received. See also *Route*.

D

Data Word Type of transmission word that occurs within frames. The frame header, data field, and CRC all consist of data words. See also *Frame*, *Ordered Set*, and *Transmission Word*.

DB-9 Connector A 9-pin version of the RS-232C port interface. May be either the male or female interface. See also *RS-232 Port*.

dBm, dBW Logarithmic units of power used in electronics. Indicates signal strength in decibels above the reference level, which is 1 milliwatt for dBm, and 1 watt for dBW. An increase of 10 dBm or 10 dBW represents a 10-fold increase in power.

DCE Port A data communications equipment port capable of interfacing between a DTE (data terminal equipment) port and a transmission circuit. DTE devices with an RS-232 (or EIA-232) port interface transmit on pin 3, and receive on pin 2. See also *DTE Port* and *RS-232 Port*.

Defined Zone Configuration The set of all zone objects defined in the fabric. May include multiple zone configurations. See also *Zone Configuration*.

Device A disk, a RAID, or an HBA.

Device Connection Controls Enables organizations to bind an individual device port to a set of one or more switch ports. Device ports are specified by a WWN and typically represent HBAs (servers). See also *Access Control List*.

Disparity The relationship of ones and zeros in an encoded character. Neutral disparity means an equal number of each, positive disparity means a majority of ones, and negative disparity means a majority of zeros.

DLS Dynamic load sharing. Dynamic distribution of traffic over available paths. Allows for recomputing of routes when an Fx_Port or E_Port changes status.

Domain ID As applies to Departmental Switches, a unique number between 1 and 239 that identifies the switch to the fabric and is used in routing frames. Usually automatically assigned by the switch, but can be manually assigned.

DTE Port A data terminal equipment port capable of interfacing to a transmission circuit through a connection to a DCE (data communications equipment) port. DTE devices with an RS-232 (or (EIA-232) port interface transmit on pin 3, and receive on pin 2 in a 9-pin connection (reversed in 25-pin connectors). See also *DCE Port* and *RS-232 Port*.

DWDM Dense wavelength multiplexing. A means to concurrently transmit more than one stream of data through a single fiber by modulating each stream of data on to a different wavelength of light.

E

Edge Switch A switch whose main task is to connect nodes to the fabric. See also *Core Switch*.

E_D_TOV Error detect time-out value. The minimum amount of time a target waits for a sequence to complete before initiating recovery. Can also be defined as the maximum time allowed for a round-trip transmission before an error condition is declared. See also *R_A_TOV*.

E_Port Expansion port. A type of switch port that can be connected to an E_Port on another switch to create an ISL. See also *ISL*.

EE_Credit End-to-end credit. The number of receive buffers allocated by a recipient port to an originating port. Used by Class 1 and 2 services to manage the exchange of frames across the fabric between source and destination. See also *End-to-End Flow Control* and *BB_Credit*.

Effective Zone Configuration The currently enabled configuration of zones. Only one configuration can be enabled at a time. See also *Defined Zone Configuration* and *Zone Configuration*.

EIA Rack A storage rack that meets the standards set by the Electronics Industry Association.

End-to-End Flow Control Governs flow of Class 1 and 2 frames between N_Ports. See also *EE_Credit*.

Error As applies to Fibre Channel, a missing or corrupted frame, time-out, loss of synchronization, or loss of signal (link errors).

ESN Enterprise Storage Network. A storage network implementation that integrates products, technology, and services offering universal data access for every major computing platform, operating system, and application across any combination of SCSI, Ultra SCSI, Fibre Channel, and ESCON technologies.

Exchange The highest level Fibre Channel mechanism used for communication between N_Ports. Composed of one or more related sequences, and can work in one or both directions.

Extended Fabrics A product that runs on Fabric OS and allows creation of a Fibre Channel fabric interconnected over distances of up to 100 kilometers.

F

F_Port Fabric port. A port that is able to transmit under fabric protocol and interface over links. Can be used to connect an N_Port to a switch. See also *FL_Port* and *Fx_Port*.

Fabric A Fibre Channel network containing two or more switches in addition to hosts and devices. May also be referred to as a switched fabric. See also *Topology*, *ESN*, and *Cascade*.

Fabric Access Allows the application to control the fabric directly for functions such as discovery, access (zoning) management, performance, and switch control. Consists of a host-based library that interfaces the application to switches in the fabric over an out-of-band TCP/IP connection or in-band using an IP-capable host bus adapter (HBA).

Fabric Name The unique identifier assigned to a fabric and communicated during login and port discovery.

Failover The act that causes control to pass from one redundant unit to another.

FC-AL-3 The Fibre Channel Arbitrated Loop standard defined by ANSI. Defined on top of the FC-PH standards.

FCIA Fibre Channel Industry Association. An international organization of Fibre Channel industry professionals. Provides oversight of ANSI and industry-developed standards, among other tasks.

FC-FLA The Fibre Channel Fabric Loop Attach standard defined by ANSI.

FCP Fibre Channel Protocol. Mapping of protocols onto the Fibre Channel standard protocols. For example, SCSI FCP maps SCSI-3 onto Fibre Channel.

FC-PH-1, 2, 3 The Fibre Channel Physical and Signalling Interface standards defined by ANSI.

FC-PI The Fibre Channel Physical Interface standard defined by ANSI.

FC-PLDA The Fibre Channel Private Loop Direct Attach standard defined by ANSI. Applies to the operation of peripheral devices on a private loop.

FCS Switch Fabric configuration server switch. One or more designated switches that store and manage the configuration and security parameters for all switches in the fabric. FCS switches are designated by WWN, and the list of designated switches is communicated fabric-wide. See also *Backup FCS Switch* and *Primary FCS Switch*.

FC-SW-2 The second generation of the Fibre Channel Switch Fabric standard defined by ANSI. Specifies tools and algorithms for the interconnection and initialization of Fibre Channel switches in order to create a multi-switch Fibre Channel fabric.

Fibre Channel Transport A protocol service that supports communication between Fibre Channel service providers. See also *FSP*.

FIFO First in, First out. May also refer to a data buffer that follows the first in, first out rule.

Fill Word An IDLE or ARB ordered set that is transmitted during breaks between data frames to keep the Fibre Channel link active.

Firmware The basic operating system provided with the hardware.

Firmware Download The process of loading firmware down from a server into the switch.

Flash Programmable NVRAM memory that maintains its contents.

Flash Partition Two redundant usable areas, called partitions, into which firmware can be downloaded.

FLOGI Fabric Login. The process by which an N_Port determines whether a fabric is present, and if so, exchanges service parameters with it. See also *PLOGI*.

FL_Port Fabric loop port. A port that is able to transmit under fabric protocol and also has arbitrated loop capabilities. Can be used to connect an NL_Port to a switch. See also *F_Port* and *Fx_Port*.

Frame The Fibre Channel structure used to transmit data between ports. Consists of a start-of-frame delimiter, header, any optional headers, the data payload, a cyclic redundancy check (CRC), and an end-of-frame delimiter. There are two types of frames: link control frames (transmission acknowledgements, etc.) and data frames.

FRU Field replaceable unit. A component that can be replaced on site.

FS Fibre Channel Service. A service that is defined by Fibre Channel standards and exists at a well-known address. For example, the Simple Name Server is a Fibre Channel service. See also *FSP*.

FSP Fibre Channel Service Protocol. The common protocol for all fabric services, transparent to the fabric type or topology. See also *FS*.

FSPF Fabric Shortest Path First. A routing protocol for Fibre Channel switches.

Full Duplex A mode of communication that allows the same port to simultaneously transmit and receive frames. See also *Half Duplex*.

Full Fabric The EMC software license that allows multiple E_Ports on a switch, making it possible to create multiple ISLs.

Fx_Port A fabric port that can operate as either an F_Port or FL_Port. See also *F_Port* and *FL_Port*.

G

G_Port Generic port. A port that can operate as either an E_Port or F_Port. A port is defined as a G_Port when it is not yet connected or has not yet assumed a specific function in the fabric.

Gateway Hardware that connects incompatible networks by providing translation for both hardware and software. For example, an ATM gateway can be used to connect a Fibre Channel link to an ATM connection.

GBIC Gigabit interface converter. A removable serial transceiver module that allows gigabaud physical level transport for Fibre Channel and Gigabit Ethernet. GBIC and SFP terms are used interchangeably throughout the documentation, although they are different types of optics and the hardware is not interchangeable. See also *SFP*.

Gb/s Gigabits per second (1,062,500,000 bits/second).

GB/s GigaBytes per second (1,062,500,000 bytes/second).

H

Half Duplex A mode of communication that allows a port to either transmit or receive frames at any time, but not simultaneously (with the exception of link control frames, which can be transmitted at any time). See also *Full Duplex*.

HBA Host bus adapter. The interface card between a server or workstation bus and the Fibre Channel network.

High Availability An attribute of equipment that identifies it as being capable of conducting customer operations well in excess of 99% of the time. Typically, high availability is identified by the number of nines in that percentage. Five nines means the equipment is rated as being capable of conducting customer operations 99.999% of the time without failure.

Host A computer that accesses storage devices over the fabric. May also be referred to as a server. See also *Workstation*.

Hot Pluggable A FRU capability that indicates it may be extracted or installed while customer data is otherwise flowing in the chassis.

Hub A Fibre Channel wiring concentrator that collapses a loop topology into a physical star topology. Nodes are automatically added to the loop when active and removed when inactive.

I

Idle Continuous transmission of an ordered set over a Fibre Channel link when no data is being transmitted, to keep the link active and maintain bit, byte, and word synchronization.

Initiator A server or workstation on a Fibre Channel network that initiates communications with storage devices. See also *Target*.

Integrated Fabric The fabric created by connecting multiple switches with multiple ISL cables, and configuring the switches to handle traffic as a seamless group.

IOD In-order delivery. A parameter that, when set, guarantees that frames are either delivered in order or dropped.

ISL Interswitch link. A Fibre Channel link from the E_Port of one switch to the E_Port of another. See also *E_Port* and *Cascade*.

Isolated E_Port An E_Port that is online but not operational due to overlapping domain IDs or nonidentical parameters (such as E_D_TOVs). See also *E_Port*.

IU Information unit. A set of information as defined by either upper-level process protocol definition or upper-level protocol mapping.

J

JBOD Just a bunch of disks. A number of disks connected in a single chassis to one or more controllers. See also *RAID*.

K

K28.5 A special 10-bit character used to indicate the beginning of a transmission word that performs Fibre Channel control and signaling functions. The first seven bits of the character are the comma pattern. See also *Comma*.

Kernel Flash Flash memory that stores the bootable kernel code and is visible within the processor's memory space. Data is stored as raw bits.

L

L_Port Loop port. A node port (NL_Port) or fabric port (FL_Port) that has arbitrated loop capabilities. An L_Port can be in one of two modes:

- Fabric mode: Connected to a port that is not loop capable, and using fabric protocol.
- Loop mode: In an arbitrated loop and using loop protocol. An L_Port in loop mode can also be in participating mode or nonparticipating mode.

See also *Nonparticipating Mode* and *Participating Mode*.

Latency The period of time required to transmit a frame, from the time it is sent until it arrives.

LED Light-emitting diode. Used to indicate status of elements on switch.

Link As applies to Fibre Channel, a physical connection between two ports, consisting of both transmit and receive fibres. See also *Circuit*.

Link Services A protocol for link-related actions.

LWL Long wavelength. A type of fiber-optic cabling that is based on 1300mm lasers and supports link speeds of 1.0625 Gb/s and 2.125 Gb/s. May also refer to the type of GBIC or SFP. See also *SWL*.

M

Media See *Transceiver*.

MIB Management Information Base. An SNMP structure to help with device management, providing configuration and device information.

Modem Serial Port The upper serial port on the CP card. Can be used to connect the CP card to a country-specific modem. Has a DB-9 connector wired as a ttyS1 DTE device, and can be connected by serial cable to a DCE device. Can be connected to a modem using a standard 9-pin modem cable. A Hayes-compatible modem or Hayes-emulation is required. See also *DCE Port* and *Terminal Serial Port*.

Multicast The transmission of data from a single source to multiple specified N_Ports (as opposed to all the ports on the network). See also *Broadcast* and *Unicast*.

Multimode A fiber-optic cabling specification that allows up to 500 meters for 1 GB Fibre Channel and 300 meters for 2 GB Fibre Channel between devices.

N

N_Port Node port. A port on a node that can connect to a Fibre Channel port or to another N_Port in a point-to-point connection. See also *NL_Port* and *Nx_Port*.

Name Server The term frequently used to indicate Simple Name Server. See also *SNS*.

Node A Fibre Channel device that contains an N_Port or NL_Port.

Negotiate See *Auto-Negotiate Speed* and *Autosense*.

NL_Port Node loop port. A node port that has arbitrated loop capabilities. Used to connect an equipment port to the fabric in a loop configuration through an FL_Port. See also *N_Port* and *Nx_Port*.

Nonparticipating Mode A mode in which an L_Port in a loop is inactive and cannot arbitrate or send frames, but can retransmit any received transmissions. This mode is entered if there are more than 127 devices in a loop and an AL_PA cannot be acquired. See also *L_Port* and *Participating Mode*.

Nx_Port A node port that can operate as either an N_Port or NL_Port.

O

Ordered Set A transmission word that uses 8b/10b mapping and begins with the K28.5 character. Ordered sets occur outside of frames, and include the following items:

Frame delimiters mark frame boundaries and describe frame contents.
Primitive signals indicate events.
Primitive sequences indicate or initiate port states.
Ordered sets are used to differentiate Fibre Channel control information from data frames and to manage the transport of frames.

P

Packet A set of information transmitted across a network. See also *Frame*.

Participating Mode A mode in which an L_Port in a loop has a valid AL_PA and can arbitrate, send frames, and retransmit received transmissions. See also *L_Port* and *Nonparticipating Mode*.

Path Selection The selection of a transmission path through the fabric. EMC switches use the FSPF protocol.

PLOGI Port Login. The port-to-port login process by which initiators establish sessions with targets. See also *FLOGI*.

Point-to-Point A Fibre Channel topology that employs direct links between each pair of communicating entities. See also *Topology*.

Port_Name The unique identifier assigned to a Fibre Channel port. Communicated during login and port discovery.

Port Cage The metal casing extending out of the optical port on the switch, and in which the GBIC or SFP can be inserted.

Port Card A Fibre Channel card that contains optical port interfaces. See also *16-Port Card*.

Port Module A collection of ports in a switch.

POST Power-on self test. A series of tests run by a switch after it is turned on.

Principal Switch The switch that assumes the responsibility to assign Domain IDs. The role of Principle Switch is negotiated after a Build Fabric event.

Primary FCS Switch Primary fabric configuration server switch. The switch that actively manages the configuration and security parameters for all switches in the fabric. See also *Backup FCS Switch* and *FCS Switch*.

Private Device A device that supports arbitrated loop protocol and can interpret 8-bit addresses, but cannot log in to the fabric.

Private Loop An arbitrated loop that does not include a participating FL_Port.

Private NL_Port An NL_Port that communicates only with other private NL_Ports in the same loop and does not log in to the fabric.

Protocol A defined method and a set of standards for communication.

Public Device A device that supports arbitrated loop protocol, can interpret 8-bit addresses, and can log in to the fabric.

Public Loop An arbitrated loop that includes a participating FL_Port, and may contain both public and private NL_Ports.

Public NL_Port An NL_Port that logs into the fabric, can function within either a public or a private loop, and can communicate with either private or public NL_Ports.

Q

Quad A group of four adjacent ports that share a common pool of frame buffers.

R

R_A_TOV Resource allocation time-out value. The maximum time a frame can be delayed in the fabric and still be delivered. See also *E_D_TOV*.

R_RDY Receiver ready. A primitive signal indicating that the port is ready to receive a frame.

RAID Redundant array of independent disks. A collection of disk drives that appear as a single volume to the server and are fault tolerant through mirroring or parity checking. See also *JBOD*.

Remote Fabric A fabric that spans across WANs by using protocol translation (a process also known as tunneling) such as Fibre Channel over ATM or Fiber Channel over IP.

Request Rate The rate at which requests arrive at a servicing entity. See also *Service Rate*.

Root Account A login used for debugging purposes and is not intended for customer use.

Route As applies to a fabric, the communication path between two switches. May also apply to the specific path taken by an individual frame, from source to destination. See also *SFP*.

Routing The assignment of frames to specific switch ports, according to frame destination.

RS-232 Port A port that conforms to a set of EIA (Electrical Industries Association) standards. Used to connect DTE and DCE devices for communication between computers, terminals, and modems. See also *DCE Port* and *DTE Port*.

RSCN Registered state change notification. A switch function that allows notification of fabric changes to be sent from the switch to specified nodes.

S

SAN Storage area network. A network of systems and storage devices that communicate using Fibre Channel protocols. See also *Fabric*.

SCSI Small computer systems interface. A parallel bus architecture and protocol for transmitting large data blocks to a distance of 15-25 meters.

SDRAM Synchronous dynamic random access memory. The main memory for the switch. Used for volatile storage during switch operation. See also *Flash*.

Sequence A group of related frames transmitted in the same direction between two N_Ports.

Service Rate The rate at which an entity can service requests. See also *Request Rate*.

SES A Brocade product that runs on Fabric OS and allows monitoring, configuring, and maintenance of the Departmental Switch family using SCSI 3 Enclosure Services.

SFP Small form factor pluggable. Optical transceiver used to convert signals between optical fiber cables and switches. GBIC and SFP terms are used interchangeably throughout the documentation, although they are different types of optics and the hardware is not interchangeable. See also *GBIC*.

SI Sequence initiative.

SID/DID Source identifier/destination identifier. S_ID is a 3-byte field in the frame header that is used to indicate the address identifier of the N_Port from which the frame was sent.

Single Mode A Fibre Channel optic cabling standard for use with long-wavelength lasers operating in the infrared portion of the spectrum at 1300 nonmeters (nm).

SNMP Simple Network Management Protocol. An Internet management protocol that uses either IP for network-level functions and UDP for transport-level functions, or TCP/IP for both. Can be made available over other protocols, such as UDP/IP, because it does not rely on the underlying communication protocols. See also *Community (SNMP)*.

SNS Simple Name Server. A switch service that stores names, addresses, and attributes for up to 15 minutes, and provides them as required to other devices in the fabric. SNS is defined by Fibre Channel standards and exists at a well-known address. May also be referred to as directory service. See also *FS*.

Subordinate Switch All switches in the fabric other than the principal switch. See also *Principal Switch*.

Switch Hardware that routes frames according to Fibre Channel protocol and is controlled by software.

Switch Name The arbitrary name assigned to a switch.

Switch Port A port on a switch. Switch ports can be E_Ports, F_Ports, or FL_Ports.

SWL Short wavelength. A type of fiber-optic cabling that is based on 850mm lasers and supports link speeds of 1.0625 Gb/s and 2.125 Gb/s. May also refer to the type of GBIC or SFP. See also *LWL*.

T

Target A storage device on a Fibre Channel network. See also *Initiator*.

Terminal Serial Port The lower serial port on the CP card. Receives error messages. Can be used to connect the CP card to a computer terminal. Has a DB-9 connector wires as a ttyS0 DTE device, and can be connected by serial cable to a DCE device. The connector has pins two and three swapped so that a straight-through cable can be used to connected to a terminal. See also *DB-9 Connector*, *DCE Port*, and *Modem Serial Port*.

Throughput The rate of data flow achieved within a cable, link, or system. Usually measured in bps (bits per second). See also *Bandwidth*.

Topology As applies to Fibre Channel, the configuration of the Fibre Channel network and the resulting communication paths allowed. There are three possible topologies:

- Point-to-point — A direct link between two communication ports.
- Switched fabric — Multiple N_Ports linked to a switch by F_Ports.
- Arbitrated loop — Multiple NL_Ports connected in a loop.

Transceiver Device that converts one form of signaling to another for transmission and reception. In fiber optics, it refers to optical and electrical.

Transmission Character A 10-bit character encoded according to the rules of the 8b/10b algorithm.

Transmission Word A group of four transmission characters.

Trap (SNMP) The message sent by an SNMP agent to inform the SNMP management station of a critical error. See also *SNMP*.

Tunneling A technique for enabling two networks to communicate when the source and destination hosts are both on the same type of network, but are connected by a different type of network.

U

U_Port Universal port. A switch port that can operate as a G_Port, E_Port, F_Port, or FL_Port. A port is defined as a U_Port when it is not connected or has not yet assumed a specific function in the fabric.

UDP User Datagram Protocol. A protocol that runs on top of IP and provides port multiplexing for upper-level protocols.

ULP Upper-level Protocol. The protocol that runs on top of Fibre Channel. Typical upper-level protocols are SCSI, IP, HIPPI, and IPI.

ULP_TOV Upper-level time-out value. The minimum time that a SCSI ULP process waits for SCSI status before initiating ULP recovery.

Unicast The transmission of data from a single source to a single destination. See also *Broadcast* and *Multicast*.

User Account A login intended for use by the customer to monitor, but not control, switch operation.

V

VC Virtual circuit. A one-way path between N_Ports that allows fractional bandwidth.

W

Well-Known Address — As pertaining to Fibre Channel, a logical address defined by the Fibre Channel standards as assigned to a specific function, and stored on the switch.

Workstation — A computer used to access and manage the fabric. May also be referred to as a management station or host.

WWN — World Wide Name. An identifier that is unique worldwide. Each entity in a fabric has a separate WWN.

Z

Zone — A set of devices and hosts attached to the same fabric and configured as being in the same zone. Devices and hosts within the same zone have access permission to others in the zone, but are not visible to any outside the zone.

Zone Alias — A name assigned to a device or group of devices in a zone. Aliases can greatly simplify the zone administrative process.

Zone Configuration — A specified set of zones. Enabling a configuration enables all zones in that configuration. See also *Defined Zone Configuration*.

Zone Member — A port, node, WWN, or alias, which is part of a zone.

Zone Schemes — The level of zoning granularity selected. For example, zoning may be done by switch/port, WWN, or a mixture. See also *Zone Configuration*.

Zone Set — See *Zone Configuration*.

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COBRA TECNOLOGIA
Integradora de Soluções em TI e Serviços

ANEXO SWITCH TIPO 03
PARTE 14/A

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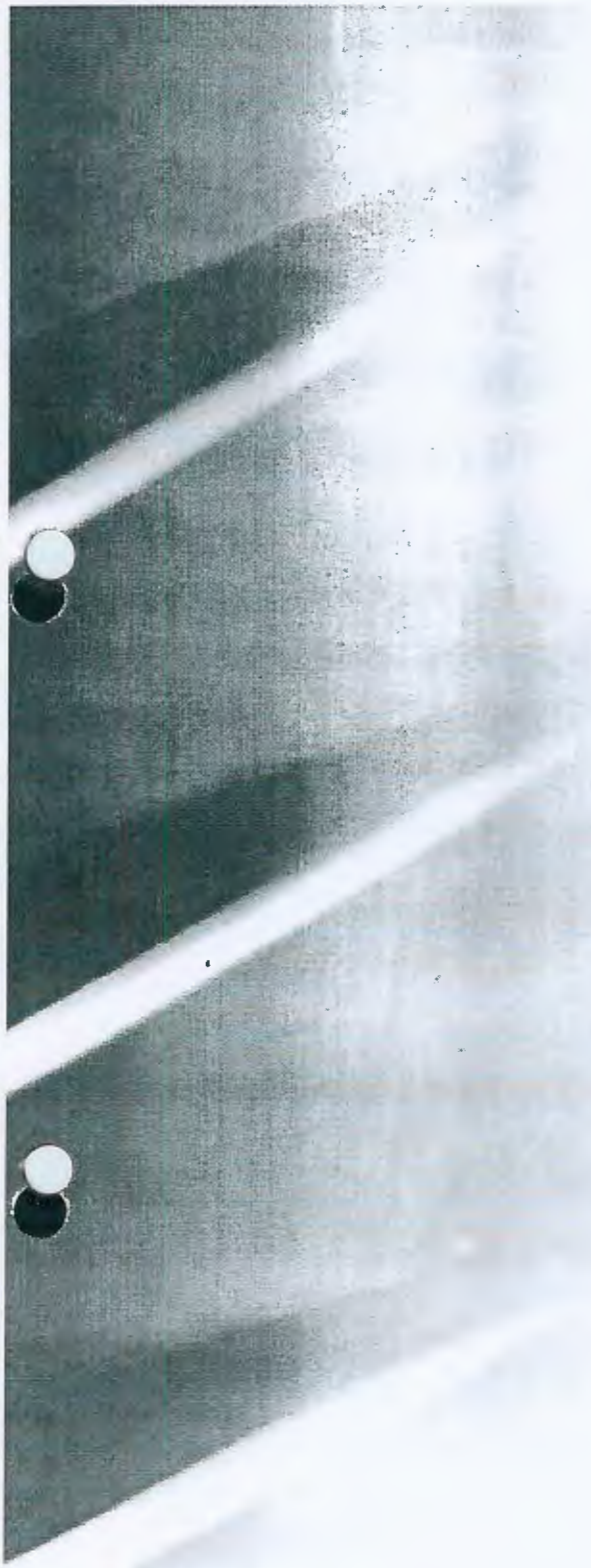

EMC Connectrix B Series Management Information Base (MIB)

Version 3.1 and Version 4.1

REFERENCE MANUAL

P/N 300-000-636
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EMC Connectrix products have been extensively tested and certified to meet UL60950, CSA 22.2 No 60950, IEC 60950/EN60950; Safety of Information Technology Equipment including Electrical Business Equipment, FCC Rules Part 15 Subpart B; CISPR22 Class A; European EMC Directive 89/336/EEC on, electromagnetic compatibility.

This class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Warning!
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Achtung!
Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

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Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.

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This equipment generates, uses, and may emit radio frequency energy. The equipment has been type tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC rules, which are designed to provide reasonable protection against such radio frequency interference.

Operation of this equipment in a residential area may cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Any modifications to this device - unless expressly approved by the manufacturer - can void the user's authority to operate this equipment under part 15 of the FCC rules.

警告使用者:
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾,在這種情況下，使用者會被要求採取某些適當的對策。

Trademark Information

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Chapter 4 FCFabric Element MIB Object Types

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Preface

The EMC Connectrix B Series Management Information Base (MIB) Reference Manual provides information on MIB objects that you may encounter during installation and operation of the DS-16B2, DS-32B2 and ED-12000B.

As part of its effort to continuously improve and enhance the performance and capabilities of the EMC product line, EMC periodically releases new versions of the EMC Connectrix Departmental Switch and Enterprise Director. For the most up-to-date information on product features, see your product release notes.

If a feature in the DS-16B2, DS-32B2, or ED-12000B does not function properly or does not function as described in this manual, please contact the EMC Customer Support Center for assistance.

Audience

The audience for this manual includes Field Technicians and System Administrators.

Organization

Here is an overview of where information is located in this manual:

Chapter 1, *Overview of MIB Support*, provides generaal information on MIB.

Chapter 2, *MIB-II Object Types*, provides information about MIB-II object types.

Chapter 3, *Fibre Alliance MIB Object Types*, provides information about FA-MIB object types.

Chapter 4, *FCFabric Element MIB Object Types*, provides information about FE-MIB object types.

Chapter 5, *FCSwitch MIB Object Types*, provides information about FCSwitch MIB object types.

Chapter 7, *High Availability MIB Object Types*, provides information about HA-MIB object types.

Appendix A, *MIB Functional Groupings*, provides information about how MIB object types can be grouped, according to their function.

Appendix B, *MIB OIDs and Their Matching Object Names*, provides a listing of MIB object names and the corresponding MIB Object ID (OID) asociated with each.

Appendix C, *FA-MIB*, provides information on FA-MIB.

Appendix D, *FE-MIB*, provides information on FE-MIB.

Appendix E, *SW-MIB*, provides information on SW-MIB.

Appendix F, *Customer Support*, provides essential questions that a customer should be prepared to answer when contacting the EMC Customer Support Center.

The *Glossary* defines terminology used in this manual.

The tables within this manual often contain a column labeled Description. This column contains information about those MIB objects that EMC has modified for use or that require additional explanation beyond the scope of the standard MIB explanation. If the Description column contains no information for the MIB object, the standard return values apply.

Related Documentation

Related product information can be found in the following EMC publications:

- *EMC Connectrix Departmental Switch DS-32B2 Hardware Reference Manual*
- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Web Tools User Guide*
- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Zoning Reference Manual*
- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric Watch Reference Manual*
- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Extended Fabric User Guide*

- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Interswitch Link (ISL) Trunking User Guide*
- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Performance Monitoring User Guide*
- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS Procedures Manual*
- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS Reference Manual*
- *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Diagnostic and System Error Message Reference Manual*

Conventions Used in this Manual

EMC uses the following conventions for notes, cautions, and warnings.

A note presents information that is important, but not hazard-related.

CAUTION

A caution contains information essential to avoid damage to the system or equipment. The caution may apply to hardware or software.

WARNING

A warning contains information essential to avoid a hazard that can cause severe personal injury, death, or substantial property damage if you ignore the message.

Typographical Conventions

EMC uses the following type style conventions in this document:

Palatino, bold	◆ Dialog box, button, icon, and menu items in text ◆ Selections you can make from the user interface, including buttons, icons, options, and field names
Palatino, italic	◆ New terms or unique word usage in text ◆ Command line arguments when used in text ◆ Book titles
`Courier, italic`	Arguments used in examples of command line syntax.

`Courier`	System prompts and displays and specific filenames or complete paths. For example:
	`working root directory [/user/emc]:`
	`c:\Program Files\EMC\Symapi\db`

`Courier, bold`	◆ User entry. For example: **`symmpoll -p`** ◆ Options in command line syntax
AVANT GARDE	Keystrokes

Where to Get Help

For questions about technical support, call your local sales office or service provider.

If you have a valid EMC service contract, contact EMC Customer Service at:

United States:	**(800) 782-4362 (SVC-4EMC)**
Canada:	**(800) 543-4782 (543-4SVC)**
Worldwide:	**(508) 497-7901**

Follow the voice menu prompts to open a service call and select the applicable product support.

If you are located outside the USA, call the nearest EMC office for technical assistance.

Sales and Customer Service Contacts

For the list of EMC sales locations, please access the EMC home page at:

http://www.emc.com/contact/

For additional information on the EMC products and services available to customers and partners, refer to the EMC Powerlink website at:

http://powerlink.emc.com

Your Comments

Your suggestions will help us continue to improve the accuracy, organization, and overall quality of the user publications. Please send a message to **techpub_comments@EMC.com** with your opinions of this document.

1 Overview of MIB Support

This chapter provides general information on Management Information Bases (MIBs).

Documentation

MIB files

Fabric OS supports the following SNMP MIB files:

- V4_0SW.mib
- V4_0FE.mib
- V4_0TRP.mib
- V4_0FA.mib
- V4_0HA.mib

You can download these files from the Powerlink website:

```
http://www.powerlink.EMC.com
```

To download MIB files:

1. Select **Support**.
2. Select **Document Library.**
3. Select **Connectrix.**
4. Scroll down to the file you want to download.

Important In most cases, the switches' embedded MIBs and traps will already be enabled. To verify that all of the necessary MIBs and traps are enabled, use the `snmpMibCapSet` command. The default settings are:

```
swd55:admin> snmpmibcapset

The SNMP Mib/Trap Capability has been set to support
FE-MIB SW-MIB FA-MIB SW-TRAP FA-TRAP
FA-MIB (yes, y, no, n): [yes] y
SW-TRAP (yes, y, no, n): [yes] y
FA-TRAP (yes, y, no, n): [yes] y
SW-EXTTRAP (yes, y, no, n): [no] y
SB5_12000B_0:admin>
```

For more information on the `snmpMibCapSet` command, refer to the *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS Reference Manual.*

Enabling MIBs and Traps

The following procedure explains how to enable all MIBs and traps on a managed device in a Symmetrix environment.

To complete this procedure from a Windows-based platform, you must have Microsoft Telnet software installed on the host platform. If you are using a UNIX platform, then start a Telnet session on the switch and skip to step 6.

Enabling the FA-MIB

To enable the MIBs of a managed device:

1. From the Windows **Start** menu, select **Run**.

   The Run dialog box (Figure 1-1) opens.

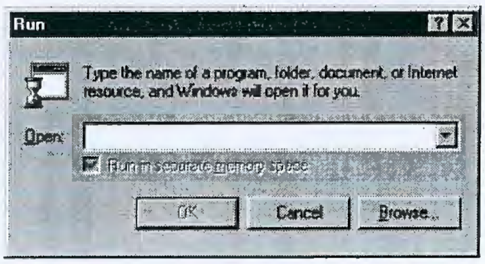


Figure 1-1 Run Dialog Box

2. In the **Open** box, specify **Telnet** and click **OK**.

   The Telnet main window opens.

3. From the **Connect** menu, select **Remote System**.

   The Connect dialog box (Figure 1-2) opens.

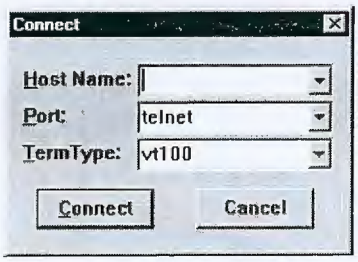


Figure 1-2 Telnet Connect Dialog Box

4. In the **Host Name** box, specify the IP address of the device.

   The IP address should be provided by the customer.

5. Click **Connect**.
6. At the login prompt, enter **admin**.
7. At the Password prompt, enter a password.

   The password should be provided by the customer.

   Telnet connects with the device.
8. Enter the following command:

   snmpMibCapSet

   Output similar to Figure 1-3 displays.

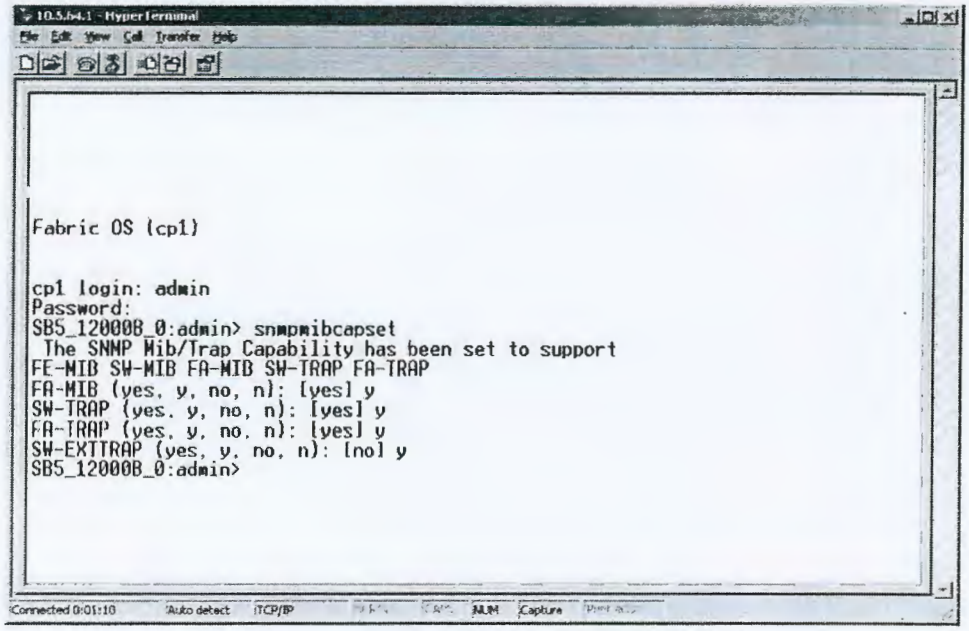


Figure 1-3 Enabling the FA-MIB

For more information on this command, see *Chapter 3, Fibre Alliance MIB Object Types.*

MIB-II File System Organization

Figure 1-4 through 1-7 depict the organization and structure of the MIB-II file system.

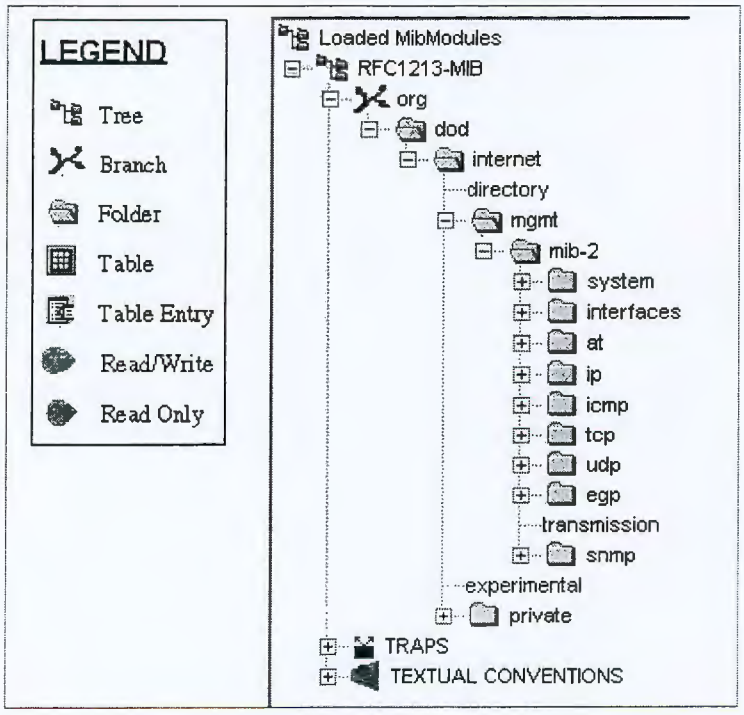


Figure 1-4 MIB-II Overall Tree Structure

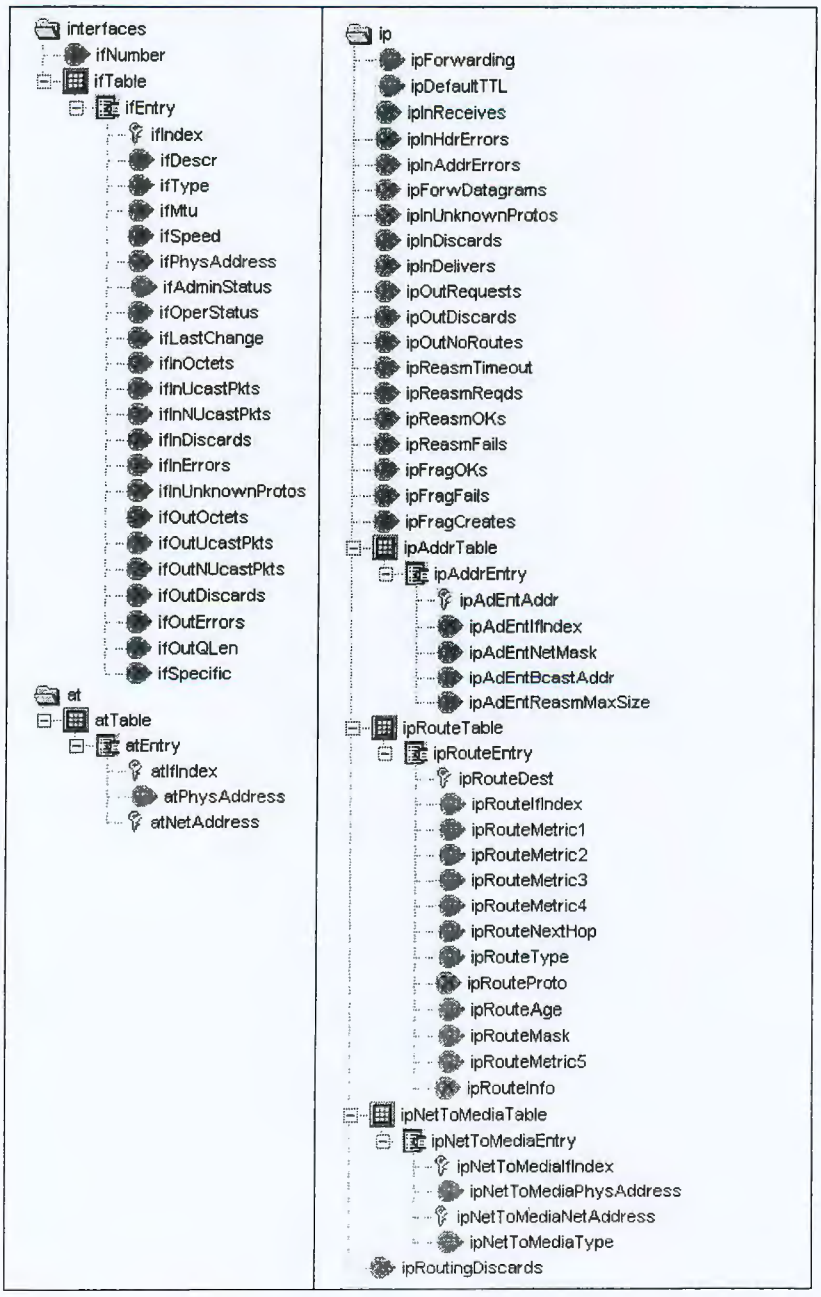


Figure 1-5 Tree Structure for MIB-II System, interfaces, at, and ip Groups

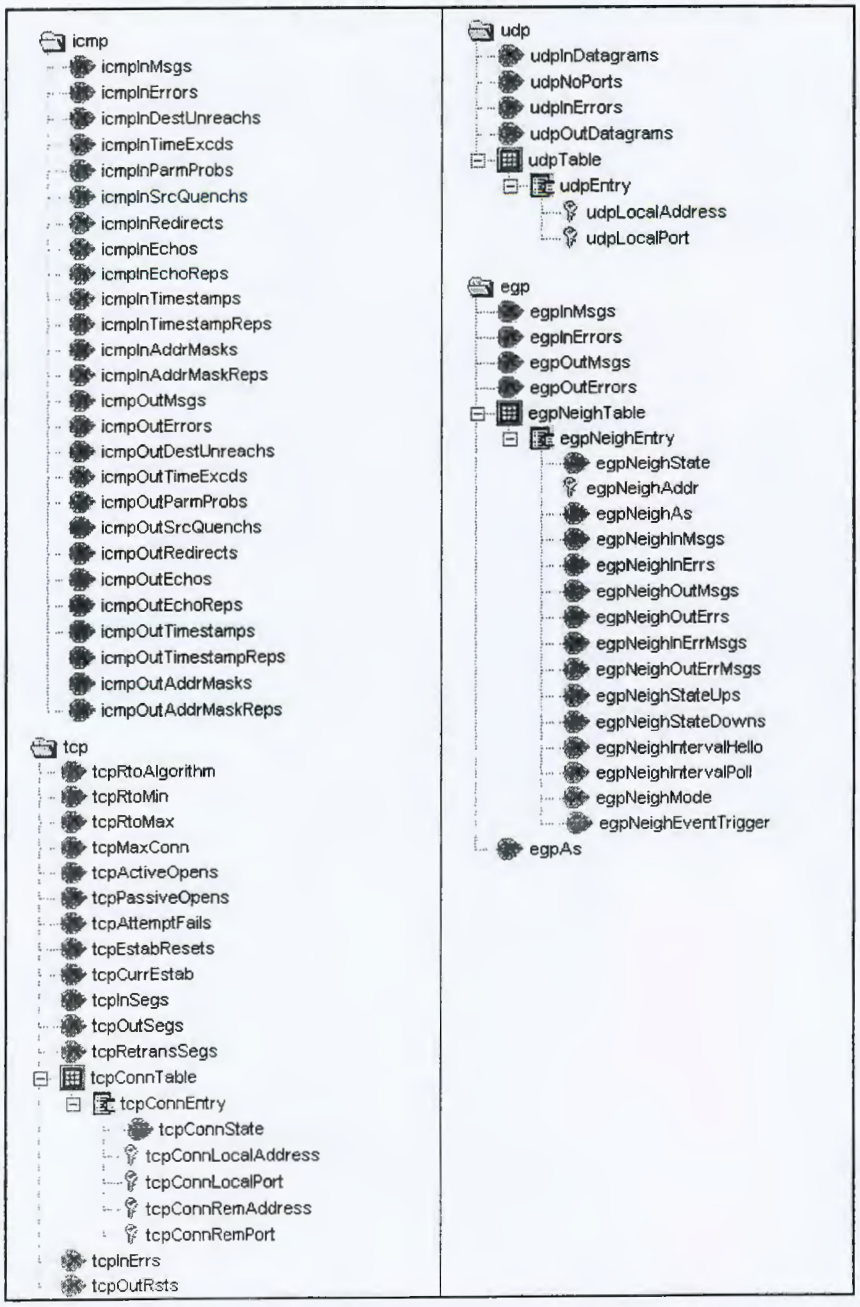


Figure 1-6 Tree Structure for MIB-II icmp, tcp, udp, and egp Groups

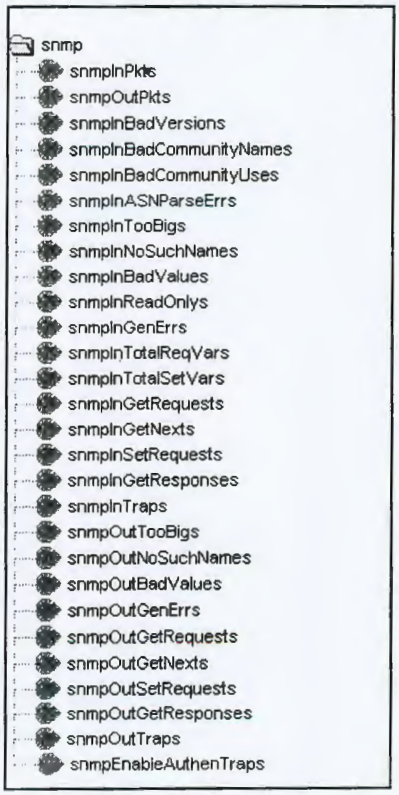


Figure 1-7 Tree Structure for MIB-II snmp Group

Definitions for MIB-II

The following definitions are used for MIB-II.

Table 1-1 **MIB-II Conventions**

Type Definition	Value	Declaration	Description
Display String	Octet String of size 0 to 255		
PhysAddress	Octet String		

Imports

The following objects are imported from RFC1155-SMI:

- mgmt
- NetworkAddress
- IpAddress
- Counter
- Gauge
- TimeTicks

Object Identifiers

- mgmt = { iso org(3) dod(6) internet(1) mgmt(2) }
- directory = { internet 1 }
- experimental = { internet 3 }
- private = { internet 4 }
- enterprises = { private 1 }
- mib-2 = { mgmt 1 }

2 MIB-II Object Types

This chapter provides descriptions and other information specific to MIB-II object types.

System Group

Implementation of the System Group is mandatory for all systems. If an agent is not configured to have a value for any of the System Group variables, a string of length 0 is returned.

sysDescr

OID 1.3.6.1.2.1.1.1

Description A textual description of the entity.

This value should include the full name and version identification of the hardware type, software operating system, and networking software. This must contain only printable ASCII characters.

Default Value = **Fibre Channel Switch**.

Set this value using the **agtcfgSet** Telnet command.

sysObjectID

OID 1.3.6.1.2.1.1.2

Description The vendor's authoritative identification of the network management subsystem contained in the entity.

This value is allocated within the SMI enterprises subtree (1.3.6.1.4.1) and provides an easy and unambiguous means for determining what kind of box is being managed.

Example:
If vendor **Flintstones, Inc.** was assigned the subtree 1.3.6.1.4.1.4242, it could assign the identifier 1.3.6.1.4.1.4242.1.1 to its **Fred Router**.

Default value =
iso.org.dod.internet.private.enterprises.bcsi.commDev.fibrechannel.fcSwitch.sw

sysUpTime

OID 1.3.6.1.2.1.1.3

Description The time (in hundredths of a second) since the network management portion of the system was last re-initialized.

sysContact

OID 1.3.6.1.2.1.1.4

Description The textual identification of the contact person for this managed node, together with information on how to contact this person.

Default value = **Field Support**.

Set this value using the **agtcfgSet** Telnet command.

sysName

OID 1.3.6.1.2.1.1.5

Description An administratively-assigned name for this managed node. By convention, this is the node's fully-qualified domain name.

Default value = preassigned name of the switch.

sysLocation

OID 1.3.6.1.2.1.1.6

Description The physical location of this node, (for example, telephone closet, 3rd floor).

Default value = **End User Premise**.

Set this value using the **agtcfgSet** Telnet command.

sysServices

OID 1.3.6.1.2.1.1.7

Description A value that indicates the set of services that this entity primarily offers.

The value is a sum. This sum initially takes the value zero. Then, for each layer, L, in the range 1 through 7, for which this node performs transactions, 2 raised to (L - 1) is added to the sum. For example, a node that primarily performs routing functions has a value of 4 (2^{3-1}). In contrast, a node that is a host and offers application services, has a value of 72 ($2^{4-1} + 2^{7-1}$). Note that in the context of the Internet suite of protocols, values should be calculated accordingly:

Layer functionality
1 = physical. (For example, repeaters)
2 = datalink/subnetwork. (For example, bridges)
3 = internet. (For example, IP gateways)
4 = end-to-end. (For example, IP hosts)
7 = applications. (For example, mail relays)

For systems including OSI protocols, layers 5 and 6 may also be counted. The return value is always **79**.

Interfaces Group

Implementation of the Interfaces group is mandatory for all systems.

ifNumber

OID 1.3.6.1.2.1.2.1

Description The number of network interfaces (regardless of their current state) present on this system.

When running FCIP, the return value is 7 for ED-12000B Directors and 3 for DS-32B2 Switches. The value can be 2 or 3 for all other switch types.

Interfaces Table

The Interfaces table contains information on the entity's interfaces. Each interface is thought of as being attached to a subnetwork. Note that this term should not be confused with *subnet*, which refers to an addressing partitioning scheme used in the Internet suite of protocols.

ifTable

OID 1.3.6.1.2.1.2.2

Description A list of interface entries. The number of entries is given by the value of ifNumber.

The ifDescr for DS-32B2 Switches includes: **lo**, **eth0**, **eth1**, **fc0**, **fc1**, **eth0:1**, and **eth0:2**. The ifDescr for ED-12000B Directors includes: **lo**, **eth0**, and **fc0**.

ifEntry

OID 1.3.6.1.2.1.2.2.1
ifTable.1

Description An interface entry containing objects at the subnetwork layer and below, for a particular interface.

Index ifIndex

ifIndex

OID 1.3.6.1.2.1.2.2.1.1
ifTable.1.1

Description A unique value for each interface.

The values range from **1** through the value of **ifNumber**. The value for each interface must remain constant at least from one re-initialization of the entity's network management system to the next re-initialization.

For example, the number of entries inside the ED-12000B are **1** to **3** for FCIP, otherwise the value is **1** or **2**.

ifDescr

OID 1.3.6.1.2.1.2.2.1.2
ifTable.1.2

Description A textual string containing information about the interface.

For example, ED-12000B: **fei0, lo0, fc0, eth0**.

ifType

OID 1.3.6.1.2.1.2.2.1.3
ifTable.1.3

Description The type of interface, designated by the physical/link protocol(s) immediately below the network layer in the protocol stack.

- **fei0** maps to **6** (ethernet-csmacd).
- **lo0** maps to **24** (softwareLoopback).
- **fc0** maps to **56**.

ifMtu

OID 1.3.6.1.2.1.2.2.1.4
ifTable.1.4

Description The size of the largest datagram that can be sent/received on the interface, specified in octets.

For interfaces that are used to transmit network datagrams, the value is the size of the largest network datagram that can be sent on the interface (these values are different for Fabric OS v4.x).

- **fei0** returns **1500**
- **lo0** returns **3904**
- **fc0** returns **2024**

ifSpeed

OID 1.3.6.1.2.1.2.2.1.5
ifTable.1.5

Description An estimate (in bits per second) of the interface's current bandwidth.

For Fabric OS v4.x, **2 GB** returns.

ifPhysAddress

OID 1.3.6.1.2.1.2.2.1.6
ifTable.1.6

Description The interface's address at the protocol layer immediately below the network layer in the protocol stack.

For interfaces that do not have such an address (for example, a serial line), this object should contain an octet string of zero length.

- **fei0** returns the MAC address of the Ethernet.
- **lo0** returns **null**.
- **fc0** returns the MAC address of the Fibre Channel.

ifAdminStatus

OID 1.3.6.1.2.1.2.2.1.7
ifTable.1.7

Description The desired state of the interface.

The 3 (testing) state indicates that no operational packets can be passed. This object is read-only in Fabric OS v4.x.

ifOperStatus

OID 1.3.6.1.2.1.2.2.1.8
ifTable.1.8

Description The current operational state of the interface.

The 3 (testing) state indicates that no operational packets can be passed.

ifLastChange

OID 1.3.6.1.2.1.2.2.1.9
ifTable.1.9

Description The value of sysUpTime at the time the interface entered its current operational state. If the current state was entered prior to the last re-initialization of the local network management subsystem, then this object contains a zero value.

ifInOctets

OID 1.3.6.1.2.1.2.2.1.10
ifTable.1.10

Description The total number of octets received on the interface, including framing characters.

ifInUcastPkts

OID 1.3.6.1.2.1.2.2.1.11
ifTable.1.11

Description The number of subnetwork-unicast packets delivered to a higher-layer protocol.

ifInNUcastPkts

OID 1.3.6.1.2.1.2.2.1.12
ifTable.1.12

Description The number of non-unicast packets (for example, subnetwork-broadcast or subnetwork-multicast) delivered to a higher-layer protocol.

ifInDiscards

OID 1.3.6.1.2.1.2.2.1.13
ifTable.1.13

Description The number of inbound packets which were chosen to be discarded even though no errors had been detected to prevent their being deliverable to a higher-layer protocol.

One possible reason for discarding such a packet could be to free up buffer space.

ifInErrors

OID 1.3.6.1.2.1.2.2.1.14
ifTable.1.14

Description The number of inbound packets that contained errors, which thereby prevented them from being deliverable to a higher-layer protocol.

ifInUnknownProtos

OID 1.3.6.1.2.1.2.2.1.15
ifTable.1.15

Description The number of packets received by way of the interface, that were discarded because of an unknown or unsupported protocol.

ifOutOctets

OID 1.3.6.1.2.1.2.2.1.16
ifTable.1.16

Description The total number of octets transmitted out of the interface, including framing characters.

ifOutUcastPkts

OID 1.3.6.1.2.1.2.2.1.17
ifTable.1.17

Description The total number of packets that were requested, by higher-level protocols, to be transmitted to a subnetwork-unicast address, including those that were discarded or not sent.

ifOutNUcastPkts

OID 1.3.6.1.2.1.2.2.1.18
ifTable.1.18

Description The total number of packets that were requested, by higher-level protocols, to be transmitted to a non-unicast address (for example, a subnetwork-broadcast or subnetwork-multicast), including those that were discarded or not sent.

ifOutDiscards

OID 1.3.6.1.2.1.2.2.1.19
ifTable.1.19

Description The number of outbound packets that were chosen to be discarded even though no errors had been detected to prevent their being transmitted. One possible reason for discarding such a packet could be to free up buffer space.

ifOutErrors

OID 1.3.6.1.2.1.2.2.1.20
ifTable.1.20

Description The number of outbound packets that could not be transmitted because of errors.

ifOutQLen

OID 1.3.6.1.2.1.2.2.1.21
ifTable.1.21

Description The length of the output packet queue (in packets).

ifSpecific

OID 1.3.6.1.2.1.2.2.1.22
ifTable.1.22

Description A reference to MIB definitions specific to the particular media being used to realize the interface.

For example, if the interface is realized by an ethernet, then the value of this object refers to a document defining objects specific to ethernet. If this information is not present, its value should be set to the Object Identifier 0 0, which is a syntactically valid object identifier, and any conferment implementation of ASN.1 and BER must be able to generate and recognize this value.

- fei0 returns null OID
- lo0 returns null OID
- fc0 returns null OID

Address Translation Group

Implementation of the Address Translation group is mandatory for all systems. Note however that this group is deprecated by MIB-II. From MIB-II and onwards, each network protocol group contains its own address translation tables.

Address Translation Table

The Address Translation group contains one table, which is the union across all interfaces of the translation tables for converting a NetworkAddress (for example, an IP address) into a subnetwork-specific address. For lack of a better term, this document refers to such a subnetwork-specific address as a physical address.

Examples of such translation tables are: for broadcast media where ARP is in use, the translation table is equivalent to the ARP cache; or, on an X.25 network where non-algorithmic translation to X.121 addresses is required, the translation table contains the NetworkAddress to X.121 address equivalences.

atTable

OID 1.3.6.1.2.1.3.1

Description The Address Translation tables contain the NetworkAddress to physical address equivalences. Some interfaces do not use translation tables for determining address equivalences (for example, DDN-X.25 has an algorithmic method); if all interfaces are of this type, then the Address Translation table is empty, and therefore has zero entries.

atEntry

OID 1.3.6.1.2.1.3.1.1
atTable.1

Description Each entry contains one NetworkAddress to physical address equivalence.

Index atIfIndex, atNetAddress

atIfIndex

OID 1.3.6.1.2.1.3.1.1.1
atTable.1.1

Description The interface on which this entry's equivalence is effective. The interface identified by a particular value of this index is the same interface as identified by the same value of ifIndex.

atPhysAddress

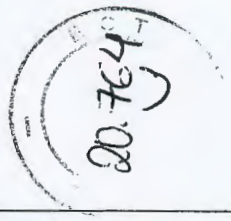
OID 1.3.6.1.2.1.3.1.1.2
atTable.1.2

Description The media-dependent physical address.

atNetAddress

OID 1.3.6.1.2.1.3.1.1.3
atTable.1.3

Description The NetworkAddress (for example, the IP address) corresponding to the media-dependent physical address.



IP Group

Implementation of the IP group is mandatory for all systems.

ipForwarding

OID 1.3.6.1.2.1.4.1

Description The indication of whether this entity is acting as an IP gateway in respect to the forwarding of datagrams received by, but not addressed to, this entity. IP gateways forward datagrams. IP hosts do not (except those source-routed via the host).

ipDefaultTTL

OID 1.3.6.1.2.1.4.2

Description The default value inserted into the Time-To-Live field of the IP header of datagrams originated at this entity, whenever a TTL value is not supplied by the transport layer protocol.

ipInReceives

OID 1.3.6.1.2.1.4.3

Description The total number of input datagrams received from interfaces, including those received in error.

ipInHdrErrors

OID 1.3.6.1.2.1.4.4

Description The number of input datagrams discarded due to errors in their IP headers, including bad checksums, version number mismatch, other format errors, time-to-live exceeded, errors discovered in processing their IP options, and so on.

ipInAddrErrors

OID 1.3.6.1.2.1.4.5

Description The number of input datagrams discarded because the IP address in their IP header's destination field was not a valid address to be received at this entity. This count includes invalid addresses (for example, 0.0.0.0) and addresses of unsupported Classes (for example, Class E). For entities which are not IP Gateways and therefore do not forward datagrams, this counter includes datagrams discarded because the destination address was not a local address.

ipForwDatagrams

OID 1.3.6.1.2.1.4.6

Description The number of input datagrams for which this entity was not their final IP destination, as a result of which an attempt was made to find a route to forward them to that final destination. In entities which do not act as IP Gateways, this counter will include only those packets which were Source-Routed via this entity, and the Source-Route option processing was successful.

ipInUnknownProtos

OID 1.3.6.1.2.1.4.7

Description The number of locally-addressed datagrams received successfully but discarded because of an unknown or unsupported protocol.

ipInDiscards

OID 1.3.6.1.2.1.4.8

Description The number of input IP datagrams for which no problems were encountered to prevent their continued processing, but which were discarded (for example, for lack of buffer space).

This counter does not include any datagrams discarded while awaiting reassembly.

ipInDelivers

OID 1.3.6.1.2.1.4.9

Description The total number of input datagrams successfully delivered to IP user-protocols (including ICMP).

ipOutRequests

OID 1.3.6.1.2.1.4.10

Description The total number of IP datagrams which local IP user-protocols (including ICMP) supplied to IP in requests for transmission. Note that this counter does not include any datagrams counted in ipForwDatagrams.

ipOutDiscards

OID 1.3.6.1.2.1.4.11

Description The number of output IP datagrams for which no problem was encountered to prevent their transmission to their destination, but which were discarded (for example, for lack of buffer space).

Note: This counter would include datagrams counted in ipForwDatagrams if any such packets met this (discretionary) discard criterion.

ipOutNoRoutes

OID 1.3.6.1.2.1.4.12

Description The number of IP datagrams discarded because no route could be found to transmit them to their destination.

This counter includes any packets counted in ipForwDatagrams that meet this *no-route* criterion. Note that this includes any datagrams that a host cannot route because all of its default gateways are down.

ipReasmTimeout

OID 1.3.6.1.2.1.4.13

Description The maximum number of seconds which received fragments are held while they are awaiting reassembly at this entity.

ipReasmReqds

OID 1.3.6.1.2.1.4.14

Description The number of IP fragments received which needed to be reassembled at this entity.

ipReasmOKs

OID 1.3.6.1.2.1.4.15

Description The number of IP datagrams successfully re-assembled.

ipReasmFails

OID 1.3.6.1.2.1.4.16

Description The number of failures detected by the IP re-assembly algorithm (for whatever reason, timed out, errors, and so on).

This is not necessarily a count of discarded IP fragments since some algorithms (notably the algorithm in RFC 815) can lose track of the number of fragments by combining them as they are received.

ipFragOKs

OID 1.3.6.1.2.1.4.17

Description The number of IP datagrams that have been successfully fragmented at this entity.

ipFragFails

OID 1.3.6.1.2.1.4.18

Description The number of IP datagrams that have been discarded because they needed to be fragmented at this entity but could not be (for example, because their Don't Fragment flag was set).

ipFragCreates

OID 1.3.6.1.2.1.4.19

Description The number of IP datagram fragments that have been generated as a result of fragmentation at this entity.

IP Address Table

The IP address table contains this entity's IP addressing information.

ipAddrTable

OID 1.3.6.1.2.1.4.20

Description The table of addressing information relevant to this entity's IP addresses.

ipAddrEntry

OID 1.3.6.1.2.1.4.20.1
ipAddrTable.1

Description The addressing information for one of this entity's IP addresses.

Index ipAdEntAddr

ipAdEntAddr

OID 1.3.6.1.2.1.4.20.1.1
ipAddrTable.1.1

Description The IP address to which this entry's addressing information pertains.

ipAdEntIfIndex

OID 1.3.6.1.2.1.4.20.1.2
ipAddrTable.1.2

Description The index value which uniquely identifies the interface to which this entry is applicable. The interface identified by a particular value of this index is the same interface as identified by the same value of ifIndex.

ipAdEntNetMask

OID 1.3.6.1.2.1.4.20.1.3
ipAddrTable.1.3

Description The subnet mask associated with the IP address of this entry. The value of the mask is an IP address with all the network bits set to 1 and all the hosts bits set to 0.

ipAdEntBcastAddr

OID 1.3.6.1.2.1.4.20.1.4
ipAddrTable.1.4

Description The value of the least-significant bit in the IP broadcast address used for sending datagrams on the (logical) interface associated with the IP address of this entry. For example, when the Internet standard all-ones broadcast address is used, the value will be 1. This value applies to both the subnet and network broadcasts addresses used by the entity on this (logical) interface.

ipAdEntReasmMaxSize

OID 1.3.6.1.2.1.4.20.1.5
ipAddrTable.1.5

Description The size of the largest IP datagram which this entity can re-assemble from incoming IP fragmented datagrams received on this interface.

IP Routing Table

The IP routing table contains an entry for each route presently known to this entity.

ipRouteTable

OID 1.3.6.1.2.1.4.21

Description This entity's IP Routing table.

ipRouteEntry

OID 1.3.6.1.2.1.4.21.1
ipRouteTable.1

Description A route to a particular destination.

Index ipRouteDest

ipRouteDest

OID 1.3.6.1.2.1.4.21.1.1
ipRouteTable.1.1

Description The destination IP address of this route.

An entry with a value of 0.0.0.0 is considered a default route. Multiple routes to a single destination can appear in the table, but access to such multiple entries is dependent on the table-access mechanisms defined by the network management protocol in use.

ipRouteIfIndex

OID 1.3.6.1.2.1.4.21.1.2
ipRouteTable.1.2

Description The index value which uniquely identifies the local interface through which the next hop of this route should be reached.

The interface identified by a particular value of this index is the same interface as identified by the same value of ifIndex.

ipRouteMetric1

OID 1.3.6.1.2.1.4.21.1.3
ipRouteTable.1.3

Description The primary routing metric for this route.

The semantics of this metric are determined by the routing-protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to **-1**.

ipRouteMetric2

OID 1.3.6.1.2.1.4.21.1.4
ipRouteTable.1.4

Description An alternate routing metric for this route.

The semantics of this metric are determined by the routing-protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to **-1**.

ipRouteMetric3

OID 1.3.6.1.2.1.4.21.1.5
ipRouteTable.1.5

Description An alternate routing metric for this route.

The semantics of this metric are determined by the routing-protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to **-1**.

ipRouteMetric4

OID 1.3.6.1.2.1.4.21.1.6
ipRouteTable.1.6

Description An alternate routing metric for this route.

The semantics of this metric are determined by the routing-protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to **-1**.

ipRouteNextHop

OID 1.3.6.1.2.1.4.21.1.7
ipRouteTable.1.7

Description The IP address of the next hop of this route. (In the case of a route bound to an interface which is realized via a broadcast media, the value of this field is the agent's IP address on that interface.)

ipRouteType

OID 1.3.6.1.2.1.4.21.1.8
ipRouteTable.1.8

Description The type of route. Valid values are:

other (1)	None of the following
invalid (2)	An invalidated route—route to directly
direct (3)	Connected (sub-)network—route to a non-local
indirect (4)	Host/network/sub-network

Setting this object to 2 (invalid) has the effect of invalidating the corresponding entry in the ipRouteTable object. That is, it effectively dissasociates the destination identified with said entry from the route identified with said entry. It is an implementation-specific matter as to whether the agent removes an invalidated entry from the table. Accordingly, management stations must be prepared to receive tabular information from agents that corresponds to entries not currently in use. Proper interpretation of such entries requires examination of the relevant ipRouteType object.

The values direct (3) and indirect (4) refer to the notion of direct and indirect routing in the IP architecture.

ipRouteProto

OID 1.3.6.1.2.1.4.21.1.9
ipRouteTable.1.9

Description The routing mechanism via which this route was learned.

Inclusion of values for gateway routing protocols is not intended to imply that hosts should support those protocols.

ipRouteAge

OID 1.3.6.1.2.1.4.21.1.10
ipRouteTable.1.10

Description The number of seconds since this route was last updated or otherwise determined to be correct.

Older semantics cannot be implied except through knowledge of the routing protocol by which the route was learned.

ipRouteMask

OID 1.3.6.1.2.1.4.21.1.11
ipRouteTable.1.11

Description The mask to be logical-ANDed with the destination address before being compared to the value in the ipRouteDest field. For those systems that do not support arbitrary subnet masks, an agent constructs the value of the ipRouteMask by determining whether the value of the correspondent ipRouteDest field belong to a class-A, B, or C network, and then using one of the following:

mask	network
255.0.0.0	class-A
255.255.0.0	class-B
255.255.255.0	class-C

If the value of the ipRouteDest is 0.0.0.0 (default route), then the mask value is also 0.0.0.0.

All IP routing subsystems implicitly use this mechanism.

ipRouteMetric5

OID 1.3.6.1.2.1.4.21.1.12
ipRouteTable.1.12

Description An alternate routing metric for this route.

The semantics of this metric are determined by the routing protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to **-1**.

ipRouteInfo

OID 1.3.6.1.2.1.4.21.1.13
ipRouteTable.1.13

Description A reference to MIB definitions specific to the particular routing protocol which is responsible for this route, as determined by the value specified in the route's ipRouteProto value. If this information is not present, its value should be set to the Object Identifier { 0 0 }, which is a syntactically valid object identifier, and any conferment implementation of ASN.1 and BER must be able to generate and recognize this value.

IP Address Translation Table

The IP address translation table contains the IpAddress to physical address equivalences. Some interfaces do not use translation tables for determining address equivalences.

Example: DDN-X.25 has an algorithmic method); if all interfaces are of this type, then the Address Translation table is empty, and therefore has zero entries.

ipNetToMediaTable

OID 1.3.6.1.2.1.4.22

Description The IP Address Translation table used for mapping from IP addresses to physical addresses.

ipNetToMediaEntry

OID 1.3.6.1.2.1.4.22.1
ipNetToMediaTable.1

Description Each entry contains one IpAddress to physical address equivalence.

Index ipNetToMediaIfIndex, ipNetToMediaNetAddress

ipNetToMediaIfIndex

OID 1.3.6.1.2.1.4.22.1.1
ipNetToMediaTable.1.1

Description The interface on which this entry's equivalence is effective.

The interface identified by a particular value of this index is the same interface as identified by the same value of ifIndex.

ipNetToMediaPhysAddress

OID 1.3.6.1.2.1.4.22.1.2
ipNetToMediaTable.1.2

Description The media-dependent physical address.

ipNetToMediaNetAddress

OID 1.3.6.1.2.1.4.22.1.3
ipNetToMediaTable.1.3

Description The IpAddress corresponding to the media-dependent physical address.

ipNetToMediaType

OID 1.3.6.1.2.1.4.22.1.4
ipNetToMediaTable.1.4

Description The type of mapping.

Additional IP Objects

ipRoutingDiscards

OID 1.3.6.1.2.1.4.23

Description The number of routing entries that were chosen to be discarded even though they are valid. One possible reason for discarding such an entry could be to free-up buffer space for other routing entries.

ICMP Group

Implementation of the ICMP group is mandatory for all systems.

icmpInMsgs

OID 1.3.6.1.2.1.5.1

Description The total number of ICMP messages which the entity received.

This counter includes all ICMP messages counted by icmpInErrors.

icmpInErrors

OID 1.3.6.1.2.1.5.2

Description The number of ICMP messages which the entity received but determined as having ICMP-specific errors (bad ICMP checksums, bad length, and so on).

icmpInDestUnreachs

OID 1.3.6.1.2.1.5.3

Description The number of ICMP Destination Unreachable messages received.

icmpInTimeExcds

OID 1.3.6.1.2.1.5.4

Description The number of ICMP Time Exceeded messages received.

icmpInParmProbs

OID 1.3.6.1.2.1.5.5

Description The number of ICMP Parameter Problem messages received.

icmpInSrcQuenchs

OID 1.3.6.1.2.1.5.6

Description The number of ICMP Source Quench messages received.

icmpInRedirects

OID 1.3.6.1.2.1.5.7

Description The number of ICMP Redirect messages received.

icmpInEchos

OID 1.3.6.1.2.1.5.8

Description The number of ICMP Echo (request) messages received.

icmpInEchoReps

OID 1.3.6.1.2.1.5.9

Description The number of ICMP Echo Reply messages received.

icmpInTimestamps

OID 1.3.6.1.2.1.5.10

Description The number of ICMP Timestamp (request) messages received.

icmpInTimestampReps

OID 1.3.6.1.2.1.5.11

Description The number of ICMP Timestamp Reply messages received.

icmpInAddrMasks

OID 1.3.6.1.2.1.5.12

Description The number of ICMP Address Mask Request messages received.

icmpInAddrMaskReps

OID 1.3.6.1.2.1.5.13

Description The number of ICMP Address Mask Reply messages received.

icmpOutMsgs

OID 1.3.6.1.2.1.5.14

Description The total number of ICMP messages that this entity attempted to send.

Note: This counter includes all those counted by icmpOutErrors.

icmpOutErrors

OID 1.3.6.1.2.1.5.15

Description The number of ICMP messages which this entity did not send due to problems discovered within ICMP such as a lack of buffers. This value should not include errors discovered outside the ICMP layer such as the inability of IP to route the resultant datagram. In some implementations there may be no types of error which contribute to this counter's value.

icmpOutDestUnreachs

OID 1.3.6.1.2.1.5.16

Description The number of ICMP Destination Unreachable messages sent.

icmpOutTimeExcds

OID 1.3.6.1.2.1.5.17

Description The number of ICMP Time Exceeded messages sent.

icmpOutParmProbs

OID 1.3.6.1.2.1.5.18

Description The number of ICMP Parameter Problem messages sent.

icmpOutSrcQuenchs

OID 1.3.6.1.2.1.5.19

Description The number of ICMP Source Quench messages sent.

icmpOutRedirects

OID 1.3.6.1.2.1.5.20

Description The number of ICMP Redirect messages sent. For a host, this object will always be zero, since hosts do not send redirects.

icmpOutEchos

OID 1.3.6.1.2.1.5.21

Description The number of ICMP Echo (request) messages sent.

icmpOutEchoReps

OID 1.3.6.1.2.1.5.22

Description The number of ICMP Echo Reply messages sent.

icmpOutTimestamps

OID 1.3.6.1.2.1.5.23

Description The number of ICMP Timestamp (request) messages sent.

icmpOutTimestampReps

OID 1.3.6.1.2.1.5.24

Description The number of ICMP Timestamp Reply messages sent.

icmpOutAddrMasks

OID 1.3.6.1.2.1.5.25

Description The number of ICMP Address Mask Request messages sent.

icmpOutAddrMaskReps

OID 1.3.6.1.2.1.5.26

Description The number of ICMP Address Mask Reply messages sent.

TCP Group

Implementation of the TCP group is mandatory for all systems that implement the TCP.

Instances of object types that represent information about a particular TCP connection are transient; they persist only as long as the connection in question.

tcpRtoAlgorithm

OID 1.3.6.1.2.1.6.1

Description The algorithm used to determine the time-out value used for retransmitting unacknowledged octets.

tcpRtoMin

OID 1.3.6.1.2.1.6.2

Description The minimum value permitted by a TCP implementation for the retransmission time-out, measured in milliseconds.

More refined semantics for objects of this type depend upon the algorithm used to determine the retransmission time-out. In particular, when the time-out algorithm is 3 (rsre), an object of this type has the semantics of the LBOUND quantity described in RFC 793.

tcpRtoMax

OID 1.3.6.1.2.1.6.3

Description The maximum value permitted by a TCP implementation for the retransmission time-out, measured in milliseconds.

More refined semantics for objects of this type depend upon the algorithm used to determine the retransmission time-out. In particular, when the time-out algorithm is 3 (rsre), an object of this type has the semantics of the UBOUND quantity described in RFC 793.

tcpMaxConn

OID 1.3.6.1.2.1.6.4

Description The limit on the total number of TCP connections the entity can support. In entities where the maximum number of connections is dynamic, this object should contain the value -1.

tcpActiveOpens

OID 1.3.6.1.2.1.6.5

Description The number of times TCP connections have made a direct transition to the SYN-SENT state from the CLOSED state.

tcpPassiveOpens

OID 1.3.6.1.2.1.6.6

Description The number of times TCP connections have made a direct transition to the SYN-RCVD state from the LISTEN state.

tcpAttemptFails

OID 1.3.6.1.2.1.6.7

Description The number of times TCP connections have made a direct transition to the CLOSED state from either the SYN-SENT state or the SYN-RCVD state, plus the number of times TCP connections have made a direct transition to the LISTEN state from the SYN-RCVD state.

tcpEstabResets

OID 1.3.6.1.2.1.6.8

Description The number of times TCP connections have made a direct transition to the CLOSED state from either the ESTABLISHED state or the CLOSE-WAIT state.

tcpCurrEstab

OID 1.3.6.1.2.1.6.9

Description The number of TCP connections for which the current state is either ESTABLISHED or CLOSE- WAIT.

tcpInSegs

OID 1.3.6.1.2.1.6.10

Description The total number of segments received, including those received in error. This count includes segments received on currently established connections.

tcpOutSegs

OID 1.3.6.1.2.1.6.11

Description The total number of segments sent, including those on current connections but excluding those containing only retransmitted octets.

tcpRetransSegs

OID 1.3.6.1.2.1.6.12

Description The total number of segments retransmitted - that is, the number of TCP segments transmitted containing one or more previously transmitted octets.

TCP Connection Table

The TCP connection table contains information about this entity's existing TCP connections.

tcpConnTable

OID 1.3.6.1.2.1.6.13

Description A table containing TCP connection-specific information.

tcpConnEntry

OID 1.3.6.1.2.1.6.13.1
tcpConnTable.1

Description Information about a particular current TCP connection. An object of this type is transient, in that it ceases to exist when (or soon after) the connection makes the transition to the CLOSED state.

Index tcpConnLocalAddress, tcpConnLocalPort, tcpConnRemAddress, tcpConnRemPort

tcpConnState

OID 1.3.6.1.2.1.6.13.1.1
tcpConnTable.1.1

Description The state of this TCP connection. Possible values are:

closed (1)
listen (2)
synSent (3)
synReceived (4)
established (5)
finWait1 (6)
finWait2 (7)
closeWait (8)
lastAck (9)

closing (10)
timeWait (11)
deleteTCB (12)

The SET operation on this variable is not allowed.

The only value that may be set by a management station is deleteTCB (12). Accordingly, it is appropriate for an agent to return a badValue response if a management station attempts to set this object to any other value.

If a management station sets this object to the value delete12 (TCB), then this has the effect of deleting the TCB (as defined in RFC 793) of the corresponding connection on the managed node, resulting in immediate termination of the connection.

As an implementation-specific option, a RST segment may be sent from the managed node to the other TCP endpoint. (Note, however that RST segments are not sent reliably.)

tcpConnLocalAddress

OID 1.3.6.1.2.1.6.13.1.2
tcpConnTable.1.2

Description The local IP address for this TCP connection. In the case of a connection in the listen state which is willing to accept connections for any IP interface associated with the node, the value 0.0.0.0 is used.

tcpConnLocalPort

OID 1.3.6.1.2.1.6.13.1.3
tcpConnTable.1.3

Description The local port number for this TCP connection.

tcpConnRemAddress

OID 1.3.6.1.2.1.6.13.1.4
tcpConnTable.1.4

Description The remote IP address for this TCP connection.

tcpConnRemPort

OID 1.3.6.1.2.1.6.13.1.5
tcpConnTable.1.5

Description The remote port number for this TCP connection.

Additional TCP Objects

tcpInErrs

OID 1.3.6.1.2.1.6.14

Description The total number of segments received in error (for example, bad TCP checksums).

tcpOutRsts

OID 1.3.6.1.2.1.6.15

Description The number of TCP segments sent containing the RST flag.

UDP Group

Implementation of the UDP group is mandatory for all systems which implement the UDP.

udpInDatagrams

OID 1.3.6.1.2.1.7.1

Description The total number of UDP datagrams delivered to UDP users.

udpNoPorts

OID 1.3.6.1.2.1.7.2

Description The total number of received UDP datagrams for which there was no application at the destination port.

udpInErrors

OID 1.3.6.1.2.1.7.3

Description The number of received UDP datagrams that could not be delivered for reasons other than the lack of an application at the destination port.

udpOutDatagrams

OID 1.3.6.1.2.1.7.4

Description The total number of UDP datagrams sent from this entity.

UDP Listener Table

The UDP listener table contains information about this entity's UDP end-points on which a local application is currently accepting datagrams.

udpTable

OID 1.3.6.1.2.1.7.5

Description A table containing UDP listener information.

udpEntry

OID 1.3.6.1.2.1.7.5.1
udpTable.1

Description Information about a particular current UDP listener.

Index udpLocalAddress, udpLocalPort

udpLocalAddress

OID 1.3.6.1.2.1.7.5.1.1
udpTable.1.1

Description The local IP address for this UDP listener. In the case of a UDP listener which is willing to accept datagrams for any IP interface associated with the node, the value 0.0.0.0 is used.

udpLocalPort

OID 1.3.6.1.2.1.7.5.1.2
udpTable.1.2

Description The local port number for this UDP listener.

EGP Group

EMC does not support the EGP Group—therefore, this section, the EGP Neighbor Table, and Additional EGP Objects are not applicable.

Transmission Group

Based on the transmission media underlying each interface on a system, the corresponding portion of the Transmission group is mandatory for that system.

When Internet-standard definitions for managing transmission media are defined, the transmission group is used to provide a prefix for the names of those objects.

Typically, such definitions reside in the experimental portion of the MIB until they are proven, then as a part of the Internet standardization process, the definitions are accordingly elevated and a new object identifier, under the transmission group is defined. By convention, the name assigned is:

```
type Object Identifier ::= { transmission number }
```

where

- `type` is the symbolic value used for the media in the ifType column of the ifTable object.
- `number` is the actual integer value corresponding to the symbol.

SNMP Group

Implementation of the SNMP group is mandatory for all systems which support an SNMP protocol entity. Some of the objects defined below will be zero-valued in those SNMP implementations that are optimized to support only those functions specific to either a management agent or a management station. All of the objects below refer to an SNMP entity, and there may be several SNMP entities residing on a managed node (for example, if the node is acting as a management station).

snmpInPkts

OID 1.3.6.1.2.1.11.1

Description The total number of Messages delivered to the SNMP entity from the transport service.

snmpOutPkts

OID 1.3.6.1.2.1.11.2

Description The total number of SNMP Messages which were passed from the SNMP protocol entity to the transport service.

snmpInBadVersions

OID 1.3.6.1.2.1.11.3

Description The total number of SNMP Messages which were delivered to the SNMP protocol entity and were for an unsupported SNMP version.

snmpInBadCommunityNames

OID 1.3.6.1.2.1.11.4

Description The total number of SNMP Messages delivered to the SNMP protocol entity which used a SNMP community name not known to said entity.

snmpInBadCommunityUses

OID 1.3.6.1.2.1.11.5

Description The total number of SNMP Messages delivered to the SNMP protocol entity which represented an SNMP operation which was not allowed by the SNMP community named in the Message.

snmpInASNParseErrs

OID 1.3.6.1.2.1.11.6

Description The total number of ASN.1 or BER errors encountered by the SNMP protocol entity when decoding received SNMP Messages.

Note: 1.3.6.1.2.1.11.7 is not used.

snmpInTooBigs

OID 1.3.6.1.2.1.11.8

Description The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is `tooBig`.

snmpInNoSuchNames

OID 1.3.6.1.2.1.11.9

Description The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is `noSuchName`.

snmpInBadValues

OID 1.3.6.1.2.1.11.10

Description The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is `badValue`.

snmpInReadOnlys

OID 1.3.6.1.2.1.11.11

Description The total number valid SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is `readOnly`.

It is a protocol error to generate an SNMP PDU that contains the value `readOnly` in the error-status field, as such this object is provided as a means of detecting incorrect implementations of the SNMP.

snmpInGenErrs

OID 1.3.6.1.2.1.11.12

Description The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is `genErr`.

snmpInTotalReqVars

OID 1.3.6.1.2.1.11.13

Description The total number of MIB objects which have been retrieved successfully by the SNMP protocol entity as the result of receiving valid SNMP Get-Request and Get-Next PDUs.

snmpInTotalSetVars

OID 1.3.6.1.2.1.11.14

Description The total number of MIB objects which have been altered successfully by the SNMP protocol entity as the result of receiving valid SNMP Set-Request PDUs.

snmpInGetRequests

OID 1.3.6.1.2.1.11.15

StatusMandatory

Description The total number of SNMP Get-Request PDUs which have been accepted and processed by the SNMP protocol entity.

snmpInGetNexts

OID 1.3.6.1.2.1.11.16

Description The total number of SNMP Get-Next PDUs which have been accepted and processed by the SNMP protocol entity.

snmpInSetRequests

OID 1.3.6.1.2.1.11.17

Description The total number of SNMP Set-Request PDUs which have been accepted and processed by the SNMP protocol entity.

snmpInGetResponses

OID 1.3.6.1.2.1.11.18

Description The total number of SNMP Get-Response PDUs which have been accepted and processed by the SNMP protocol entity.

snmpInTraps

OID 1.3.6.1.2.1.11.19

Description The total number of SNMP Trap PDUs which have been accepted and processed by the SNMP protocol entity.

snmpOutTooBigs

OID 1.3.6.1.2.1.11.20

Description The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is too large.

snmpOutNoSuchNames

OID 1.3.6.1.2.1.11.21

Description The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status is noSuchName.

snmpOutBadValues

OID 1.3.6.1.2.1.11.22

Description The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is `badValue`.

snmpOutGenErrs

OID 1.3.6.1.2.1.11.24

1.3.6.1.2.1.11.23 is not used

Description The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is `genErr`.

snmpOutGetRequests

OID 1.3.6.1.2.1.11.25

Description The total number of SNMP Get-Request PDUs which have been generated by the SNMP protocol entity.

snmpOutGetNexts

OID 1.3.6.1.2.1.11.26

Description The total number of SNMP Get-Next PDUs which have been generated by the SNMP protocol entity.

snmpOutSetRequests

OID 1.3.6.1.2.1.11.27

Description The total number of SNMP Set-Request PDUs which have been generated by the SNMP protocol entity.

snmpOutGetResponses

OID 1.3.6.1.2.1.11.28

Description The total number of SNMP Get-Response PDUs which have been generated by the SNMP protocol entity.

snmpOutTraps

OID 1.3.6.1.2.1.11.29

Description The total number of SNMP Trap PDUs which have been generated by the SNMP protocol entity.

snmpEnableAuthenTraps

OID 1.3.6.1.2.1.11.30

Description Indicates whether the SNMP agent process is permitted to generate authentication-failure traps. The value of this object overrides any configuration information; as such, it provides a means whereby all authentication-failure traps may be disabled. Possible values are:

enabled (1)
disabled (2)

This object is stored in non-volatile memory so that it remains constant between re-initializations of the switch. This value can be changed with the **agtcfgset** Telnet command.

3

Fibre Alliance MIB Object Types

This chapter contains descriptions and other information that is specific to Fibre Alliance MIB (FA-MIB) object types, including the following:

Overview

The object types in FA-MIB are organized into the following groupings:

- Connectivity
- Trap Registration
- Revision Number
- Statistic Set
- Service Set

Refer to Appendix C for the entire FA-MIB.

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Integradora de Soluções em TI e Serviços

ANEXO SWITCH TIPO 03
PARTE 14/B

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CEP 22783-110 Rio de Janeiro RJ
Tel. 21 2442-8800
www.cobra.com.br

FA-MIB (FCMGMT-MIB) System Organization of MIB Objects

Figure 3-1 through Figure 3-3 depict the organization and structure of the FA-MIB file system:

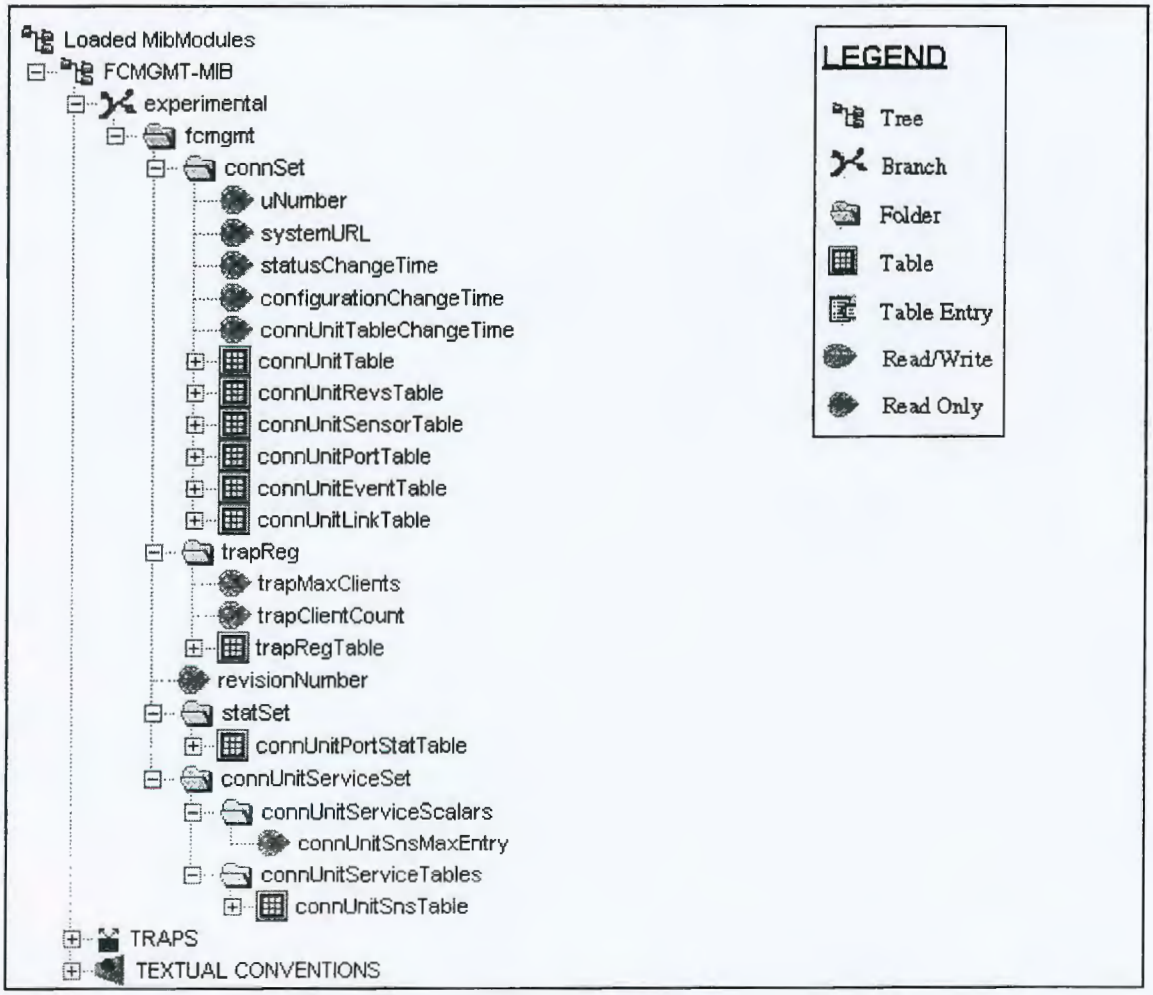


Figure 3-1 FA-MIB Overall Tree Structure

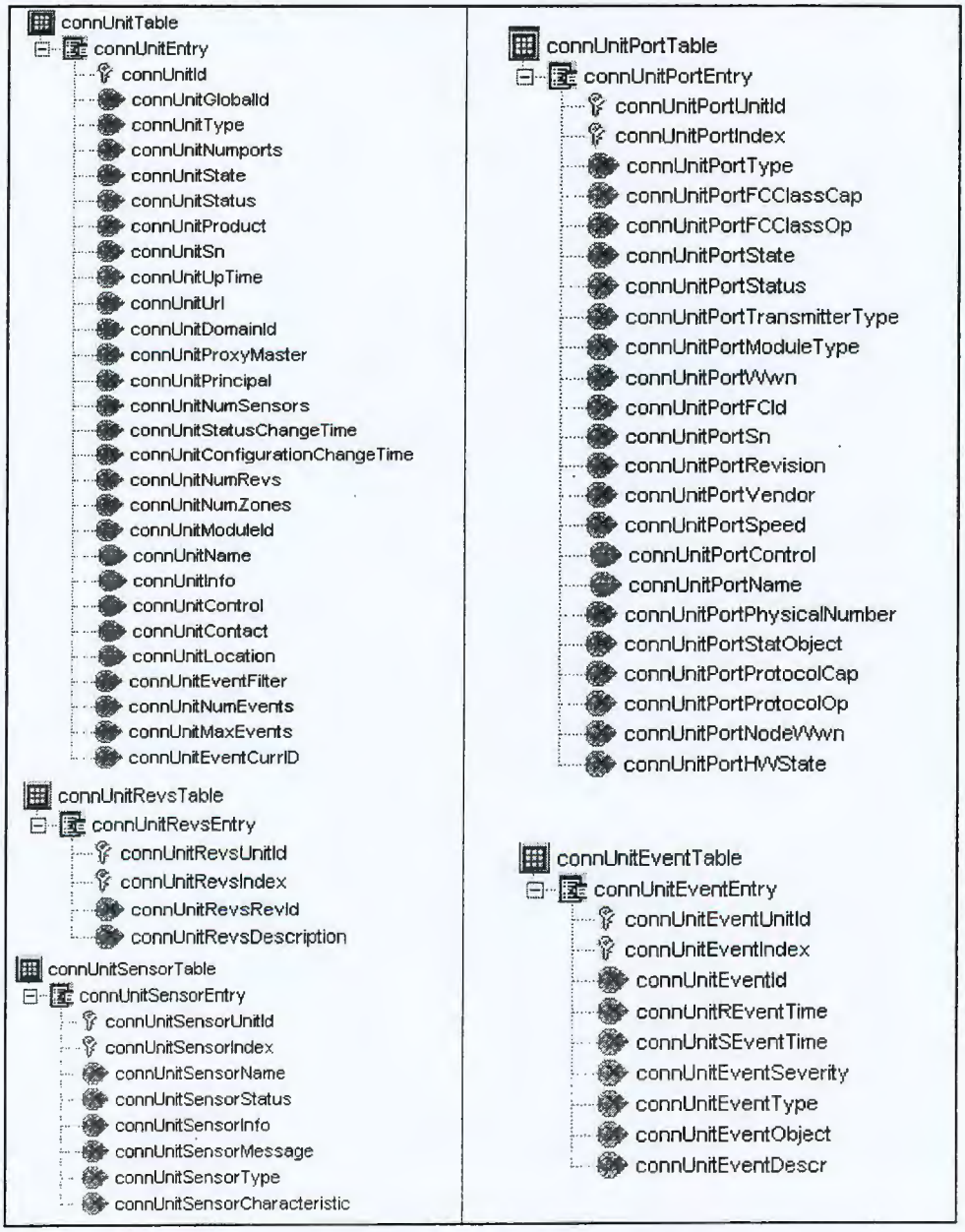


Figure 3-2 Tree Structure for connUnit, connUnitRevs, connUnitSensor, connUnitPort, and connUnitEvent Tables

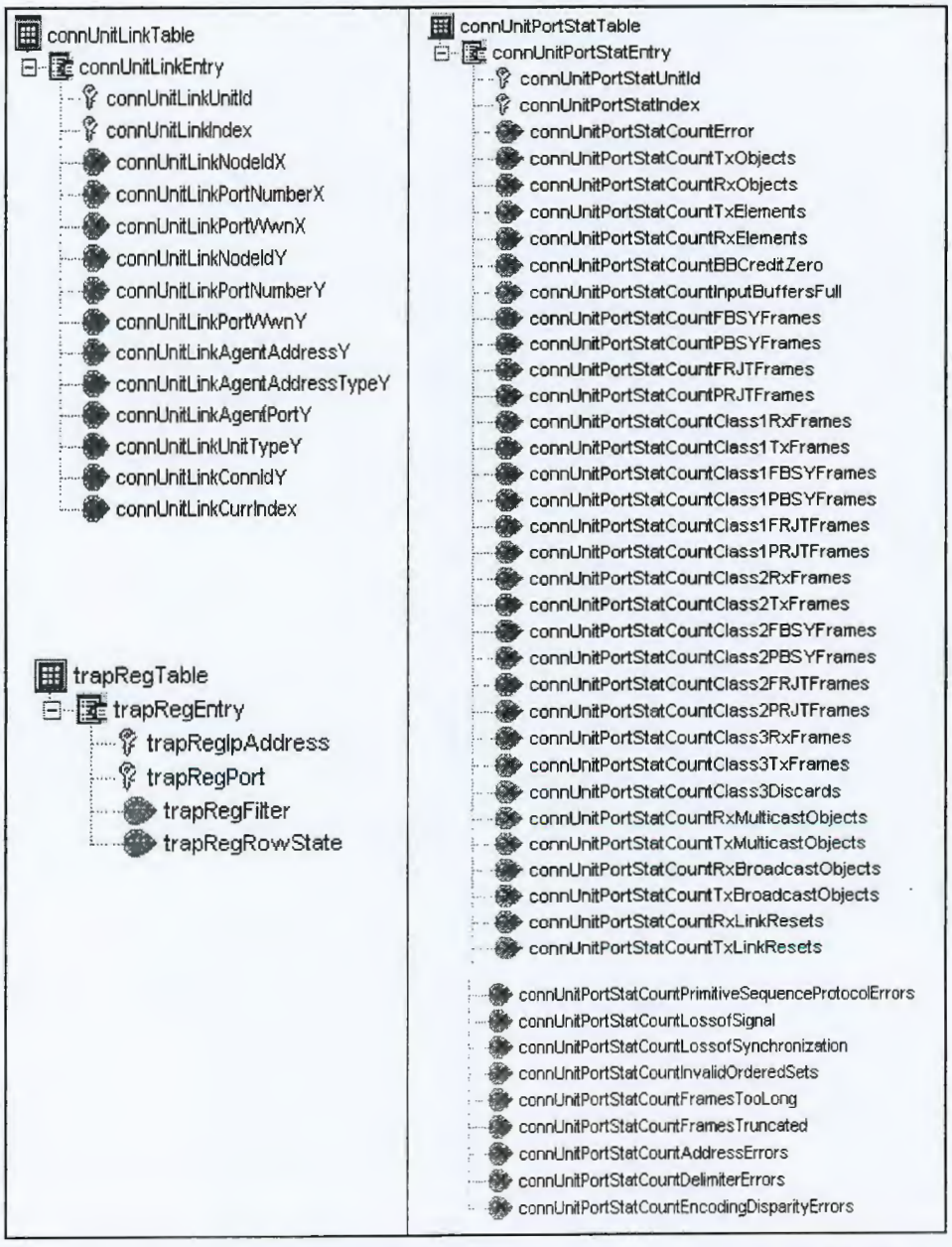


Figure 3-3 Tree Structure for connUnitLink, trapReg, and connUnitPortStat Tables

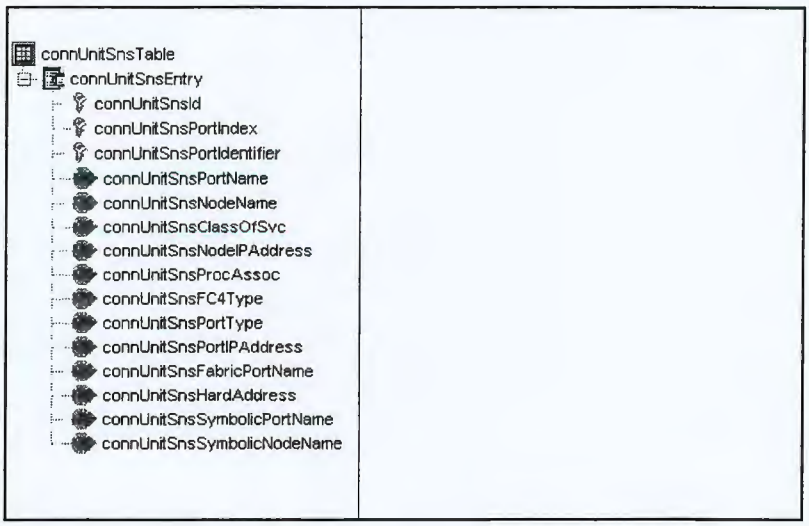


Figure 3-4 Tree Structure for connUnitSns Table

Definitions for FA-MIB (FCMGMT)

The following definitions are used for FA-MIB.

Table 3-1 FA- MIB Definitions

Type Definition	Value	Declaration	Description
FcNameId	Octet String of size 8		
FcGlobalId	Octet String of size 16		
FcEventSeverity	Integer	1 (unknown)	
		2 (emergency)	Emergency status.
		3 (alert)	Alert status.
		4 (critical)	Critical status.
		5 (error)	Error status.
		6 (warning)	Warning status.
		7 (notify)	Notification status.
		8 (info)	Informational status.
		9 (debug)	Debug status.
		10 (mark)	All messages logged.
FcUnitType	Integer	1 (unknown)	
		2 (other)	None of the following.
		3 (hub)	Passive connectivity unit supporting loop protocol.
		4 (switch)	Active connectivity unit supporting multiple protocols.
		5 (gateway)	Unit that converts not only the interface but also encapsulates the frame into another protocol. The assumption is that there is always two gateways connected together. For example, FC <-> ATM.
		6 (converter)	Unit that converts from one interface to another. For example, FC <-> SCSI)
		7 (hba)	Host bus adapter.
		8 (proxy-agent)	Software proxy-agent.
		9 (storage-device)	Disk, cd, tape, and so on.
		10 (host)	Host computer.
		11 (storage-subsystem)	Raid, library, and so on.
		12 (module)	Subcomponent of a system.
		13 (swdriver)	Software driver.
		14 (storage-access-device)	Provides storage management and access for heterogeneous hosts and heterogeneous devices.

Connectivity Group

Connectivity group implementation is mandatory for all systems.

uNumber

OID 1.3.6.1.3.94.1.1

Description The number of connectivity units present on this system (represented by this agent). This can be a count of the boards in a chassis or the number of full boxes in a rack. The connectivity unit is mapped to a switch. uNumber.0 is always set to **1**.

systemURL

OID 1.3.6.1.3.94.1.2

Description The top-level URL of the system. If the URL does not exist, the value is an empty string. The URL format is implementation-dependant and can have keywords embedded that are preceded by a percent sign (for example,%USER). The following are the defined keywords that are recognized and replaced with data during a launch:

USER — Replace with username
PASSWORD — Replace with password
GLOBALI — Replace with global ID
SERIALNO — Replace with serial number
DEFVAL — {""}

The expected value for systemURL.0 is:

"http://{a.b.c.d}"

where {a.b.c.d} is the IP address of the switch if Web Tool license is available.

"" (null)

Connectivity Unit Table

connUnitTable

OID 1.3.6.1.3.94.1.6

Description A list of units under a single SNMP agent. The number of entries is given by the value of uNumber. The value is 1 for stand-alone system.

connUnitEntry

OID 1.3.6.1.3.94.1.6.1
connUnitTable.1

Description A connectivity unit entry containing objects for a particular unit.

Index connUnitId

connUnitId

OID 1.3.6.1.3.94.1.6.1.1
connUnitTable.1.1

Description The unique identification for this connectivity unit among those within this proxy domain:

- The value *must* be unique within the proxy domain because it is the index variable for connUnitTable.
- The value assigned to a given connectivity unit *should* be persistent across agent and unit resets.
- connUnitId *should* be the same as connUnitGlobalId, if connUnitGlobalId is known and stable.

The current implementation of the DS-32B2 and ED-12000B switches treats this ID as a very large (128-bit) integer, starting from 1. Therefore, to specify a particular instance of any columnar variable in the connUnitEntry (such as connUnitType), specify the instance identifier as a 16-octet value. For example, `connUnitType 10.0.0.60.69.4.11.19.0.0.0.0.0.0.0.0`

where the object instance identifier consists of 16 octets, each representing the byte value from high-byte order to low-byte order of this 128-bit integer. This maps to WWN.

connUnitGlobalId

OID 1.3.6.1.3.94.1.6.1.2
connUnitTable.1.2

Description An optional global-scope identifier for this connectivity unit. It *must* be a WWN for this connectivity unit or 16 octets of value zero. The following characteristics are required:

- WWN formats requiring fewer than 16 octets *must* be extended to 16 octets with trailing zero octets.
- If a WWN is used for connUnitId, the same WWN *must* be used for connUnitGlobalId.

The following characteristics are strongly recommended:

- When a nonzero value is provided, this value *should* be persistent across agent and unit resets.
  - It *should* be globally unique.
  - It *should* be one of these FC-PH/PH3 formats:
    - IEEE (NAA=1)
    - IEEE Extended (NAA=2)
    - IEEE Registered (NAA=5)
    - IEEE Registered extended (NAA=6)
- Use of the IEEE formats allows any IEEE-registered vendor to assure global uniqueness independently.

  The following are some references on IEEE WWN formats:

```
http://standards.ieee.org/regauth/oui/tutorials/fibreformat.html
http://standards.ieee.org/regauth/oui/tutorials/fibrecomp_id.html
```

  - If one or more WWNs are associated with the connUnit via other management methods, one of them *should* be used for connUnitGlobalId.
  - If no WWN is specifically assigned to the connUnit, there is some merit, though not a requirement, to using a WWN assigned to (one of) its permanently attached FC/LAN interface(s). This can not risk uniqueness, though.

- As a counterexample, if your agent runs in a host and the host has an HBA, it is quite possible that agent, host, and HBA are all distinct connUnits, so the host and agent can not use the WWN of the HBA.

Example If the hub has a built-in Ethernet port, it might be reasonable for the hub to use its LAN address (prefixed with the appropriate NAA) as its connUnitId. But if the Ethernet is a replaceable PC Card, the hub should have an independent ID.

The EMC implementation maps the switch WWN to the top 8 bytes of this variable and sets the remaining lower 8 bytes to 0. For example, if the switch WWN is 10:00:00:60:69:10:02:18, then SNMP-GET connUnitGlobalId.0.0.0.0.0.0.0.0.0.0.0.0.0.0.1 returns

```
10 00 00 60 69 10 02 18 00 00 00 00 00 00 00 00
```

---

connUnitType

OID 1.3.6.1.3.94.1.6.1.3
connUnitTable.1.3

Description The type of this connectivity unit.

Set to 4 (switch).

---

connUnitNumports

OID 1.3.6.1.3.94.1.6.1.4
connUnitTable.1.4

Description Number of physical ports in the connectivity unit (internal/embedded, external).

To determine the *maximum number of system -supported ports*, do an SNMP GET on swFcPortCapacity.

ED-12000B: 0 to *maximum number of system-supported ports.*
DS-32B2: *return 32 system supported ports.*
DS-16B2: *return 16 system supported ports.*

---

connUnitState

OID 1.3.6.1.3.94.1.6.1.5
connUnitTable.1.5

Description Overall state of the connectivity unit.

Possible values are:

unknown (1):

online (2): Set the state to online.

offline (3): Set the state to offline.

connUnitStatus

OID 1.3.6.1.3.94.1.6.1.6
connUnitTable.1.6

Description Overall status of the connectivity unit.

switchStatus maps directly as follows:

connUnitStatus	switchStatus
1 (unknown)	Unknown
2 (unused)	Unmonitored
3 (ok)	Healthy/ok
4 (warning)	Marginal/Warning
5 (failed)	Down/Failed

connUnitProduct

OID 1.3.6.1.3.94.1.6.1.7
connUnitTable.1.7

Description The connectivity unit vendor's product model name.

This is the same as for sysDescr (set for as many as 79 bytes).

connUnitSn

OID 1.3.6.1.3.94.1.6.1.8
connUnitTable.1.8

Description The serial number for this connectivity unit.

Set to the SSN (which by default is the WWN), but is changeable through Telnet.

connUnitUpTime

OID 1.3.6.1.3.94.1.6.1.9
connUnitTable.1.9

Description The number of centiseconds since the last unit initialization.

Set when connUnitTable is initialized.

connUnitUrl

OID 1.3.6.1.3.94.1.6.1.10
connUnitTable.1.10

Description URL to launch a management application, if applicable. Otherwise empty string. In a standalone unit, this is the same as the top-level URL. This has the same definition as systemURL for keywords.

(Same as systemURL.) The expected value for connUnitURL.0 is: "`http://{a.b.c.d}`" where {a.b.c.d} is the IP address of the switch if Web Tool license is available (null).

connUnitDomainId

OID 1.3.6.1.3.94.1.6.1.11
connUnitTable.1.11

Description 24-bit Fibre Channel address ID of this connectivity unit, right-justified with leading zeros, if required. If this value is not applicable, return all bits set to one.

Set to the switch domain ID (as per FC-SW).

connUnitProxyMaster

OID 1.3.6.1.3.94.1.6.1.12
connUnitTable.1.12

Description A value of yes means this is the proxy master unit for a set of managed units. For example, this could be the only unit with a management card in it for a set of units. A standalone unit should return *yes* for this object.

Set to 3 (yes).

connUnitPrincipal

OID 1.3.6.1.3.94.1.6.1.13
connUnitTable.1.13

Description Indicates whether this connectivity unit is the principal unit within the group of fabric elements. If this value is not applicable, return unknown.

If the switch is principal, this is set to 3 (yes), otherwise, it is set to **2** (no).

connUnitNumSensors

OID 1.3.6.1.3.94.1.6.1.14
connUnitTable.1.14

Description Number of sensors in the connUnitSensorTable.

The value for an ED-12000B is between 0 and 62 (temperature = 40, fan = 12, power supply = 10).

The value for a DS-16B2 is between 0 and 13 (temperature = 6, fan = 3, power supply = 4).

connUnitStatusChangeTime

OID 1.3.6.1.3.94.1.6.1.15
connUnitTable.1.15

Description The sysuptime time stamp (in centiseconds) at which the last status change occurred for any members of the set. In other words, this is the latest time stamp that connUnitStatus or connUnitPortStatus changed.

This is the same as statusChangeTime.

connUnitConfigurationChangeTime

OID 1.3.6.1.3.94.1.6.1.16
connUnitTable.1.16

Description The sysuptime time stamp (in centiseconds) at which the last configuration change occurred for any members of the set. In other words, this is the latest time stamp of flash memory update.This represents a union of change information for connUnitConfigurationChangeTime.

This is the same as configurationChangeTime.

connUnitNumRevs

OID 1.3.6.1.3.94.1.6.1.17
connUnitTable.1.17

Description The number of revisions in the connUnitRevsTable.

Set to 2.

connUnitNumZones

OID 1.3.6.1.3.94.1.6.1.18
connUnitTable.1.18

Description Number of zones defined in connUnitZoneTable.

Set to 0 because the zone table is not supported.

connUnitModuleId

OID 1.3.6.1.3.94.1.6.1.19
connUnitTable.1.19

Description This is a unique ID, persistent between boots, that can be used to group a set of connUnits together into a module. The intended use would be to create a connUnit with a connUnitType of *module* to represent a physical or logical group of connectivity units. Then the value of the group would be set to the value of connUnitId for this *container* connUnit.

connUnitModuleId should be zeros if this connUnit is not part of a module.

Set to WWN.

connUnitName

OID

1.3.6.1.3.94.1.6.1.20
connUnitTable.1.20

Description

A display string containing a name for this connectivity unit. This object value should be persistent between boots.

Set to switchName/sysName.

connUnitInfo

OID

1.3.6.1.3.94.1.6.1.21
connUnitTable.1.21

Description

A display string containing information about this connectivity unit. This object value should be persistent between boots.

Set to sysDescr and Read-only.

connUnitControl

OID

1.3.6.1.3.94.1.6.1.22
connUnitTable.1.22

Description

Controls the addressed connUnit. Each implementation may choose not to allow any or all of these values on a SET.

Cold Start and Warm Start are as defined in MIB-II and are not meant to be a factory reset.

This is similar to swAdmStatus.

- resetConnunitColdStart = fastboot
- resetConnunitWarmStart = fastboot
- offlineConnUnit = disable switch
- onlineConnUnit = enable switch
- default after reboot = unknown

The declaration 1 (unknown) maps to the default value upon rebooting, and 2 (invalid) is not applicable.

Declarations 3 and 4 perform the same operation—a cold boot of the switch.

connUnitContact

OID 1.3.6.1.3.94.1.6.1.23
connUnitTable.1.23

Description Contact information for this connectivity unit.

Displays the same value as in sysContact. Changing the value in this variable causes the value in sysContact to also be changed.

connUnitLocation

OID 1.3.6.1.3.94.1.6.1.24
connUnitTable.1.24

Description Location information for this connectivity unit.

Displays the same value as in sysLocation.

connUnitEventFilter

OID 1.3.6.1.3.94.1.6.1.25
connUnitTable.1.25

Description Defines the event severity that is logged by this connectivity unit. All events of severity less than or equal to connUnitEventFilter are logged in connUnitEventTable.

Returns (debug).

connUnitNumEvents

OID 1.3.6.1.3.94.1.6.1.26
connUnitTable.1.26

Description Number of events currently in the connUnitEventTable.

Returns the number of events that are currently in buffer (0 through 2048).

connUnitMaxEvents

OID 1.3.6.1.3.94.1.6.1.27
connUnitTable.1.27

Description Maximum number of events (2048) that can be defined in the connUnitEventTable.

connUnitEventCurrID

OID 1.3.6.1.3.94.1.6.1.28
connUnitTable.1.28

Description The last used event ID (connUnitEventId).

Maximum is 2147483647 (2^{31}-1).

Connectivity Unit Revisions Table

connUnitRevsTable

OID 1.3.6.1.3.94.1.7

Description Table of the revisions supported by connectivity units managed by this agent.

This table lists the versions of hardware and software elements in the switch.

connUnitRevsEntry

OID 1.3.6.1.3.94.1.7.1
connUnitRevsTable.1

Description Table of the revisions supported by connectivity units managed by this agent.

Index connUnitRevsUnitId, connUnitRevsIndex

Table 3-2 connUnitRevsEntry Objects and Object Types

connUnitRevsUnitId on page 3-20	Octet String
connUnitRevsIndex on page 3-21	Integer
connUnitRevsRevId on page 3-21	Display String
connUnitRevsDescription on page 3-21	Display String

connUnitRevsUnitId

OID 1.3.6.1.3.94.1.7.1.1
connUnitRevsTable.1.1

Description The connUnitId of the connectivity unit that contains this revision table.

connUnitRevsIndex

OID 1.3.6.1.3.94.1.7.1.2
connUnitRevsTable.1.2

Description A unique value among all connUnitRevsEntrys with the same value of connUnitRevsUnitId, in the range between 1 and connUnitNumRevs.

Index 1 returns the hardware version. Index 2 returns the software version.

connUnitRevsRevId

OID 1.3.6.1.3.94.1.7.1.3
connUnitRevsTable.1.3

Description A vendor-specific string identifying a revision of a component of the connUnit indexed by connUnitRevsUnitId.

Index 1 returns the switchType from Telnet command `switchShow`. Index 2 returns the Fabric OS version from Telnet command `version`, for example, v4.1.

connUnitRevsDescription

OID 1.3.6.1.3.94.1.7.1.4
connUnitRevsTable.1.4

Description Description of a component to which the revision corresponds.

Index 1 returns hardware version. Index 2 returns software version.

Connectivity Unit Sensor Table

connUnitSensorTable

OID 1.3.6.1.3.94.1.8

Description Table of the sensors supported by each connectivity unit managed by this agent.

connUnitSensorEntry

OID 1.3.6.1.3.94.1.8.1
connUnitSensorTable.1

Description Each entry contains the information for a specific sensor.

Index connUnitSensorUnitId, connUnitSensorIndex

connUnitSensorUnitId

OID 1.3.6.1.3.94.1.8.1.1
connUnitSensorTable.1.1

Description The connUnitId of the connectivity unit that contains this sensor table.

Set to connUnitId.

connUnitSensorIndex

OID 1.3.6.1.3.94.1.8.1.2
connUnitSensorTable.1.2

Status Mandatory

Description A unique value among all connUnitSensorEntrys with the same value of connUnitSensorUnitId, in the range between 1 and connUnitNumSensor.

connUnitSensorName

OID 1.3.6.1.3.94.1.8.1.3
connUnitSensorTable.1.3

Description A textual identification of the sensor intended for operator use.

Each contains the name of sensor in textual format, such as Temp #1, Fan #2.

connUnitSensorStatus

OID 1.3.6.1.3.94.1.8.1.4
connUnitSensorTable.1.4

Description The status indicated by the sensor.

Possible values are:

- unknown (1)
- other (2)
- ok (3): The sensor indicates okay.
- warning (4): The sensor indicates a warning.
- failed (5): The sensor indicates failure.

connUnitSensorInfo

OID 1.3.6.1.3.94.1.8.1.5
connUnitSensorTable.1.5

Description Miscellaneous static information about the sensor, such as its serial number.

Each contains textual information about the sensor name.

Returns the serial ID if this is for the power supply; otherwise, it returns Null.

connUnitSensorMessage

OID 1.3.6.1.3.94.1.8.1.6
connUnitSensorTable.1.6

Description Status of the sensor as a message. It may also provide more resolution on the sensor indication, for example, cover temperature 1503 K, above nominal operating range.

Each contains the sensor status (and reading if applicable) in textual format.

connUnitSensorType

OID 1.3.6.1.3.94.1.8.1.7
connUnitSensorTable.1.7

Description The type of component being monitored by this sensor.

Possible values are:

unknown (1)
other (2)
battery (3)
fan (4)
power-supply (5)
transmitter (6)
enclosure (7)
board (8)
receiver (9)

The following mapping is for each individual sensor, where applicable:

swSensorType	connUnitSensorType
1 (temperature)	8 (board)
2 (fan)	4 (fan)
3 (power-supply)	5 (power supply)

connUnitSensorCharacteristic

OID 1.3.6.1.3.94.1.8.1.8
connUnitSensorTable.1.8

Description The characteristics being monitored by this sensor.

Possible values are:

unknown (1)
other (2)
temperature (3)
pressure (4)
emf (5)
currentValue (6) (*Current* is a keyword)
airflow (7)
frequency (8)
power (9)
door (10)

The following mapping is for each individual sensor, where applicable:

swSensorType	connUnitSensorCharacteristic
1 (temperature)	3 (temperature)
2 (fan)	7 (airflow)
3 (power-supply)	9 (power)

Connectivity Unit Port Table

connUnitPortTable

OID 1.3.6.1.3.94.1.10

Description Generic information on ports for a specific connUnit.

connUnitPortEntry

OID 1.3.6.1.3.94.1.10.1
connUnitPortTable.1

Description Each entry contains the information for a specific port.

Index connUnitPortUnitId, connUnitPortIndex

connUnitPortUnitId

OID 1.3.6.1.3.94.1.10.1.1
connUnitPortTable.1.1

Description The connUnitId of the connectivity unit that contains this port. Same value as connUnitId.

connUnitPortIndex

OID 1.3.6.1.3.94.1.10.1.2
connUnitPortTable.1.2

Description Numer of physical ports (between 0 and *maximum number of system-supported ports*) in the connectivity unit (internal/embedded, external).

To determine the *maximum number of system-support ports*, do an SNMPGet on swFcPortCapacity.
ED-12000B: 0 to *maximum number of supported ports.*
DS-32B2: *return 32 system supported ports.*

connUnitPortType

OID 1.3.6.1.3.94.1.10.1.3
connUnitPortTable.1.3

Description The port type.

Mapped as:
U_Port — **10** (g-port)
F_Port — **8** (f-port)
FL_Port — **7** (fl-port)
E_Port — **9** (e-port)

connUnitPortFCClassCap

OID 1.3.6.1.3.94.1.10.1.4
connUnitPortTable.1.4

Description Bit mask that specifies the classes of service capability of this port. If this is not applicable, return all bits set to zero.

The bits have the following definitions:

Value	Declaration	Description
Integer	0 (unknown) 1 (class-f) 2 (class-one) 4 (class-two) 8 (class-three) 16 (class-four) 32 (class-five) 64 (class-six)	"Current" is a keyword

For an F or FL port, this value is `0x000C`. For a G or E port, this value is `0x000D`.

connUnitPortFCClassOp

OID 1.3.6.1.3.94.1.10.1.5
connUnitPortTable.1.5

Description Bit mask that specifies the classes of service that are currently operational. If this is not applicable, return all bits set to zero. This object has the same definition as connUnitPortFCClassCap.

For an F_Port or FL_Port, this value is 0x000C. For a G_Port or E_Port, this value is 0x000D.

connUnitPortState

OID 1.3.6.1.3.94.1.10.1.6
connUnitPortTable.1.6

Description The state of the port hardware.

For E, F or FL, the value is online. For U, the value is offline (disabled, testing, faulted).

connUnitPortStatus

OID 1.3.6.1.3.94.1.10.1.7
connUnitPortTable.1.7

Description An overall protocol status for the port.

For E, F or FL, the value is 3 (ok).
For U, the value is 2 (unused) if not faulty with GBIC, 3 (warning) if not faulty but no GBIC, or 5 (failure) if faulty.

connUnitPortTransmitterType

OID 1.3.6.1.3.94.1.10.1.8
connUnitPortTable.1.8

Description The technology of the port transceiver.

For an external FC port, this value should be:
9 (shortwaveNoOFC)
8 (longwaveNoOFC)
6 (copper)

connUnitPortModuleType

OID 1.3.6.1.3.94.1.10.1.9
connUnitPortTable.1.9

Description The module type of the port connector.

For an external FC port with GBIC, this value should be either 6 (gbicSerialId) or **7** (gbicNoSerialId).

For an external FC port without GBIC, this value is set to 8 (gbicNotInstalled).

connUnitPortWwn

OID 1.3.6.1.3.94.1.10.1.10
connUnitPortTable.1.10

Description The World Wide Name of the port if applicable; otherwise, empty string.

This is in IEEE Extended format and the extension contains the internal port number of each port.

The internal port number is 1 less than the port index. For example, if the switch has WWN 10:00:00:60:69:10:02:18, then port numbers 0 and 6 have WWN 20:00:00:60:69:10:02:18 and 20:06:00:60:69:10:02:18, respectively. However, the embedded port has WWN 10:00:00:60:69:10:02:18, the same as the switch.

connUnitPortFCId

OID 1.3.6.1.3.94.1.10.1.11
connUnitPortTable.1.11

Description This is the assigned Fibre Channel ID of this port. This value is expected to be a Big Endian value of 24 bits.

- If this is loop, then it is the ALPA that is connected.
- If this is an E_Port, then it contains only the domain ID left justified, zero filled.
- If this port does not have a Fibre Channel address, return all bits set to 1.

For an F_Port, this is the Fibre Channel ID to which the connected N_Port is assigned.

For an FL_Port, this is the Fibre Channel ID of the FL_Port (ALPA = 0).

For a U_Port or E_Port, this is similar to F_Port.

connUnitPortSn

OID 1.3.6.1.3.94.1.10.1.12
connUnitPortTable.1.12

Description The serial number of the unit (for example, for a GBIC). If this is not applicable, return empty string.

If GBIC is the serial ID, this returns the GBIC part number. Otherwise, it returns a Null value.

connUnitPortRevision

OID 1.3.6.1.3.94.1.10.1.13
connUnitPortTable.1.13

Description The port revision (for example, GBIC).

If GBIC is the serial ID, this returns the GBIC revision number. Otherwise, it returns a Null value.

connUnitPortVendor

OID 1.3.6.1.3.94.1.10.1.14
connUnitPortTable.1.14

Description The port vendor (for example, for a GBIC).

If GBIC is the serial ID, this returns the GBIC vendor name. Otherwise, it returns a Null value.

connUnitPortSpeed

OID 1.3.6.1.3.94.1.10.1.15
connUnitPortTable.1.15

Description The speed of the port in kilobytes per second.

The valid values for the DS-32B2 and ED-12000B switches are 10^5 and 20^5.

connUnitPortControl

OID 1.3.6.1.3.94.1.10.1.16
connUnitPortTable.1.16

Description Controls the addressed connUnit's port. Valid commands are:

- resetConnUnitPort:

  If the addressed connUnit allows this operation to be performed to this port, the addressed port performs a vendor-specific reset operation. Examples of these operations are:

  - The Link Reset protocol
  - The Loop Initialization protocol
  - Resynchronization occurring between the transceiver in the addressed port to the transceiver to which the port is connected.

- bypassConnUnitPort:

  If the addressed connUnit allows this operation to be performed to this port, the addressed port performs a vendor-specific *bypass* operation. Examples of the bypass operations are:

  - Transitioning from online to offline
  - A request (NONPARTICIPATING) command to the Loop Port state machine
  - Removal of the port from an arbitrated loop by a hub

- unbypassConnUnitPort:

  If the addressed connUnit allows this operation to be performed to this port, the addressed port performs a vendor-specific *unbypass* operation. Examples of the unbypass operations are:

  - The Link Failure protocol
  - A request (PARTICIPATING) command to the Loop Port state machine
  - Addition of the port to an arbitrated loop by a hub

- offlineConnUnitPort:

  If the addressed connUnit allows this operation to be performed to this port, the addressed port performs a vendor-specific *offline* operation. Examples of the offline operations are:

  - Disabling a port's transceiver
  - The Link Failure protocol
  - Request (NONPARTICIPATING) command to the Loop Port state machine removal of the port from an arbitrated loop by a hub

- onlineConnUnitPort:

  If the addressed connUnit allows this operation to be performed to this port, the addressed port performs a vendor-specific *online* operation. Examples of the online operations are:

  - Enabling a port's transceiver
  - The Link Failure protocol, request(PARTICIPATING) command to the Loop Port state machine
  - Addition of the port from an arbitrated loop by a hub

  Each implementation may choose not to allow any or all of these values on a SET.

If the Management Station uses in-band communication (FC-IP) with the switch, either of the two following action may result in a loss of in-band communication with the switch:

- Disabling the FC port that is connected to the Management Station
- Disabling the embedded port

Return values are as follows:

- resetConnUnitPort - portDisable (F or E, noop for U)
- bypassConnUnitPort - portDisable (FL_Port)
- unbypassConnUnitPort - portEnable (FL_Port)
- offlineConnUnitPort - portDisable (E, F, FL)
- onlineConnUnitPort - portEnable (U)
- resetConnUnitPortCounters - clear the port stats counter. When rebooted, this defaults to 1 (unknown).

connUnitPortName

OID

1.3.6.1.3.94.1.10.1.17
connUnitPortTable.1.17

Description

A string describing the addressed port.

For an external FC port, this enables the port for the embedded port, thus enabling the switch.

Each Implementation may choose not to allow any or all of the following values on a SET. If the Management Station uses in-band communication (FC-IP) with the switch, either of the two following actions may not be possible in-band:

- Enabling the FC port that is connected to the Management Station
- Enabling the embedded port.

This returns Null and is read-only.

connUnitPortPhysicalNumber

OID 1.3.6.1.3.94.1.10.1.18
connUnitPortTable.1.18

Description The internal port number by which this port is known. In many implementations, this should be the same as connUnitPortIndex. Some implementations may have an internal port representation that is incompatible with the rules for table indices. In that case, provide the internal representation of this port in this object. This value may also be used in the connUnitLinkPortNumberX or connUnitLinkPortNumberY objects of the connUnitLinkTable.

The internal port numbers for the DS-32B2 and ED-12000B switches are 0 to the maximum number of supported ports.

connUnitPortStatObject

OID 1.3.6.1.3.94.1.10.1.19
connUnitPortTable.1.19

Description The OID of the first object of the table that contains the statistics for this particular port. If this has a value of zero, then there are no statistics available for this port. The port type information helps identify the statistics objects that are found in the table. From this point, one would do a `GetNext` to get the next statistics object. When the first part of the OID changes, the end of table is reached.

Mapped to connUnitPortStatFabricUnitId.

connUnitPortProtocolCap

OID 1.3.6.1.3.94.1.10.1.20
connUnitPortTable.1.20

Description The bit mask that specifies the driver-level protocol capability of this port.

If this is not applicable, return all bits set to zero.

The bits have the following definition:

0 = unknown
1 = Loop
2 = Fabric
4 = SCSI
8 = TCP/IP
16 = VI
32 = FICON

connUnitPortProtocolOp

OID 1.3.6.1.3.94.1.10.1.21
connUnitPortTable.1.21

Description The bit mask that specifies the driver-level protocol(s) that are currently operational.

If this is not applicable, return all bits set to zero.

The bits have the following definition:

0 = unknown
1 = Loop
2 = Fabric
4 = SCSI
8 = TCP/IP
16 = VI
32 = FICON

connUnitPortNodeWwn

OID 1.3.6.1.3.94.1.10.1.22
connUnitPortTable.1.22

Description The node World Wide Name of the port if applicable; otherwise, an empty string.

All related ports in within a group should have the same node WWN value. The container is defined as the largest physical entity. For example, all ports on HBAs on a host will have the same Node WWN. All ports on the same storage subsystem will have the same Node WWN.

This is in IEEE Extended format and the extension contains the internal port number of each port.

The internal port number is 1 less than the port index. For example, if the switch has WWN 10:00:00:60:69:10:02:18, then port numbers 0 and 6 have WWN 20:00:00:60:69:10:02:18 and 20:06:00:60:69:10:02:18, respectively. However, the embedded port has WWN 10:00:00:60:69:10:02:18, the same as the switch.

connUnitPortHWState

OID 1.3.6.1.3.94.1.10.1.23
connUnitPortTable.1.23

Description The state of the port as detected by the hardware.

Possible values are:

unknown (1)

failed (2):	Port failed diagnostics (port_flt_state).
bypassed (3):	FCAL bypass, loop only (not used).
active (4):	Connected to a device (light and sync are present).
loopback (5):	Port in ext loopback (loopback state).
txfault (6):	Transmitter fault (bad GBIC).
noMedia (7):	Media not installed (GBIC removed).
linkDown (8):	Waiting for activity—rx sync (light with no sync)

Connectivity Unit Event Table

connUnitEventTable

OID 1.3.6.1.3.94.1.11

Description The table of connectivity unit events. Errors, warnings, and information should be reported in this table.

(v4.xonly) This table contains the 255 most recent event log entries.

connUnitEventEntry

OID 1.3.6.1.3.94.1.11.1
connUnitEventTable.1

Description Each entry contains information on a specific event for the given connectivity unit.

Index connUnitEventUnitId, connUnitEventIndex

connUnitEventUnitId

OID 1.3.6.1.3.94.1.11.1.1
connUnitEventTable.1.1

Description The connUnitId of the connectivity unit that contains this event table.

Same as connUnitId.

connUnitEventIndex

OID 1.3.6.1.3.94.1.11.1.2
connUnitEventTable.1.2

Description Each connectivity unit has its own event buffer. As it wraps, it may write over previous events. This object is an index into the buffer.

EMC recommends that this table be read using `GetNext` to retrieve the initial table.

The management application should read the event table at periodic intervals and then determine if any new entries were added by comparing the last known index value with the current highest index value.

The management application should then update its copy of the event table. If the read interval is too long, it is possible that there may be events that may not be contained in the agent's internal event buffer.

Example An agent may read events 50 through 75.

At the next read interval, connUnitEventCurrID is 189. If the management application tries to read event index 76, and the agent's internal buffer is 100 entries maximum, event index 76 is no longer available.

The index value is an incrementing integer starting from one (1) every time there is a table reset. On table reset, all contents are emptied and all indices are set to zero (0). When an event is added to the table, the event is assigned the next higher integer value than the last item entered in the table. If the index value reaches its maximum value, the next item entered causes the index value to roll over and start at one (1) again.

Mapped to swEventIndex.

connUnitEventId

OID 1.3.6.1.3.94.1.11.1.3
connUnitEventTable.1.3

Description The internal event ID. Incremented for each event, ranging between 0 and connUnitMaxEvents. Not used as table index to simplify the agent implementation. When this reaches the end of the range specified by connUnitMaxEvents, the ID rolls over to start at zero. This value is set back to zero at reset. The relationship of this value to the index is that internal event ID may represent a smaller number than a 32-bit integer (for example, maximum 100 entries) and would only have a value range up to connUnitMaxEvents.

Same as connUnitEventIndex.

connUnitREventTime

OID 1.3.6.1.3.94.1.11.1.4
connUnitEventTable.1.4

Description This is the real time when the event occurred. It has the following format: *DDMMYYYY HHMMSS*

where:

DD=day number
MM=month number
YYYY=year number
HH=hour number
MM=minute number
SS=seconds number

If not applicable, return a Null string.

connUnitSEventTime

OID 1.3.6.1.3.94.1.11.1.5
connUnitEventTable.1.5

Description This is the sysuptime time stamp when the event occurred.

connUnitEventSeverity

OID 1.3.6.1.3.94.1.11.1.6
connUnitEventTable.1.6

Description The event severity level. The mapping between errlog severity level and this variable is:

Error log	FA-MIB
none (0)	unknown (1)
Critical (1)	critical (4)
Error (2)	error (5)

Warning (3)	warning (6)
Informational (4)	info (8)
Debug (5)	debug (9)

Refer to FcEventSeverity in Table 3-1 on page 3-7.

connUnitEventType

OID 1.3.6.1.3.94.1.11.1.7
connUnitEventTable.1.7

Description The type of this event.

Always set to 2 (other).

connUnitEventObject

OID 1.3.6.1.3.94.1.11.1.8
connUnitEventTable.1.8

Description This is used with the connUnitEventType to identify the object to which the event refers. It can be the OID of a connectivity unit or of another object, like connUnitPortStatus[...].

Always set to Null.

connUnitEventDescr

OID 1.3.6.1.3.94.1.11.1.9
connUnitEventTable.1.9

Description The description of the event.

Same as the string shown in the Telnet command `errShow`.

Connectivity Unit Link Table

connUnitLinkTable

OID 1.3.6.1.3.94.1.12

Description A list of links know to this agent from this connectivity unit to other connectivity units.

X = switch data. Y = other end.

Important The link table is intended to organize and communicate any information the agent has, which might assist a management application to discover the connectivity units in the framework and the topology of their interconnect.

The goal is to assist the management application by mapping the elements of the framework in addition to listing them.

With this goal, the agent *should* include as much as it possesses about any links from its own connectivity units to others, including links among its own units.

An agent *should* include partial information about links if it is not able to fully define them in accord with the following structure; however, the information *must* include either a nonzero connUnitNodeId, or a nonzero connUnitPortWwn, for each end of the link. If the agent is able to discover links that do not directly attach to members of its agency, and its discovery algorithm gives some assurance that the links are recently valid, it *may* include these links.

Link information entered by administrative action *may* be included even if not validated directly if the link has at least one endpoint in this agency, but *should not* be included otherwise.

A connectivity unit should fill the table in as best it can. One method is to use the RNID ELS (ANSI document 99-422v0). This allows one to query a port for the information needed for the link table.

This table is accessed either directly, if the management software has an index value, or using `GetNext`. The value of the indexes are not required to be contiguous. Each entry created in this table is assigned an index. This relationship is kept persistent until the entry is

removed from the table or the system is reset. The total number of entries are defined by the size of the table.

For an entry to be considered to be valid, both the X (local) and the Y (remote) need to have one valid value.

connUnitLinkEntry

OID 1.3.6.1.3.94.1.12.1
connUnitLinkTable.1

Description An entry describing a particular link to another.

Index connUnitLinkUnitId, connUnitLinkIndex

connUnitLinkUnitId

OID 1.3.6.1.3.94.1.12.1.1
connUnitLinkTable.1.1

Description The connUnitId of the connectivity unit that contains this link table.

Set to WWN of the local switch.

connUnitLinkIndex

OID 1.3.6.1.3.94.1.12.1.2
connUnitLinkTable.1.2

Description This value is used to create a unique value for each entry in the link table with the same connUnitLinkUnitId. The value can only be reused if it is not currently in use and the value is the next candidate to be used. This value is allowed to wrap at the highest value represented by the number of bits. This value is reset to zero when the system is reset, and the first value to be used is one.

Indexes 1 through *maximum number of ports* are reserved for ISL.

Indexes *maximum number of ports* +1 and above are reserved for end devices and are calculated based on port ID of the end device(s).

connUnitLinkNodeIdX

OID 1.3.6.1.3.94.1.12.1.3
connUnitLinkTable.1.3

Description The node WWN of the unit at one end of the link. If the node WWN is unknown and the node is a connUnit in the responding agent, then the value of this object *must be* equal to its connUnitID.

WWN of the local switch.

connUnitLinkPortNumberX

OID 1.3.6.1.3.94.1.12.1.4
connUnitLinkTable.1.4

Description The port number on the unit specified by connUnitLinkNodeIdX if known, otherwise -1. If the value is nonnegative, then it is equal to connUnitPortPhysicalNumber.

ISL: Physical port # of the E_Port.
Device: Physical port number to which the device is connected.

connUnitLinkPortWwnX

OID 1.3.6.1.3.94.1.12.1.5
connUnitLinkTable.1.5

Description The port WWN of the unit specified by connUnitLinkNodeIdX if known; otherwise 16 octets of binary 0.

WWN of the port to which the device is connected.

connUnitLinkNodeIdY

OID 1.3.6.1.3.94.1.12.1.6
connUnitLinkTable.1.6

Description The node WWN of the unit at the other end of the link. If the node WWN is unknown and the node is a connUnit in the responding SNMP agency, then the value of this object *must be* equal to its connUnitID.

ISL: WWN of the remote switch.
Device: Node name of the device.

connUnitLinkPortNumberY

OID 1.3.6.1.3.94.1.12.1.7
connUnitLinkTable.1.7

Description The port number on the unit specified by connUnitLinkNodeIdY, if known; otherwise `-1`. If the value is nonnegative, then it is equal to connUnitPortPhysicalNumber.

ISL: Physical port number of the remote port.
Device: `-1`.

connUnitLinkPortWwnY

OID 1.3.6.1.3.94.1.12.1.8
connUnitLinkTable.1.8

Description The port WWN on the unit specified by connUnitLinkNodeIdY, if known; otherwise, 16 octets of binary 0.

ISL: WWN of the remote port.
Device: `Port name`.

connUnitLinkAgentAddressY

OID 1.3.6.1.3.94.1.12.1.9
connUnitLinkTable.1.9

Description The address of an FCMGMT MIB agent for the node identified by connUnitLinkNodeIdY, if known; otherwise, 16 octets of binary 0.

ISL: IP address (IPv4).
Device: 0 (Null).

connUnitLinkAgentAddressTypeY

OID 1.3.6.1.3.94.1.12.1.10
connUnitLinkTable.1.10

Description If connUnitLinkAgentAddressY is nonzero, it is a protocol address. ConnUnitLinkAgentAddressTypeY is the address family number assigned by IANA to identify the address format, such as 1 is Ipv4 and 2 is Ipv6.

ISL: Type 2.
Device: 0 (Null).

connUnitLinkAgentPortY

OID 1.3.6.1.3.94.1.12.1.11
connUnitLinkTable.1.11

Description The IP port number for the agent, in case the agent is at a nonstandard SNMP port.

ISL: IP port.
Device: 0 (Null)

connUnitLinkUnitTypeY

OID 1.3.6.1.3.94.1.12.1.12
connUnitLinkTable.1.12

Description Type of the FC connectivity unit as defined in connUnitType.

ISL: Switch device.

End devices (End device types based on an FCP Inquiry):

Storage System	Storage Sub-system	Unknown	Other
Direct Access Sequential Access Write-Once CD-ROM Optical	Medium Changer Array SES	Unknown	Anything else (printer device, processor device, scanner, and so on)

The current implementation of the DS-32B2 and ED-12000B switches does not support hubs.

connUnitLinkConnIdY

OID 1.3.6.1.3.94.1.12.1.13
connUnitLinkTable.1.13

Description This is the Fibre Channel ID of this port. If the connectivity unit is a switch, this is expected to be a Big Endian value of 24 bits. If this is loop, then it is the ALPA that is connected. If this is an E_Port, then it contains only the domain ID. If not any of those, unknown or cascaded loop, return all bits set to 1.

ISL: Port ID of the remote port.
Device: Port ID of the remote port.

connUnitLinkCurrIndex

OID 1.3.6.1.3.94.1.12.1.14
connUnitLinkTable.1.14

Description The last used link index.

Connectivity Unit Port Stat Table

There is one, and only one, statistics table for each individual port. For all objects in statistics table, if the object is not supported by the conn unit, then the high order bit is set to 1 with all other bits set to zero. (For example, the last eight bytes of the returned value might be ...:80 00 00 00 00 00 00 00.)

The high-order bit is reserved to indicate whether the object is supported. All objects start at a value of zero at hardware initialization and continue incrementing until end of 63 bits, and then wrap to zero.

This is the case for all Class 1 frames, and EMC does not support them.

connUnitPortStatTable

OID 1.3.6.1.3.94.4.5

Description A list of statistics for the fabric port types.

connUnitPortStatEntry

OID 1.3.6.1.3.94.4.5.1
connUnitPortStatTable.1

Description An entry describing port statistics.

Index connUnitPortStatUnitId, connUnitPortStatIndex

connUnitPortStatUnitId

OID 1.3.6.1.3.94.4.5.1.1
connUnitPortStatTable.1.1

Description The connUnitId of the connectivity unit that contains this port stat table.

connUnitPortStatIndex

OID 1.3.6.1.3.94.4.5.1.2
connUnitPortStatTable.1.2

Description A unique value among all entries in this table, between 0 and connUnitNumPort[connUnitPortUnitId].

connUnitPortStatCountError

OID 1.3.6.1.3.94.4.5.1.3
connUnitPortStatTable.1.3

Description A count of the errors that have occurred on this port.

connUnitPortStatCountTxObjects

OID 1.3.6.1.3.94.4.5.1.4
connUnitPortStatTable.1.4

Description The number of frames, packets, IOs, etc., that have been transmitted by this port.

A Fibre Channel frame starts with SOF and ends with EOF. FC loop devices should not count frames passed through. This value represents the sum total for all other Tx objects.

connUnitPortStatCountRxObjects

OID 1.3.6.1.3.94.4.5.1.5
connUnitPortStatTable.1.5

Description The number of frames, packets, IOs, etc., that have been received by this port.

A Fibre Channel frame starts with SOF and ends with EOF. FC loop devices should not count frames passed through. This value represents the sum total for all other Rx objects.

connUnitPortStatCountTxElements

OID 1.3.6.1.3.94.4.5.1.6
connUnitPortStatTable.1.6

Description The number of octets or bytes that have been transmitted by this port. One-second periodic polling of the port. This value is saved and compared with the next polled value to compute net throughput.

For Fibre Channel, ordered sets are not included in the count.

connUnitPortStatCountRxElements

OID 1.3.6.1.3.94.4.5.1.7
connUnitPortStatTable.1.7

Description The number of octets or bytes that have been received by this port. One second periodic polling of the port. This value is saved and compared with the next polled value to compute net throughput.

For Fibre Channel, ordered sets are not included in the count.

connUnitPortStatCountBBCreditZero

OID 1.3.6.1.3.94.4.5.1.8
connUnitPortStatTable.1.8

Description The number of transitions in/out of BB_credit zero state. The other side is not providing any credit.

This is a Fibre Channel stat only.

connUnitPortStatCountInputBuffersFull

Not supported

OID 1.3.6.1.3.94.4.5.1.9
connUnitPortStatTable.1.9

Description The number of occurrences when all input buffers of a port were full and outbound buffer-to-buffer credit transitioned to zero. There is no credit to provide to other side.

Return Value: 80 0 0 0 0 0 0 0 (Not supported)

This is a Fibre Channel stat only.

connUnitPortStatCountFBSYFrames

Not supported

OID 1.3.6.1.3.94.4.5.1.10
connUnitPortStatTable.1.10

Description The number of times that FBSY was returned to this port as a result of a frame that could not be delivered to the other end of the link. This occurs if either the Fabric or the destination port is temporarily busy. Port can only occur on SOFc1 frames (the frames that establish a connection).

Return Value: 80 0 0 0 0 0 0 0 (Not supported)

This is a Fibre Channel stat only. This is the sum of all classes. If you cannot keep the by class counters, then keep the sum counters.

connUnitPortStatCountPBSYFrames

OID 1.3.6.1.3.94.4.5.1.11
connUnitPortStatTable.1.11

Description The number of times that PBSY was returned to this port as a result of a frame that could not be delivered to the other end of the link. This occurs if the destination port is temporarily busy. PBSY can only occur on SOFc1 frames (the frames that establish a connection).

This is a Fibre Channel stat only.This is the sum of all classes. If you cannot keep the by class counters, then keep the sum counters.

connUnitPortStatCountFRJTFrames

Not supported.

OID 1.3.6.1.3.94.4.5.1.12
connUnitPortStatTable.1.12

Description The number of times that FRJT was returned to this port as a result of a Frame that was rejected by the fabric.

Return Value: 80 0 0 0 0 0 0 0

This is the total for all classes and is a Fibre Channel stat only.

connUnitPortStatCountPRJTFrames

OID 1.3.6.1.3.94.4.5.1.13
connUnitPortStatTable.1.13

Description The number of times that FRJT was returned to this port as a result of a frame that was rejected at the destination N_port.

This is the total for all classes and is a Fibre Channel stat only.

connUnitPortStatCountClass1RxFrames

OID 1.3.6.1.3.94.4.5.1.14
connUnitPortStatTable.1.14

Description The number of Class 1 frames received at this port.

This is a Fibre Channel stat only.
EMC does not support Class 1 frames.

connUnitPortStatCountClass1TxFrames

OID 1.3.6.1.3.94.4.5.1.15
connUnitPortStatTable.1.15

Description The number of Class 1 frames transmitted out this port.

This is a Fibre Channel stat only.
EMC does not support Class 1 frames.

connUnitPortStatCountClass1FBSYFrames

OID 1.3.6.1.3.94.4.5.1.16
connUnitPortStatTable.1.16

Description The number of times that FBSY was returned to this port as a result of a Class 1 frame that could not be delivered to the other end of the link. This occurs if either the Fabric or the destination port is temporarily busy. FBSY can only occur on SOFc1 frames (the frames that establish a connection).

This is a Fibre Channel stat only.
EMC does not support Class 1 frames.

connUnitPortStatCountClass1PBSYFrames

OID 1.3.6.1.3.94.4.5.1.17
connUnitPortStatTable.1.17

Description The number of times that PBSY was returned to this port as a result of a Class 1 frame that could not be delivered to the other end of the link. This occurs if the destination N_Port is temporarily busy. PBSY can only occur on SOFc1 frames (the frames that establish a connection).

This is a Fibre Channel stat only.
EMC does not support Class 1 frames.

connUnitPortStatCountClass1FRJTFrames

OID 1.3.6.1.3.94.4.5.1.18
connUnitPortStatTable.1.18

Description The number of times that FRJT was returned to this port as a result of a Class 1 frame that was rejected by the fabric.

This is a Fibre Channel stat only.
EMC does not support Class 1 frames.

connUnitPortStatCountClass1PRJTFrames

OID 1.3.6.1.3.94.4.5.1.19
connUnitPortStatTable.1.19

Description The number of times that FRJT was returned to this port as a result of a Class 1 frame that was rejected at the destination N_Port.

This is a Fibre Channel stat only.
EMC does not support Class 1 frames.

connUnitPortStatCountClass2RxFrames

OID 1.3.6.1.3.94.4.5.1.20
connUnitPortStatTable.1.20

Description The number of Class 2 frames received at this port.

This is a Fibre Channel stat only.

connUnitPortStatCountClass2TxFrames (connUnitPortStatTable)

Not supported.

OID 1.3.6.1.3.94.4.5.1.21
connUnitPortStatTable.1.21

Description The number of Class 2 frames transmitted out this port.

Return Value: 80 0 0 0 0 0 0 0

This is a Fibre Channel stat only.

connUnitPortStatCountClass2FBSYFrames (connUnitPortStatTable)

Not supported.

OID 1.3.6.1.3.94.4.5.1.22
connUnitPortStatTable.1.22

Description The number of times that FBSY was returned to this port as a result of a Class 2 frame that could not be delivered to the other end of the link. This occurs if either the Fabric or the destination port is temporarily busy. FBSY can only occur on SOFc1 frames (the frames that establish a connection).

Return Value: 80 0 0 0 0 0 0 0

This is a Fibre Channel stat only.

connUnitPortStatCountClass2PBSYFrames (connUnitPortStatTable)

Not supported.

OID 1.3.6.1.3.94.4.5.1.23
connUnitPortStatTable.1.23

Description The number of times that PBSY was returned to this port as a result of a Class 2 frame that could not be delivered to the other end of the link. This occurs if the destination N_Port is temporarily busy. PBSY can only occur on SOFc1 frames (the frames that establish a connection).

Return Value: 80 0 0 0 0 0 0 0

This is a Fibre Channel stat only.

connUnitPortStatCountClass2FRJTFrames (connUnitPortStatTable)

Not supported.

OID 1.3.6.1.3.94.4.5.1.24
connUnitPortStatTable.1.24

Description The number of times that FRJT was returned to this port as a result of a Class 2 frame that was rejected by the fabric.

Return Value: 80 0 0 0 0 0 0 0

This is a Fibre Channel stat only.

connUnitPortStatCountClass2PRJTFrames

OID 1.3.6.1.3.94.4.5.1.25
connUnitPortStatTable.1.25

Description The number of times that FRJT was returned to this port as a result of a Class 2 frame that was rejected at the destination N_Port.

This is a Fibre Channel stat only.

connUnitPortStatCountClass3RxFrames

OID 1.3.6.1.3.94.4.5.1.26
connUnitPortStatTable.1.26

Description The number of Class 3 frames received at this port.

This is a Fibre Channel stat only.

connUnitPortStatCountClass3TxFrames

OID 1.3.6.1.3.94.4.5.1.27
connUnitPortStatTable.1.27

Description The number of Class 3 frames transmitted out this port.

This is a Fibre Channel stat only.

connUnitPortStatCountClass3Discards

OID 1.3.6.1.3.94.4.5.1.28
connUnitPortStatTable.1.28

Description The number of Class 3 frames that were discarded upon reception at this port. There is no FBSY or FRJT generated for Class 3 frames. They are simply discarded if they cannot be delivered.

This is a Fibre Channel stat only.

connUnitPortStatCountRxMulticastObjects

OID 1.3.6.1.3.94.4.5.1.29
connUnitPortStatTable.1.29

Description The number of multicast frames or packet received at this port.

connUnitPortStatCountTxMulticastObjects

OID 1.3.6.1.3.94.4.5.1.30
connUnitPortStatTable.1.30

Description The number of multicast frames or packet transmitted out this port.

connUnitPortStatCountRxBroadcastObjects

OID 1.3.6.1.3.94.4.5.1.31
connUnitPortStatTable.1.31

Description The number of broadcast frames or packet received at this port.

Return Value: 80 0 0 0 0 0 0 0

connUnitPortStatCountTxBroadcastObjects

OID 1.3.6.1.3.94.4.5.1.32
connUnitPortStatTable.1.32

Description The number of broadcast frames or packet transmitted out this port. On a Fibre Channel loop, count only OPN frames generated.

Return Value: 80 0 0 0 0 0 0 0

connUnitPortStatCountRxLinkResets

OID 1.3.6.1.3.94.4.5.1.33
connUnitPortStatTable.1.33

Description The number of link resets. This is the number of LRs received.

This is a Fibre Channel stat only.

connUnitPortStatCountTxLinkResets

OID 1.3.6.1.3.94.4.5.1.34
connUnitPortStatTable.1.34

Description The number of link resets. This is the number of LRs transmitted.

This is a Fibre Channel stat only.

connUnitPortStatCountNumberLinkResets

OID 1.3.6.1.3.94.4.5.1.35
connUnitPortStatTable.1.35

Description The number of link resets and LIPs detected at this port. The number of times the reset link protocol is initiated. This is the count of the logical resets, a count of the number of primitives.

This is a Fibre Channel stat only.

connUnitPortStatCountRxOfflineSequences

OID 1.3.6.1.3.94.4.5.1.36
connUnitPortStatTable.1.36

Description The number of Offline Primitive OLS received at this port.

This is a Fibre Channel stat only.

connUnitPortStatCountTxOfflineSequences

OID 1.3.6.1.3.94.4.5.1.37
connUnitPortStatTable.1.37

Description The number of Offline Primitive OLS transmitted by this port.

This is a Fibre Channel stat only.

connUnitPortStatCountNumberOfflineSequences

OID 1.3.6.1.3.94.4.5.1.38
connUnitPortStatTable.1.38

Description The number of Offline Primitive sequence received at this port.

Return Value: 80 0 0 0 0 0 0 0

This is a Fibre Channel stat only.

connUnitPortStatCountLinkFailures

OID 1.3.6.1.3.94.4.5.1.39
connUnitPortStatTable.1.39

Description The number of link failures. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8)

This is a Fibre Channel stat only.

connUnitPortStatCountInvalidCRC

OID 1.3.6.1.3.94.4.5.1.40
connUnitPortStatTable.1.40

Description The number of frames received with invalid CRC. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8) Loop ports should not count CRC errors passing through when monitoring.

This is a Fibre Channel stat only.

connUnitPortStatCountInvalidTxWords

OID 1.3.6.1.3.94.4.5.1.41
connUnitPortStatTable.1.41

Description The number of invalid transmission words received at this port. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8)

This is a Fibre Channel stat only.

connUnitPortStatCountPrimitiveSequenceProtocolErrors

OID 1.3.6.1.3.94.4.5.1.42
connUnitPortStatTable.1.42

Description The number of primitive sequence protocol errors detected at this port. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8)

This is a Fibre Channel stat only.

connUnitPortStatCountLossofSignal

OID 1.3.6.1.3.94.4.5.1.43
connUnitPortStatTable.1.43

Description The number of instances of signal loss detected at port. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8)

This is a Fibre Channel stat only.

connUnitPortStatCountLossofSynchronization

OID 1.3.6.1.3.94.4.5.1.44
connUnitPortStatTable.1.44

Description The number of instances of synchronization loss detected at port. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8)

This is a Fibre Channel stat only.

connUnitPortStatCountInvalidOrderedSets

OID 1.3.6.1.3.94.4.5.1.45
connUnitPortStatTable.1.45

Description The number of invalid ordered sets received at port. This count is part of the Link Error Status Block (LESB). (FC-PH 29.8).

This is a Fibre Channel stat only.

connUnitPortStatCountFramesTooLong

OID 1.3.6.1.3.94.4.5.1.46
connUnitPortStatTable.1.46

Description The number of frames received at this port where the frame length was greater than what was agreed to in FLOGI/PLOGI. This could be caused by losing the end-of-frame delimiter.

This is a Fibre Channel stat only.

connUnitPortStatCountFramesTruncated

OID 1.3.6.1.3.94.4.5.1.47
connUnitPortStatTable.1.47

Description The number of frames received at this port where the frame length was less than the minimum indicated by the frame header, normally

24 bytes, but it could be more if the DFCTL field indicates an optional header should have been present.

This is a Fibre Channel stat only.

connUnitPortStatCountAddressErrors

OID 1.3.6.1.3.94.4.5.1.48
connUnitPortStatTable.1.48

Description The number of frames received with unknown addressing. For example, unknown SID or DID. The SID or DID is not known to the routing algorithm.

This is a Fibre Channel stat only.

connUnitPortStatCountDelimiterErrors

OID 1.3.6.1.3.94.4.5.1.49
connUnitPortStatTable.1.49

Description The number of invalid frame delimiters received at this port. An example is a frame with a Class 2 start and a Class 3 at the end.

This is a Fibre Channel stat only.

connUnitPortStatCountEncodingDisparityErrors

OID 1.3.6.1.3.94.4.5.1.50
connUnitPortStatTable.1.50

Description The number of disparity errors received at this port.

This is a Fibre Channel stat only.

The Service Group

Implementation of the Service group is mandatory for all systems.

The Service group contains two subgroups:

- The Connectivity Unit Service Scalers Group
- The Connectivity Unit Service Tables Group

The Connectivity Unit Service Scalers Group

Implementation of the Connectivity Unit Service Scalers group is mandatory for all systems.

connUnitSnsMaxEntry

OID 1.3.6.1.3.94.4.5.1.1

Description The maximum number of entries in the table.

The Connectivity Unit Service Tables Group

Implementation of the Connectivity Unit Service Tables group is mandatory for all systems.

connUnitSnsTable

OID 1.3.6.1.3.94.4.5.2.1

Description This table contains an entry for each object registered with this port in the switch.

connUnitSnsEntry

OID 1.3.6.1.3.94.4.5.2.1.1
connUnitSnsTable.1

Description The Simple Name Server table for the port represented by connUnitSnsPortIndex.

Index connUnitSnsId, connUnitSnsPortIndex, connUnitSnsPortIdentifier

connUnitSnsId

OID 1.3.6.1.3.94.4.5.2.1.1.1
connUnitSnsTable.1.1

Description The connUnitId of the connectivity unit that contains this Name Server table.

connUnitSnsPortIndex

OID 1.3.6.1.3.94.4.5.2.1.1.2
connUnitSnsTable.1.2

Description The physical port number of this SNS table entry. Each physical port has an SNS table with n-1 entries indexed by connUnitSnsPortIdentifier (port address).

connUnitSnsPortIdentifier

OID 1.3.6.1.3.94.4.5.2.1.1.3
connUnitSnsTable.1.3

Description The port identifier for this entry in the SNS table.

connUnitSnsPortName

OID 1.3.6.1.3.94.4.5.2.1.1.4
connUnitSnsTable.1.4

Description The port name for this entry in the SNS table.

connUnitSnsNodeName

OID 1.3.6.1.3.94.4.5.2.1.1.5
connUnitSnsTable.1.5

Description The Node Name for this entry in the SNS table.

connUnitSnsClassOfSvc

OID 1.3.6.1.3.94.4.5.2.1.1.6
connUnitSnsTable.1.6

Description The Classes of Service offered by this entry in the SNS table.

connUnitSnsNodeIPAddress

OID 1.3.6.1.3.94.4.5.2.1.1.7
connUnitSnsTable.1.7

Description The IPv6 formatted address of the node for this entry in the SNS table.

connUnitSnsProcAssoc

OID 1.3.6.1.3.94.4.5.2.1.1.8
connUnitSnsTable.1.8

Description The process associator for this entry in the SNS table.

connUnitSnsFC4Type

OID 1.3.6.1.3.94.4.5.2.1.1.9
connUnitSnsTable.1.9

Description The FC-4 types supported by this entry in the SNS table.

connUnitSnsPortType

OID 1.3.6.1.3.94.4.5.2.1.1.10
connUnitSnsTable.1.10

Description The port type of this entry in the SNS table.

connUnitSnsPortIPAddress

OID 1.3.6.1.3.94.4.5.2.1.1.11
connUnitSnsTable.1.11

Description The IPv6 formatted address of this entry in the SNS table.

connUnitSnsFabricPortName

OID 1.3.6.1.3.94.4.5.2.1.1.12
connUnitSnsTable.1.12

Description The fabric port name of this entry in the SNS table.

connUnitSnsHardAddress

OID 1.3.6.1.3.94.4.5.2.1.1.13
connUnitSnsTable.1.13

Description The hard address of this entry in the SNS table.

connUnitSnsSymbolicPortName

OID 1.3.6.1.3.94.4.5.2.1.1.14
connUnitSnsTable.1.14

Description The symbolic port name of this entry in the SNS table.

connUnitSnsSymbolicNodeName

OID 1.3.6.1.3.94.4.5.2.1.1.15
connUnitSnsTable.1.15

Description The symbolic node name of this entry in the SNS table.

SNMP Trap Registration Group

trapMaxClients

OID 1.3.6.1.3.94.2.1

Description The maximum number of SNMP trap recipients supported by the connectivity unit.

Set to 6.

trapClientCount

OID 1.3.6.1.3.94.2.2

Description The current number of rows in the trap table.

SNMP Trap Registration Table

trapRegTable

OID 1.3.6.1.3.94.2.3

Description A table containing a row for each IP address/port number to which traps are sent.

trapRegEntry

OID 1.3.6.1.3.94.2.3.1
trapRegTable.1

Description Ip/Port pair for a specific client.

Index trapRegIpAddress, trapRegPort

trapRegIpAddress

OID 1.3.6.1.3.94.2.3.1.1
trapRegTable.1.1

Description The IP address of a client registered for traps.

trapRegPort

OID 1.3.6.1.3.94.2.3.1.2
trapRegTable.1.2

Description The UDP port to send traps to for this host. Normally, this would be the standard trap port (162). This object is an index and must be specified to create a row in this table.

Set to 162.

trapRegFilter

OID 1.3.6.1.3.94.2.3.1.3
trapRegTable.1.3

Description This value defines the trap severity filter for this trap host. The connUnit sends to this host traps that have a severity level less than or equal to this value. The default value of this object is Warning.

The mapping between errlog severity level and this variable is:

Error log	FA-MIB
none (0)	unknown (1)
Critical (1)	critical (4)
Error (2)	error (5)
Warning (3)	warning (6)
Informational (4)	info (8)
Debug (5)	debug (9)

This severity applies to all entries. See FcEventSeverity in Table 3-1 on page 3-7.

trapRegRowState

OID 1.3.6.1.3.94.2.3.1.4
trapRegTable.1.4

Description Specifies the state of the row.

Table 3-3 TrapRegRowState for Read/Write

rowDestroy	**READ**: Can never happen.	**WRITE**: Remove this row from the table.
rowInactive	**READ**: Indicates that this row does exist, but that traps are not enabled to be sent to the target.	**WRITE**: If the row does not exist, and the agent allows writes to the trap table, then a new row is created. The values of the optional columns are set to default values. Traps are not enabled to be sent to the target. If the row already exists, then traps are disabled from being sent to the target.
rowActive	**READ**: Indicates that this row exists, and that traps are enabled to be sent to the target.	**WRITE**: If the row does not exist, and the agent allows writes to the trap table, then a new row is created. The values of the optional columns are set to default values. Traps are enabled to be sent to the target. If the row already exists, then traps are enabled to be sent to the target.

This entry always returns rowActive and allows for read-only.

Revision Number Scalar

revisionNumber

OID 1.3.6.1.3.94.3

Description The revision number for this MIB. The format of the revision value is as follows:

0 = High-order major revision number

1 = Low-order major revision number

2 = High-order minor revision number

3 = Low-order minor revision number

The value is stored as an ASCII value. The following is the current value of this object:

0 = 0

1 = 4

2 = 1

3 = 0

This defines a revision of 04.1.0.

Set to 0410.

Unsupported Tables

These tables are not supported:

- Connectivity Unit Port Statistics Hub Table
- Connectivity Unit Port Statistics Fabric Table
- Connectivity Unit Port Statistics SCSI Table
- Connectivity Unit Port Statistics LAN/WAN Table

Related Traps

connUnitStatusChange

Enterprise fcmgmt

Variables connUnitStatus, connUnitState

Description The overall status of the connectivity unit has changed.

Recommended severity level (for filtering): alert.

Generated when connUnitStatus changes. Refer to *connUnitStatus* on page 3-12 for a description of how the value is calculated.

connUnitDeletedTrap

Enterprise fcmgmt

Variables connUnitId

Description A connUnit has been deleted from this agent.

Recommended severity level (for filtering): warning.

Not implemented.

connUnitEventTrap

Enterprise fcmgmt

Variables connUnitEventId, connUnitEventType, connUnitEventObject, connUnitEventDescr

Description An event has been generated by the connectivity unit.

Recommended severity level (for filtering): info.

connUnitSensorStatusChange

Enterprise fcmgmt

Variables connUnitSensorStatus

Description Overall status of the connectivity unit has changed.

connUnitPortStatusChange

Enterprise fcmgmt

Variables connUnitPortStatus, connUnitPortState

Description Overall status of the connectivity unit changed. Recommended severity level (for filtering): alert.

4 FCFabric Element MIB Object Types

This chapter contains descriptions and other information that is specific to Fibre Channel FE MIB (MIB-II branch) object types.

Overview

Fabric OS v4.1 supports only Fibre Channel FE MIB (RFC2837). The object types in FCELEMENT-MIB are organized in the following groupings:

- *Configuration Group* on page 4-10
- *Status Group* on page 4-20
- *Error Group* on page 4-28
- *Accounting Group* on page 4-32
- *Capability Group* on page 4-41

The FE-MIB does not provide E_Port information.

Refer to Appendix D for the entire FE-MIB.

FCFABRIC ELEMENT - MIB System Organization of MIB Objects (FE-MIB)

The following graphics depict the organization and structure of FE-MIB.

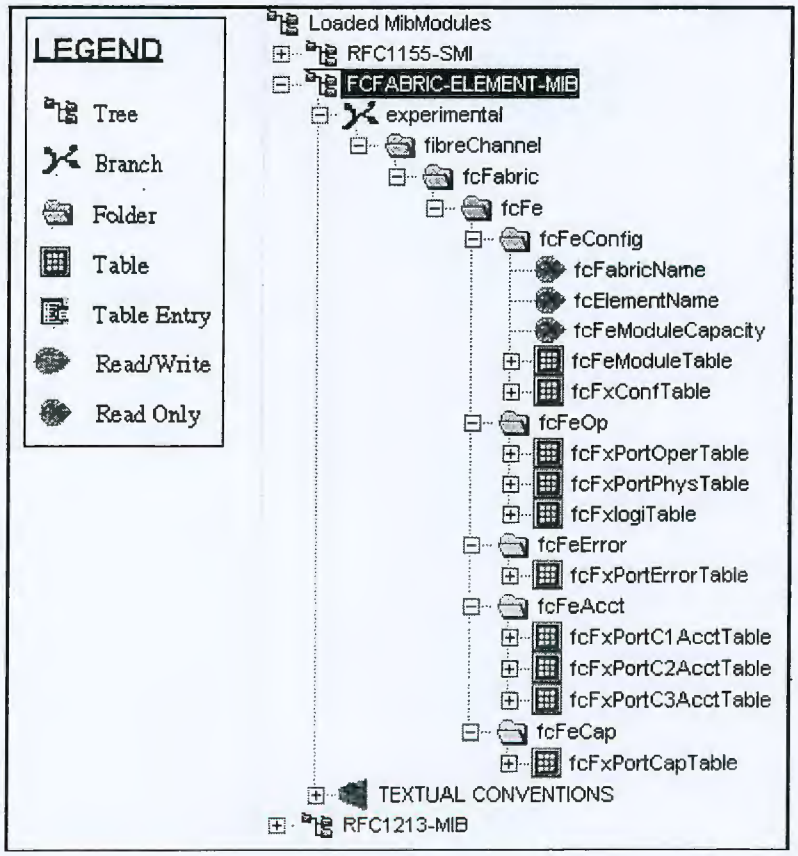


Figure 4-1 FE-MIB Overall Tree Structure

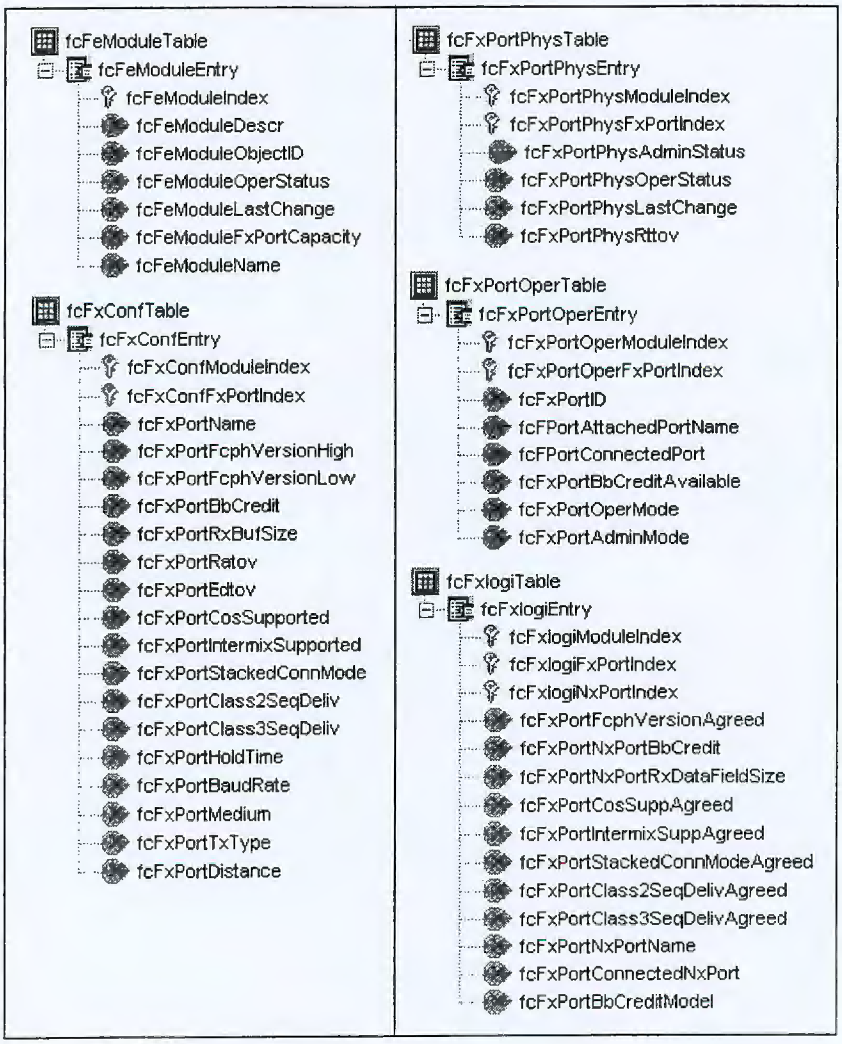


Figure 4-2 Tree Structure for fcFeConfig and fcFeOp Tables

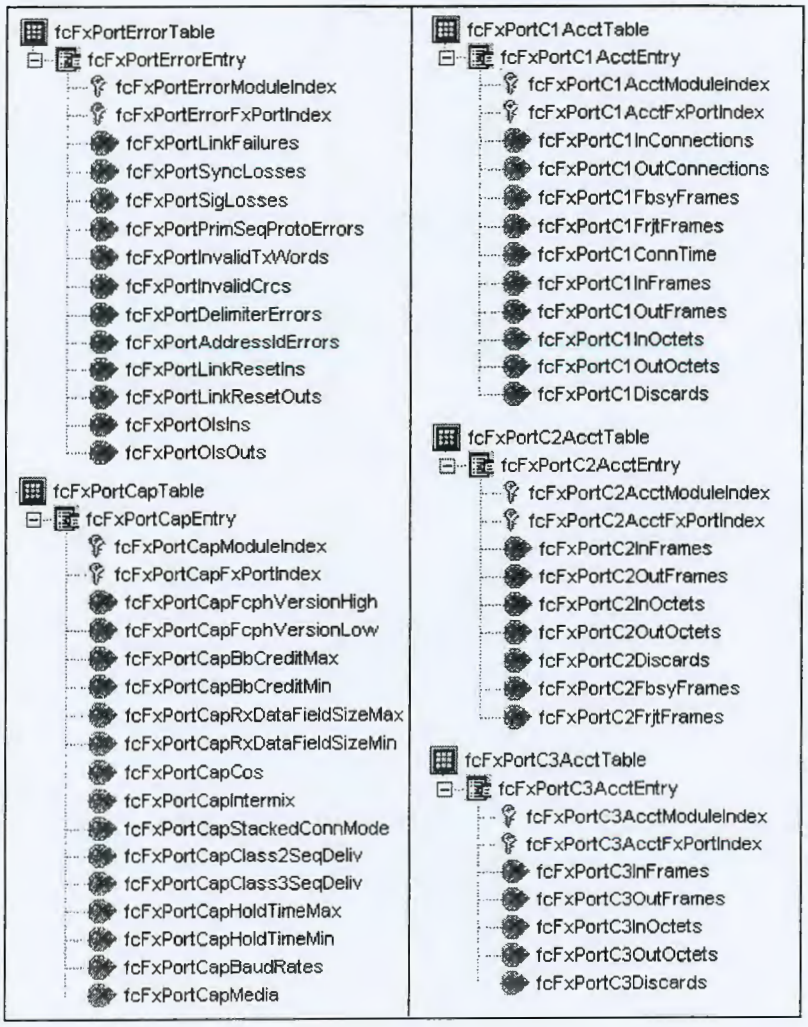


Figure 4-3 Tree Structure for fcFeError, fcFeAcct, and fcFeCap Tables

Definitions for FCFABRIC-ELEMENT MIB (FE-MIB)

The following definitions are used for FE-MIB.

Table 4-1 MIB-II Conventions

Type Definition	Value	Declaration	OID Description
Display String	Octet String of size 0 through 255		
MilliSeconds	Integer from 0 through 2147383647		
MicroSeconds	Integer from 0 through 2147383647		
FcNameId World Wide Name or Fibre Channel Name associated with an FC entity. It is a Network_Destination_ID or Network_Source_ID composed of a value up to 60 bits wide, occupying the remaining 8 bytes while the first nibble identifies the format of the Name_Identifier.	Octet String of size 8	Name_Identifier hex values: 0 (Ignored) 1 (IEEE 48-bit address) 2 (IEEE extended) 3 (Locally assigned) 4 (32-bit IP address)	
FcNameId	Octet String of size 8		
FabricName FcNameId - The Name Identifier of a fabric. Each fabric provides a unique Fabric Name.	Octet String of size 8	IEEE48 Local	
FabricName FcNameId - The Name Identifier associated with a port.	Octet String of size 8	IEEE48 IEEE extended Local	
FcAddressId A 24-bit value unique within the address space of a fabric.	Octet String of size 8	IEEE48 IEEE extended Local	
FcRxDataFieldSize	Integer from 128 through 2112		
FcBbCredit	Integer from 0 through 32767		

Table 4-1 MIB-II Conventions (continued)

Type Definition	Value	Declaration	OID Description
FcphVersion	Integer from 0 through 255		
FcStackedConnMode	Integer from 1 through 3	1 (none) 2 (transparent) 3 (lockedDown)	
FcCosCap	Integer from 1 through 127	bit 0 (Class F) bit 1 (Class 1) bit 2 (Class 2) bit 3 (Class 3) bit 4 (Class 4) bit 5 (Class 5) bit 6 (Class 6) bit 7 (Reserved for future)	
Fc0BaudRate	Integer according through FC-0 Baud Rates	1 (other) 2 (oneEighth) 4 (quarter) 8 (half) 16 (full) 32 (double) 64 (quadruple)	None of the following: 155 Mbaud (12.5 MB/s) 266 Mbaud (25.0 MB/s) 532 Mbaud (50.0 MB/s) 1 Gbaud (100 MB/s) 2 Gbaud (200 MB/s) 4 Gbaud (400 MB/s)
Fc0BaudRateCap	Integer from 0 through 127	bit 0 (other) bit 1 (oneEighth) bit 2 (quarter) bit 3 (half) bit 4 (full) bit 5 (double) bit 6 (quadruple) bit 7 (Reserved for future)	

Table 4-1 MIB-II Conventions (continued)

Type Definition	Value	Declaration	OID Description
Fc0MediaCap	Integer from 0 through 65535	bit 0 (unknown) bit 1 (single mode fibre (sm)) bit 2 (multimode fibre 50 micron (m5)) bit 3 (multimode fibre 62.5 micron (m6)) bit 4 (video cable (tv)) bit 5 (miniature cable (mi)) bit 6 (shielded twisted pair (stp)) bit 7 (twisted wire (tw)) bit 8 (long video (lv)) bits 9-15 (Reserved for future use)	
Fc0Medium	Integer	1 (unknown) 2 (sm) 4 (m5) 8 (m6) 16 (tv) 32 (mi) 64 (stp) 128 (tw) 256 (lv)	
Fc0TxType	Integer	1 (unknown) 2 (longWaveLaser (LL)) 3 (shortWaveLaser (SL)) 4 (longWaveLED (LE)) 5 (electrical (EL)) 6 (shortWaveLaser-noOFC (SN))	
Fc0Distance	Integer	The FC-0 distance range associated with a port transmitter 1 (unknown) 2 (long) 3 (intermediate) 4 (short)	

Table 4-1 MIB-II Conventions (continued)

Type Definition	Value	Declaration	OID Description
FcFeModuleCapacity	Integer from 1 through 256		Returns 1 for all devices.
FcFeFxPortCapacity	Integer from 1 through 256		
FcFeModuleIndex	Integer from 1 through 256		
FcFeFxPortIndex	Integer from 1 through 256		
FcFeNxPortIndex	Integer from 1 through 256		
FcFxPortMode	Integer	1 (unknown) 2 (fPort) 3 (flPort)	
FcBbCreditModel	Integer	1 (regular) 2 (alternate)	

Configuration Group

This group consists of scalar objects and tables. It contains the configuration and service parameters of the fabric element and the FxPorts.

The group represents a set of parameters associated with the fabric element or an FxPort to support its NxPorts.

Important Implementation of this group is mandatory.

fcFeFabricName

OID 1.3.6.1.2.1.75.1.1.1

Description The Name_Identifier of the fabric to which this fabric element belongs.

Returns the WWN of the primary switch in the fabric.

fcFeElementName

OID 1.3.6.1.2.1.75.1.1.2

Description The Name_Identifier of the fabric element.

Returns the WWN of the switch.

fcFeModuleCapacity

OID 1.3.6.1.2.1.75.1.1.3

Description The maximum number of modules in the fabric element, regardless of their current state.

The value for the ED-12000B and DS-32B2 is **1**.

fcFabric Element Module Table

This table contains one entry for each module, information of the modules.

fcFeModuleTable

OID 1.3.6.1.2.1.75.1.1.4

Description A table that contains one entry for each module in the fabric element, and information of the modules.

fcFeModuleEntry

OID 1.3.6.1.2.1.75.1.1.4.1
fcFeModuleTable.1

Description An entry containing the configuration parameters of a module.

Index fcFeModuleIndex

fcFeModuleIndex

OID 1.3.6.1.2.1.75.1.1.4.1.1
fcFeModuleTable.1.1

Description Identifies the module within the fabric element for which this entry contains information. This value is never greater than fcFeModuleCapacity.

fcFeModuleDescr

OID 1.3.6.1.2.1.75.1.1.4.1.2
fcFeModuleTable.1.2

Description A textual description of the module. This value should include the full name and version identification of the module. It should contain printable ASCII characters.

Refer to sysDescr in the *sysDescr* on page 2-2.

fcFeModuleObjectID

OID 1.3.6.1.2.1.75.1.1.4.1.3
fcFeModuleTable.1.3

Description The vendor's authoritative identification of the module. This value may be allocated within the SMI enterprises subtree (`1.3.6.1.4.1`) and provides a straight-forward and unambiguous means for determining what kind of module is being managed.

For example, this object could take the value `1.3.6.1.4.1.99649.3.9` if vendor "Neufe Inc." was assigned the subtree `1.3.6.1.4.1.99649`, and had assigned the identifier `1.3.6.1.4.1.99649.3.9` to its FeFiFo-16 plug-in card.

See sysObjectID in Chapter 2, *MIB-II Object Types*.

fcFeModuleOperStatus

OID 1.3.6.1.2.1.75.1.1.4.1.4
fcFeModuleTable.1.4

Description Indicates the operational status of the module.

fcFeModuleLastChange

OID 1.3.6.1.2.1.75.1.1.4.1.5
fcFeModuleTable.1.5

Description The value of sysUpTime when the module entered its current operational status. A value of zero indicates that the operational status of the module has not changed since the agent last restarted.

fcFeModuleFxPortCapacity

OID 1.3.6.1.2.1.75.1.1.4.1.6
fcFeModuleTable.1.6

Description The number of FxPorts that can be contained within the module. Within each module, the ports are uniquely numbered in the range 1 through fcFeModuleFxPortCapacity. However, the numbers are not required to be contiguous.

The value for the ED-12000B and DS-32B2 is **64**.

fcFeModuleName

OID 1.3.6.1.2.1.75.1.1.4.1.7
fcFeModuleTable.1.7

Description The Name_Identifier of the module.

The return value is the WWN of the switch.

FxPort Table

This table contains one entry for each FxPort and the configuration parameters of the ports.

fcFxPortTable

OID 1.3.6.1.2.1.75.1.1.5

Description A table that contains one entry for each FxPort in the fabric element, configuration, and service parameters of the FxPorts.

fcFxPortEntry

OID 1.3.6.1.2.1.75.1.1.5.1
fcFxPortTable.1

Description An entry containing the configuration and service parameters of an FxPort.

Index FcFxConfModuleIndex, fcFxConfFxPortIndex

fcFxPortIndex

OID 1.3.6.1.2.1.75.1.1.5.1.1
fcFxPortTable.1.1

Description The FxPort within the module, in the range 1 through the value of fcFeModulePortCapacity for the module. The value remains constant for the identified FxPort until the module is reinitialized.

fcFxPortName

OID 1.3.6.1.2.1.75.1.1.5.1.2
fcFxPortTable.1.2

Description The World Wide Name of this FxPort. Each FxPort has a unique WWN within the address space of the fabric.

The return value is the WWN of the port.

FxPort Common Service Parameters

fcFxPortFcphVersionHigh

OID 1.3.6.1.2.1.75.1.1.5.1.3
fcFxPortTable.1.3

Description The highest or most recent version of FC-PH that the FxPort is configured to support.

fcFxPortFcphVersionLow

OID 1.3.6.1.2.1.75.1.1.5.1.4
fcFxPortTable.1.4

Description The lowest or earliest version of FC-PH that the FxPort is configured to support.

fcFxPortBbCredit

OID 1.3.6.1.2.1.75.1.1.5.1.5
fcFxPortTable.1.5

Description The total number of receive buffers available for holding a Class 1 connect request, or Class 2 or Class 3 frames from the attached NxPort. It is for buffer-to-buffer flow control in the direction from the attached NxPort (if applicable) to FxPort.

fcFxPortRxBufSize

OID 1.3.6.1.2.1.75.1.1.5.1.6
fcFxPortTable.1.6

Description The largest Data_Field Size (in octets) for an FT_1 frame that can be received by the FxPort.

fcFxPortRatov

OID 1.3.6.1.2.1.75.1.1.5.1.7
fcFxPortTable.1.7

Description The Resource_Allocation_Timeout value configured for the FxPort. This is used as the time-out value for determining when to reuse an NxPort resource such as a Recovery_Qualifier. It represents E_D_TOV (see next object) plus twice the maximum time that a frame may be delayed within the fabric and still be delivered.

fcFxPortEdtov

OID 1.3.6.1.2.1.75.1.1.5.1.8
fcFxPortTable.1.8

Description The E_D_TOV value configured for the FxPort. The Error_Detect_Timeout value is used as the time-out value for detecting an error condition.

FxPort Class Service Parameters

fcFxPortCosSupported

OID 1.3.6.1.2.1.75.1.1.5.1.9
fcFxPortTable.1.9

Description A value indicating the set of Classes of Service supported by the FxPort.

fcFxPortIntermixSupported

OID 1.3.6.1.2.1.75.1.1.5.1.10
fcFxPortTable.1.10

Description A flag indicating whether the FxPort supports an intermixed dedicated connection.

fcFxPortStackedConnMode

OID 1.3.6.1.2.1.75.1.1.5.1.11
fcFxPortTable.1.11

Description A value indicating the mode of Stacked Connect supported by the FxPort.

fcFxPortClass2SeqDeliv

OID 1.3.6.1.2.1.75.1.1.5.1.12
fcFxPortTable.1.12

Description A flag indicating the FxPort supports the Class 2 sequential delivery.

fcFxPortClass3SeqDeliv

OID 1.3.6.1.2.1.75.1.1.5.1.13
fcFxPortTable.1.13

Description A flag indicating the FxPort supports Class 3 sequential delivery.

Other FxPort Parameters

fcFxPortHoldTime

OID 1.3.6.1.2.1.75.1.1.5.1.14
fcFxPortTable.1.14

Description The maximum time (in microseconds) that the FxPort shall hold a frame before discarding the frame if it is unable to deliver the frame. The value 0 means that the FxPort does not support this parameter.

fcFxPortBaudRate

OID 1.3.6.1.3.42.2.1.1.5.1.16
fcFxPortTable.1.16

Description The FC-0 baud rate of the FxPort.

The ED-12000B does not support this variable+.

fcFxPortMedium

OID 1.3.6.1.3.42.2.1.1.5.1.17
fcFxPortTable.1.17

Description The FC-0 medium of the FxPort.

fcFxPortTxType

OID 1.3.6.1.3.42.2.1.1.5.1.18
fcFxPortTable.1.18

Description The FC-0 transmitter type of the FxPort.

fcFxPortDistance

OID 1.3.6.1.3.42.2.1.1.5.1.19
fcFxPortTable.1.19

Description The FC-0 distance range of the FxPort transmitter.

Status Group

This group consists of tables that contains operational status and established service parameters for the fabric element and the attached NxPorts.

Implementation of this group is mandatory.

FxPort Status Table

This table contains one entry for each FxPort, the operational status, and parameters of the FxPorts.

fcFxPortStatusTable

OID 1.3.6.1.2.1.75.1.2.1

Description A table that contains one entry for each FxPort in the fabric element, and operational status and parameters of the FxPorts.

fcFxPortStatusEntry

OID 1.3.6.1.2.1.75.1.2.1.1
fcFxPortStatusTable.1

Description An entry containing operational status and parameters of an FxPort.

Index fcFxPortOperModuleIndex, fcFxPortOperFxPortIndex

fcFxPortID

OID 1.3.6.1.2.1.75.1.2.1.1.1
fcFxPortStatusTable.1.1

Description The address identifier by which this FxPort is identified within the fabric. The FxPort may assign its address identifier to its attached NxPort(s) during Fabric Login.

fcFxPortBbCreditAvailable

OID 1.3.6.1.2.1.75.1.2.1.1.2
fcFxPortStatusTable.1.2

Description The number of buffers currently available for receiving frames from the attached port in the buffer-to-buffer flow control. The value should be less than or equal to fcFxPortBbCredit.

fcFxPortOperMode

OID 1.3.6.1.2.1.75.1.2.1.1.3
fcFxPortStatusTable.1.3

Description The current operational mode of the FxPort.

fcFxPortAdminMode

OID 1.3.6.1.2.1.75.1.2.1.1.4
fcFxPortStatusTable.1.4

Description The desired operational mode of the FxPort.

FxPort Physical Level Table

This table contains one entry for each FxPort in the fabric element, and the physical level status and parameters of the FxPorts.

fcFxPortPhysTable

OID 1.3.6.1.2.1.75.1.2.2

Description A table that contains one entry for each FxPort in the fabric element, physical level status, and parameters of the FxPorts.

fcFxPortPhysEntry

OID 1.3.6.1.2.1.75.1.2.2.1
fcFxPortPhysTable.1

Description An entry containing physical level status and parameters of an FxPort.

Index fcFxPortPhysModuleIndex, fcFxPortPhysFxPortIndex

fcFxPortPhysAdminStatus

OID 1.3.6.1.2.1.75.1.2.2.1.1
fcFxPortPhysTable.1.1

Description The desired state of the FxPort. A management station may place the FxPort in a desired state by setting this object accordingly. The 3 (testing) state indicates that no operational frames can be passed. When a fabric element initializes, all FxPorts start with fcFxPortPhysAdminStatus in the 2 (offline) state. As the result of either explicit management action or per configuration information accessible by the fabric element, fcFxPortPhysAdminStatus is then changed to either the 1 (online) or 3 (testing) states, or remains in the 2 (offline) state.

fcFxPortPhysOperStatus

OID 1.3.6.1.2.1.75.1.2.2.1.2
fcFxPortPhysTable.1.2

Description The current operational status of the FxPort. The 3 (testing) indicates that no operational frames can be passed.

If cFxPortPhysAdminStatus is 2 (offline), then fcFxPortPhysOperStatus should be 2 (offline).

If fcFxPortPhysAdminStatus is changed to 1 (online), then fcFxPortPhysOperStatus should change to 1 (online) if the FxPort is ready to accept Fabric Login request from the attached NxPort. It should proceed and remain in the 4 (link-failure) state if and only if there is a fault that prevents it from going to the 1 (online) state.

fcFxPortPhysLastChange

OID 1.3.6.1.2.1.75.1.2.2.1.3
fcFxPortPhysTable.1.3

Description The value of sysUpTime at the time the FxPort entered its current operational status. A value of zero indicates that the operational status for FxPort has not changed since the agent last restarted.

fcFxPortPhysRttov

OID 1.3.6.1.2.1.75.1.2.2.1.4
fcFxPortPhysTable.1.4

Description The Receiver_Transmitter_Timeout value of the FxPort. This is used by the receiver logic to detect loss of synchronization.

FxPort Fabric Login Table

This table contains one entry for each FxPort in the fabric element and the service parameters that have been established from the most recent Fabric Login, whether implicit or explicit.

fcFxloginTable

OID 1.3.6.1.2.1.75.1.2.3

Description A table that contains one entry for each FxPort in the fabric element, and Service Parameters established from the most recent Fabric Login, explicit or implicit.

fcFxloginEntry

OID 1.3.6.1.2.1.75.1.2.3.1
fcFxloginTable.1

Description An entry containing service parameters established from a successful Fabric Login.

Index fcFxlogiModuleIndex, fcFxlogiFxPortIndex, fcFxlogiNxPortIndex

fcFxPortNxLoginIndex

OID 1.3.6.1.2.1.75.1.2.3.1.1
fcFxloginTable.1.1

Description The object identifies the associated NxPort in the attachment for which the entry contains information.

fcFxPortFcphVersionAgreed

OID 1.3.6.1.2.1.75.1.2.3.1.2
fcFxloginTable.1.2

Description The version of FC-PH that the FxPort has agreed to support from the Fabric Login.

fcFxPortNxPortBbCredit

OID 1.3.6.1.2.1.75.1.2.3.1.3
fcFxloginTable.1.3

Description The total number of buffers available for holding the Class 1 connect request, or Class 2 or Class 3 frames to be transmitted to the attached NxPort. It is for buffer- to-buffer flow control in the direction from FxPort to NxPort. The buffer-to-buffer flow control mechanism is indicated in the respective fcFxPortBbCreditModel.

fcFxPortNxPortRxDataFieldSize

OID 1.3.6.1.2.1.75.1.2.3.1.4
fcFxloginTable.1.4

Description The receive data field size of the attached NxPort. This is a binary value that specifies the largest data field size for an FT_1 frame that can be received by the NxPort. The value is in number of bytes and ranges from `128` to `2112` inclusive.

fcFxPortCosSuppAgreed

OID 1.3.6.1.2.1.75.1.2.3.1.5
fcFxloginTable.1.5

Description A variable indicating that the attached NxPort has requested the FxPort for the support of classes of services, and the FxPort has granted the request.

fcFxPortIntermixSuppAgreed

OID 1.3.6.1.2.1.75.1.2.3.1.6
fcFxloginTable.1.6

Description A variable indicating that the attached NxPort has requested the FxPort for the support of Intermix and the FxPort has granted the request. This flag is only valid if Class 1 service is supported.

Possible values are:

- yes (1) — The attached NxPort has requested the FxPort for the support of Intermix, and the FxPort has granted the request.
- no (2) — The attached NxPort has not requested the FxPort for the support of Intermix.

fcFxPortStackedConnModeAgreed

OID 1.3.6.1.2.1.75.1.2.3.1.7
fcFxloginTable.1.7

Description A variable Indicating whether the FxPort has agreed to support stacked connect from the Fabric Login. This is only meaningful if Class 1 service has been agreed to.

fcFxPortClass2SeqDelivAgreed

OID 1.3.6.1.2.1.75.1.2.3.1.8
fcFxloginTable.1.8

Description A variable indicating whether the FxPort has agreed to support Class 2 sequential delivery from the Fabric Login. This is only meaningful if Class 2 service is supported.

Possible values are:

- yes (1) — The FxPort has agreed to support Class 2 sequential delivery from the Fabric Login.
- no (2) — The FxPort has not agreed to support Class 2 sequential delivery from the Fabric Login.

fcFxPortClass3SeqDelivAgreed

OID 1.3.6.1.2.1.75.1.2.3.1.9
fcFxloginTable.1.9

Description A flag indicating whether the FxPort has agreed to support Class 3 sequential delivery from the Fabric Login. This is only meaningful if Class 3 service is supported.

Possible values are:

- yes (1) — The FxPort has agreed to support Class 3 sequential delivery from the Fabric Login.
- no (2) — The FxPort has not agreed to support Class 3 sequential delivery from the Fabric Login.

fcFxPortNxPortName

OID 1.3.6.1.2.1.75.1.2.3.1.10
fcFxloginTable.1.10

Description The port name of the attached NxPort, if applicable. If the value of this object is `0000000000000000H`, this FxPort has no NxPort attached to it.

fcFxPortConnectedNxPort

OID 1.3.6.1.2.1.75.1.2.3.1.11
fcFxloginTable.1.11

Description The address identifier of the destination FxPort with which this FxPort is currently engaged in either a Class 1 or loop connection. If the value of this object is `000000H`, this FxPort is not engaged in a connection.

fcFxPortBbCreditModel

OID 1.3.6.1.2.1.75.1.2.3.1.12
fcFxloginTable.1.12

Description Identifies the BB_Credit model used by the FxPort. The regular model refers to the buffer-to-buffer flow control mechanism defined in FC-PH [1] and used between the F_Port and the N_Port. For FL_Ports, the alternate buffer-to-buffer flow control mechanism as defined in FC-AL [4] is used between the FL_Port and any attached NL_Ports.

Error Group

This group consists of tables that contain information about the various types of errors detected. The management station may use the information in this group to determine the quality of the link between the FxPort and its attached NxPort.

Implementation of this group is optional.

FxPort Error Table

This table contains one entry for each FxPort in the fabric element and counters recording numbers of errors detected since the management agent reinitialized.

The first six column objects after the port index corresponds to the counters in the Link ErrorStatus Block.

fcFxPortErrorTable

OID 1.3.6.1.2.1.75.1.3.1

Description A table that contains one entry for each FxPort, and counters that record the numbers of errors detected.

fcFxPortErrorEntry

OID 1.3.6.1.2.1.75.1.3.1.1
fcFxPortErrorTable.1

Description An entry containing error counters of a FxPort.

Index fcFxPortErrorModuleIndex, fcFxPortErrorFxPortIndex

fcFxPortLinkFailures

OID 1.3.6.1.2.1.75.1.3.1.1.1
fcFxPortErrorTable.1.1

Description The number of link failures detected by this FxPort.

fcFxPortSyncLosses

OID 1.3.6.1.2.1.75.1.3.1.1.2
fcFxPortErrorTable.1.2

Description The number of loss-of-synchronization errors detected by the FxPort.

fcFxPortSigLosses

OID 1.3.6.1.2.1.75.1.3.1.1.3
fcFxPortErrorTable.1.3

Description The number of loss-of-signal errors detected by the FxPort.

fcFxPortPrimSeqProtoErrors

OID 1.3.6.1.2.1.75.1.3.1.1.4
fcFxPortErrorTable.1.4

Description The number of primitive sequence protocol errors detected by the FxPort.

fcFxPortInvalidTxWords

OID 1.3.6.1.2.1.75.1.3.1.1.5
fcFxPortErrorTable.1.5

Description The number of invalid transmission word errors detected by the FxPort.

fcFxPortInvalidCrcs

OID 1.3.6.1.2.1.75.1.3.1.1.6
fcFxPortErrorTable.1.6

Description The number of invalid Cyclic Redundancy Checks (CRCs) detected by this FxPort.

fcFxPortDelimiterErrors

OID 1.3.6.1.2.1.75.1.3.1.1.7
fcFxPortErrorTable.1.7

Description The number of delimiter errors detected by this FxPort.

fcFxPortAddressIdErrors

OID 1.3.6.1.2.1.75.1.3.1.1.8
fcFxPortErrorTable.1.8

Description The number of address identifier errors detected by this FxPort.

fcFxPortLinkResetIns

OID 1.3.6.1.2.1.75.1.3.1.1.9
fcFxPortErrorTable.1.9

Description The number of Link Reset Protocol errors received by this FxPort from the attached NxPort.

fcFxPortLinkResetOuts

OID 1.3.6.1.2.1.75.1.3.1.1.10
fcFxPortErrorTable.1.10

Description The number of Link Reset Protocol errors issued by this FxPort to the attached NxPort.

fcFxPortOlsIns

OID 1.3.6.1.2.1.75.1.3.1.1.11
fcFxPortErrorTable.1.11

Description The number of offline sequence errors received by this FxPort.

fcFxPortOlsOuts

OID 1.3.6.1.2.1.75.1.3.1.1.12
fcFxPortErrorTable.1.12

Description The number of offline sequence errors issued by this FxPort.

Accounting Group

The Accounting Group consists of the following tables:

- Class 1 accounting table
- Class 2 accounting table
- Class 3 accounting table

Each table contains accounting information for the FxPorts in the Fabric Element.

Class 1 Accounting Table

fcFxPortC1AccountingTable

OID 1.3.6.1.2.1.75.1.4.1

Description A table that contains, one entry for each FxPort in the Fabric Element, Class 1 accounting information recorded since the management agent has re-initialized.

This object is supported only in Fabric OS v4.x.

fcFxPortC1AccountingEntry

OID 1.3.6.1.2.1.75.1.4.1.1
fcFxPortC1AccountingTable.1

Description An entry containing Class 1 accounting information for each FxPort.

Index fcFeModuleIndex
fcFePortIndex

This object is supported only in Fabric OS v4.x.

fcFxPortC1InFrames

OID 1.3.6.1.2.1.75.1.4.1.1.1
fcFxPortC1AccountingTable.1.1

Description The number of Class 1 frames (other than Class 1 connect-request) received by this FxPort from its attached NxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC1OutFrames

OID 1.3.6.1.2.1.75.1.4.1.1.2
fcFxPortC1AccountingTable.1.2

Description The number of Class 1 frames (other than Class 1 connect- request) delivered through this FxPort to its attached NxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC1InOctets

OID 1.3.6.1.2.1.75.1.4.1.1.3
fcFxPortC1AccountingTable.1.3

Description The number of Class 1 frame octets, including the frame delimiters, received by this FxPort from its attached NxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC1OutOctets

OID 1.3.6.1.2.1.75.1.4.1.1.4
fcFxPortC1AccountingTable.1.4

Description The number of Class 1 frame octets, including the frame delimiters, delivered through this FxPort its attached NxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC1Discards

OID 1.3.6.1.2.1.75.1.4.1.1.5
fcFxPortC1AccountingTable.1.5

Description The number of Class 1 frames discarded by this FxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC1FbsyFrames

OID 1.3.6.1.2.1.75.1.4.1.1.6
fcFxPortC1AccountingTable.1.6

Description The number of F_BSY frames generated by this FxPort against Class 1 connect-request.

This object is supported only in Fabric OS v4.x.

fcFxPortC1FrjtFrames

OID 1.3.6.1.2.1.75.1.4.1.1.7
fcFxPortC1AccountingTable.1.7

Description The number of F_RJT frames generated by this FxPort against Class 1 connect-request.

This object is supported only in Fabric OS v4.x.

fcFxPortC1InConnections

OID 1.3.6.1.2.1.75.1.4.1.1.8
fcFxPortC1AccountingTable.1.8

Description The number of Class 1 connections successfully established in which the attached NxPort is the source of the connect- request.

This object is supported only in Fabric OS v4.x.

fcFxPortC1OutConnections

OID 1.3.6.1.2.1.75.1.4.1.1.9
fcFxPortC1AccountingTable.1.9

Description The number of Class 1 connections successfully established in which the attached NxPort is the destination of the connect-request.

This object is supported only in Fabric OS v4.x.

fcFxPortC1ConnTime

OID 1.3.6.1.2.1.75.1.4.1.1.10
fcFxPortC1AccountingTable.1.10

Description The cumulative time that this FxPort has been engaged in Class 1 connection. The amount of time is counted from after a connect-request has been accepted until the connection is disengaged, either by an EOFdt or Link Reset.

Class 2 Accounting Table

fcFxPortC2AccountingTable

OID 1.3.6.1.2.1.75.1.4.2

Description A table that contains, one entry for each FxPort in the Fabric Element, Class 2 accounting information recorded since the management agent has re-initialized.

This object is supported only in Fabric OS v4.x.

fcFxPortC2AccountingEntry

OID 1.3.6.1.2.1.75.1.4.2.1
fcFxPortC2AccountingTable.1

Description An entry containing Class 2 accounting information for each FxPort.

Index fcFeModuleIndex
fcFePortIndex

This object is supported only in Fabric OS v4.x.

fcFxPortC2InFrames

OID 1.3.6.1.2.1.75.1.4.2.1.1
fcFxPortC2AccountingTable.1.1

Description The number of Class 2 frames received by this FxPort from its attached NxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC2OutFrames

OID 1.3.6.1.2.1.75.1.4.2.1.2
fcFxPortC2AccountingTable.1.2

Description The number of Class 2 frames delivered through this FxPort to its attached NxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC2InOctets

OID 1.3.6.1.2.1.75.1.4.2.1.3
fcFxPortC2AccountingTable.1.3

Description The number of Class 2 frame octets, including the frame delimiters, received by this FxPort from its attached NxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC2OutOctets

OID 1.3.6.1.2.1.75.1.4.2.1.4
fcFxPortC2AccountingTable.1.4

Description The number of Class 2 frame octets, including the frame delimiters, delivered through this FxPort to its attached NxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC2Discards

OID 1.3.6.1.2.1.75.1.4.2.1.5
fcFxPortC2AccountingTable.1.5

Description The number of Class 2 frames discarded by this FxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC2FbsyFrames

OID 1.3.6.1.2.1.75.1.4.2.1.6
fcFxPortC2AccountingTable.1.6

Description The number of F_BSY frames generated by this FxPort against Class 2 frames.

This object is supported only in Fabric OS v4.x.

fcFxPortC2FrjtFrames

OID 1.3.6.1.2.1.75.1.4.2.1.7
fcFxPortC2AccountingTable.1.7

Description The number of F_RJT frames generated by this FxPort against Class 2 frames.

This object is supported only in Fabric OS v4.x.

Class 3 Accounting Table

fcFxPortC3AccountingTable

OID 1.3.6.1.2.1.75.1.4.3

Description A table that contains, one entry for each FxPort in the Fabric Element, Class 3 accounting information recorded since the management agent has re-initialized.

This object is supported only in Fabric OS v4.x.

fcFxPortC3AccountingEntry

OID 1.3.6.1.2.1.75.1.4.3.1
fcFxPortC3AccountingTable.1

Description An entry containing Class 3 accounting information for each FxPort.

Index fcFeModuleIndex
fcFePortIndex

This object is supported only in Fabric OS v4.x.

fcFxPortC3InFrames

OID 1.3.6.1.2.1.75.1.4.3.1.1
fcFxPortC3AccountingTable.1.1

Description The number of Class 3 frames received by this FxPort from its attached NxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC3OutFrames

OID 1.3.6.1.2.1.75.1.4.3.1.2
fcFxPortC3AccountingTable.1.2

Description The number of Class 3 frames delivered through this FxPort to its attached NxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC3InOctets

OID 1.3.6.1.2.1.75.1.4.3.1.3
fcFxPortC3AccountingTable.1.3

Description The number of Class 3 frame octets, including the frame delimiters, received by this FxPort from its attached NxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC3OutOctets

OID 1.3.6.1.2.1.75.1.4.3.1.4
fcFxPortC3AccountingTable.1.4

Description The number of Class 3 frame octets, including the frame delimiters, delivered through this FxPort to its attached NxPort.

This object is supported only in Fabric OS v4.x.

fcFxPortC3Discards

OID 1.3.6.1.2.1.75.1.4.3.1.5
fcFxPortC3AccountingTable.1.5

Description The number of Class 3 frames discarded by this FxPort.

This object is supported only in Fabric OS v4.x.

Capability Group

This group consists of a table describing information about what each FxPort is inherently capable of operating or supporting. A capability may be used, as expressed in its respective object value in the Configuration group.

Implementation of this group is optional.

FxPort Capability Table

fcFxPortCapTable

OID 1.3.6.1.2.1.75.1.5.1

Description A table that contains one entry for each FxPort, and the capabilities of the port within the fabric element.

fcFxPortCapEntry

OID 1.3.6.1.2.1.75.1.5.1.1
fcFxPortCapTable.1

Description An entry containing the capabilities of a FxPort.

Index fcFxPortCapModuleIndex, fcFxPortCapFxPortIndex

fcFxPortCapFcphVersionHigh

OID 1.3.6.1.2.1.75.1.5.1.1.1
fcFxPortCapTable.1.1

Description The highest or most recent version of FC-PH that the FxPort is capable of supporting.

fcFxPortCapFcphVersionLow

OID 1.3.6.1.2.1.75.1.5.1.1.2
fcFxPortCapTable.1.2

Description The lowest or earliest version of FC-PH that the FxPort is capable of supporting.

fcFxPortCapBbCreditMax

OID 1.3.6.1.2.1.75.1.5.1.1.3
fcFxPortCapTable.1.3

Description The maximum number of receive buffers available for holding a Class 1 connect request, or Class 2 or Class 3 frames from the attached NxPort.

fcFxPortCapBbCreditMin

OID 1.3.6.1.2.1.75.1.5.1.1.4
fcFxPortCapTable.1.4

Description The minimum number of receive buffers available for holdinga Class 1 connect request, or Class 2 or Class 3 frames from the attached NxPort.

fcFxPortCapRxDataFieldSizeMax

OID 1.3.6.1.2.1.75.1.5.1.1.5
fcFxPortCapTable.1.5

Description The maximum size in bytes of the data field in a frame that the FxPort is capable of receiving from its attached NxPort.

fcFxPortCapRxDataFieldSizeMin

OID 1.3.6.1.2.1.75.1.5.1.1.6
fcFxPortCapTable.1.6

Description The minimum size in bytes of the data field in a frame that the FxPort is capable of receiving from its attached NxPort.

fcFxPortCapCos

OID 1.3.6.1.2.1.75.1.5.1.1.7
fcFxPortCapTable.1.7

Description A value indicating the set of classes of service that the FxPort can support.

fcFxPortCapIntermix

OID 1.3.6.1.2.1.75.1.5.1.1.8
fcFxPortCapTable.1.8

Description A flag indicating whether the FxPort is capable of supporting the intermixing of Class 2 and Class 3 frames during a Class 1 connection. This flag is only valid if the port of supports Class 1 service.

Possible values are:

- yes (1) — The FxPort is capable of supporting the intermixing of Class 2 and Class 3 frames during a Class 1 connection.
- no (2) — The FxPort is not capable of supporting the intermixing of Class 2 and Class 3 frames during a Class 1 connection.

fcFxPortCapStackedConnMode

OID 1.3.6.1.2.1.75.1.5.1.1.9
fcFxPortCapTable.1.9

Description A value indicating the mode of Stacked Connect request that the FxPort can support.

fcFxPortCapClass2SeqDeliv

OID 1.3.6.1.2.1.75.1.5.1.1.10
fcFxPortCapTable.1.10

Description A flag indicating whether the FxPort can support Class 2 sequential delivery.

Possible values are:

- yes (1) — The FxPort is capable of supporting Class 2Sequential Delivery.
- no (2) — The FxPort is not capable of supporting Class 2 Sequential Delivery.

fcFxPortCapClass3SeqDeliv

OID 1.3.6.1.2.1.75.1.5.1.1.11
fcFxPortCapTable.1.11

Description A flag indicating whether the FxPort can support Class 3 sequential delivery.

Possible values are:

- yes (1) — The FxPort is capable of supporting Class 3 Sequential Delivery.
- no (2) — The FxPort is not capable of supporting Class 3 Sequential Delivery.

fcFxPortCapHoldTimeMax

OID 1.3.6.1.2.1.75.1.5.1.1.12
fcFxPortCapTable.1.12

Description The maximum holding time (in microseconds) that the FxPort can support.

fcFxPortCapHoldTimeMin

OID 1.3.6.1.2.1.75.1.5.1.1.13
fcFxPortCapTable.1.13

Description The minimum holding time (in microseconds) that the FxPort can support.

5 FCSwitch MIB Object Types

This chapter contains descriptions and other information that is specific to FC Switch MIB (SW-MIB) object types.

Overview

The object types in SW-MIB are organized into the following groupings:

- swSystem
- swFabric
- swActCfg
- swFCport
- swNs
- swEvent
- swFwSystem
- swEndDevice
- swGroup
- sw BlmPerfMnt
- swTrunk

The SW-MIB FCSwitch is organized as follows:

Table 5-1 FCSwitch Organizational Listing

bcsi	enterprises (1588)
Product Lines or Generic Product Information	
	bcsi (1) = Reserved
commDev	bcsi (2) = Communication devices
fibrechannel	commDev (1)
fcSwitch	fibrechannel (1)
sw	fcSwitch (1)
sw28k	fcSwitch (2)
sw21kN24k	fcSwitch (3)
sw20x0	fcSwitch (4)

Refer to Appendix E for the entire SW-MIB.

SW-MIB File System Organization

Figure 5-1 through Figure 5-4 depict the organization and structure of the SW-MIB file system:

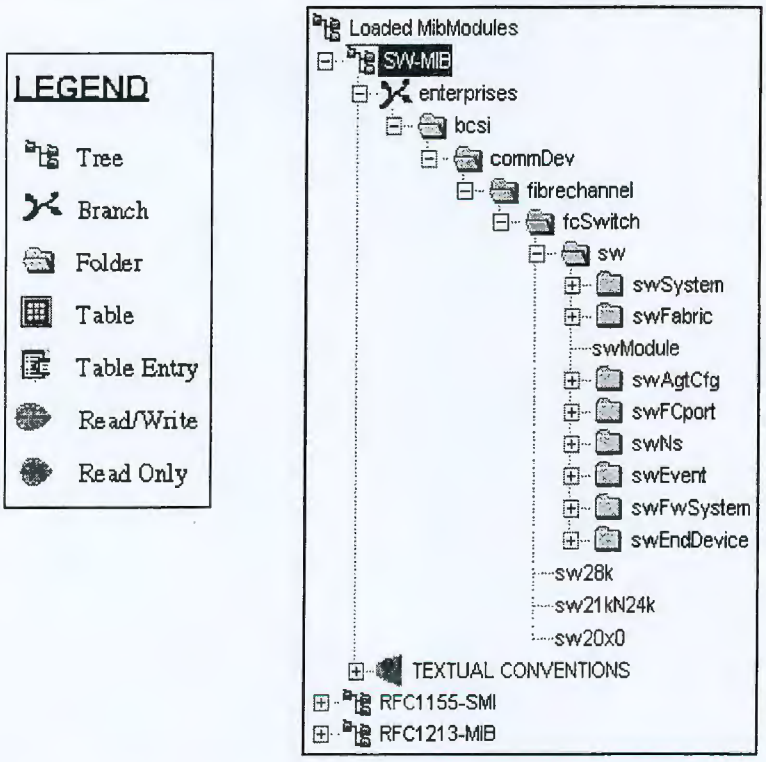


Figure 5-1 SW-MIB Overall Tree Structure

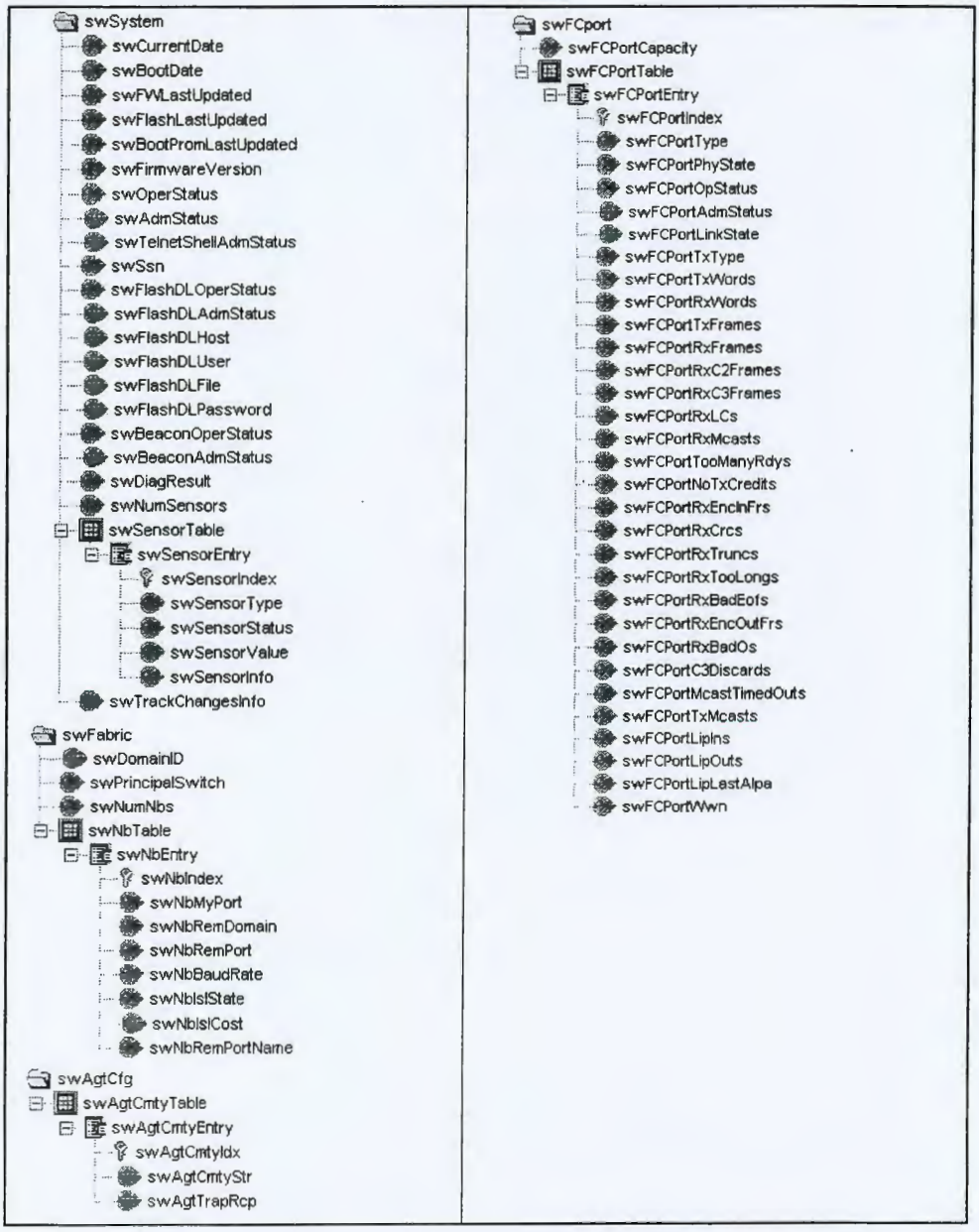


Figure 5-2 Tree Structure for swSystem, swFabric, swAgtCfg, and swFCPort Groups

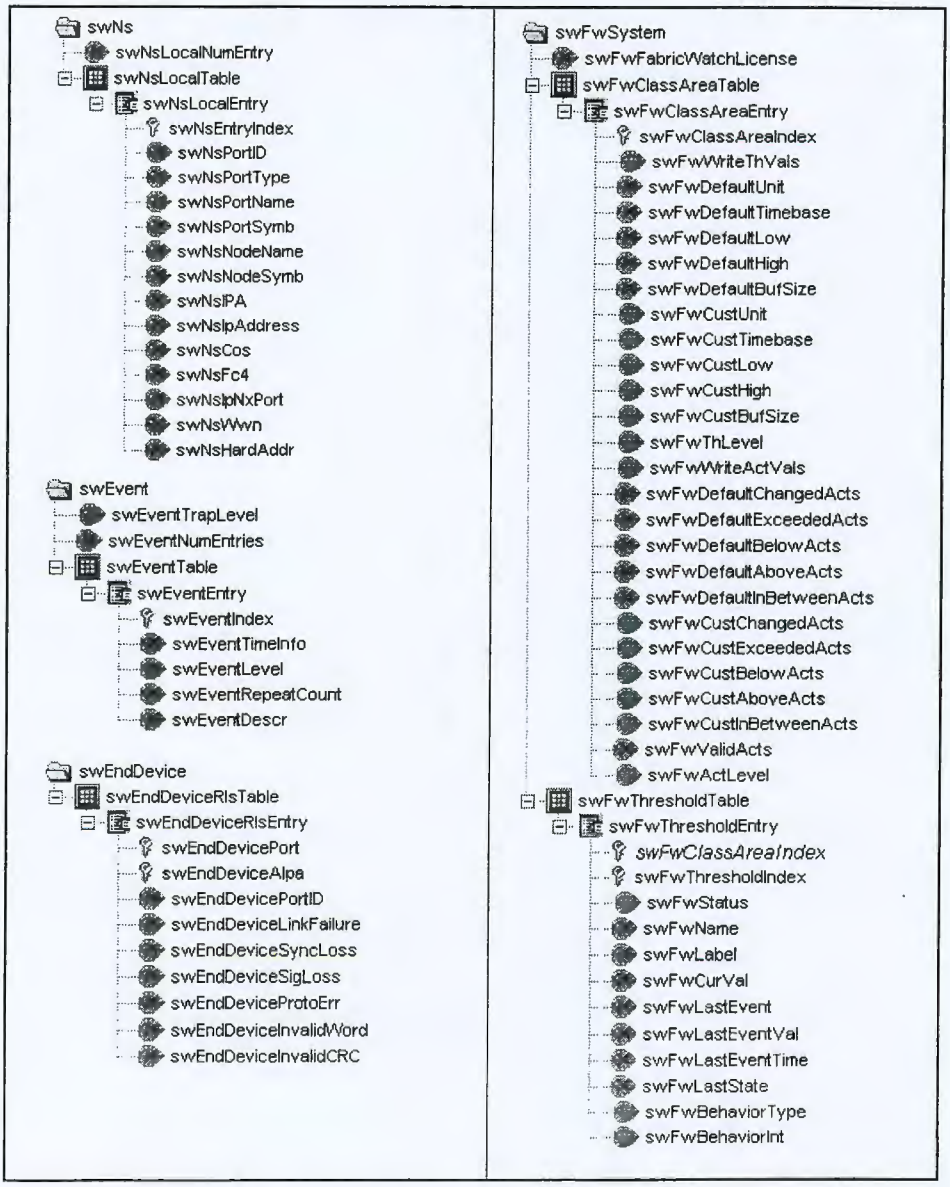


Figure 5-3 Tree Structure for swNs, swEvent, swFwSystem, and swEndDevice Groups

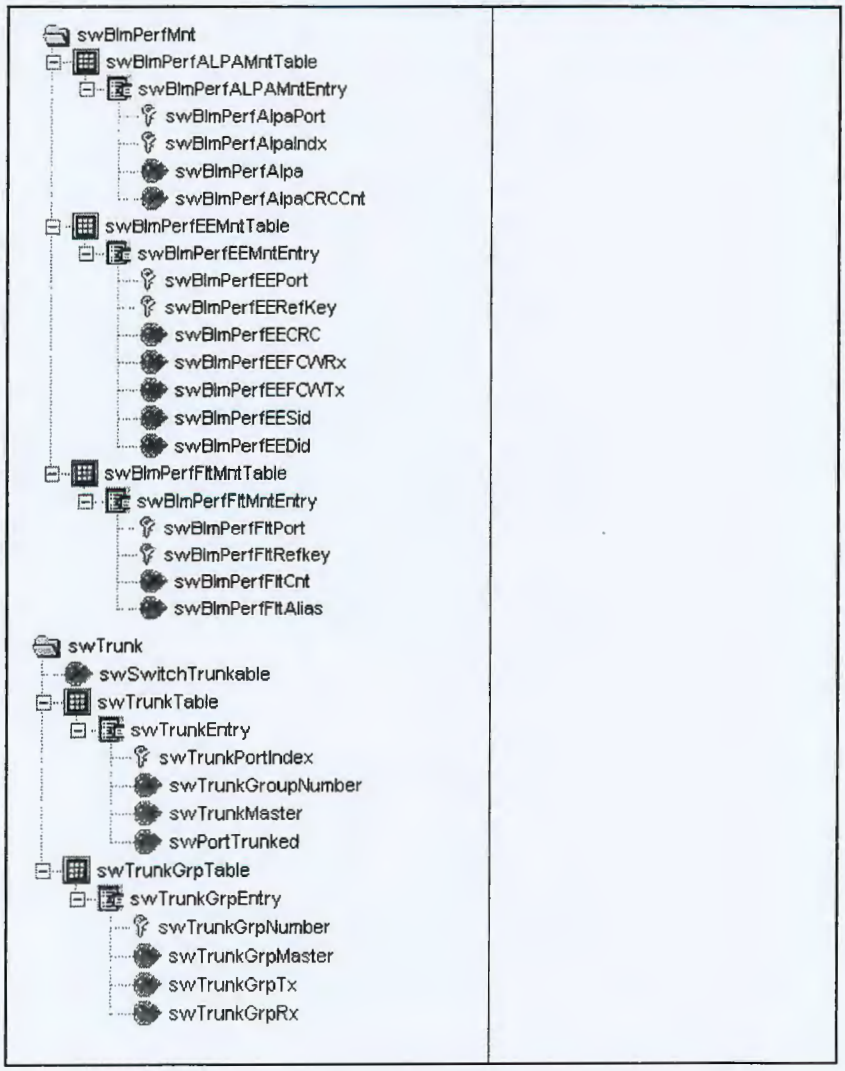


Figure 5-4 Tree Structure for swBlm and swTrunk Groups

Definitions for SW-MIB

The following definitions are used for SW-MIB.

Table 5-2 SW MIB Definitions

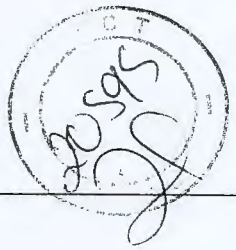
Type Definition	Value	Declaration
Display String	Octet String	
FcWwn	Octet String of size 8	
SwDomainIndex	Integer of size 0 to 239	
SwNbIndex	Integer of size 0 to 2048	
SwSensorIndex	Integer of size 0 to 1024	
SwFwActs	Integer	0 (swFwNoAction) 1 (swFwErrlog) 2 (swFwSnmptrap) 3 (swFwErrlogSnmptrap) 4 (swFwPortloglock) 5 (swFwErrlogPortloglock) 6 (swFwSnmptrapPortloglock) 7 (swFwErrlogSnmptrapPortloglock)
SwFwLevels	Integer	1 (swFwReserved) 2 (swFwDefault) 3 (swFwCustom)
SwFwClassesAreas	Integer	1 (swFwEnvTemp) 2 (swFwEnvFan) 3 (swFwEnvPs) 4 (swFwGbicTemp) 5 (swFwGbicRxp) 6 (swFwGbicTxp) 7 (swFwGbicCurrent) 8 (swFwPortLink) 9 (swFwPortSync) 10 (swFwPortSignal) 11 (swFwPortPe) 12 (swFwPortWords) 13 (swFwPortCrcs)

Table 5-2 SW MIB Definitions (continued)

Type Definition	Value	Declaration
		14 (swFwPortRXPerf) 15 (swFwPortTXPerf) 16 (swFwPortState) 17 (swFwFabricEd) 18 (swFwFabricFr) 19 (swFwFabricDi) 20 (swFwFabricSc) 21 (swFwFabricZc) 22 (swFwFabricFq) 23 (swFwFabricFl) 24 (swFwFabricGs) 25 (swFwEPortLink) 26 (swFwEPortSync) 27 (swFwEPortSignal) 28 (swFwEPortPe) 29 (swFwEPortWords) 30 (swFwEPortCrcs) 31 (swFwEPortRXPerf) 32 (swFwEPortTXPerf) 33 (swFwEPortState) 34 (swFwFCUPortLink) 35 (swFwFCUPortSync) 36 (swFwFCUPortSignal) 37 (swFwFCUPortPe) 38 (swFwFCUPortWords) 39 (swFwFCUPortCrcs) 40 (swFwFCUPortRXPerf) 41 (swFwFCUPortTXPerf) 42 (swFwFCUPortState) 43 (swFwFOPPortLink) 44 (swFwFOPPortSync) 45 (swFwFOPPortSignal) 46 (swFwFOPPortPe) 47 (swFwFOPPortWords) 48 (swFwFOPPortCrcs) 49 (swFwFOPPortRXPerf) 50 (swFwFOPPortTXPerf) 51 (swFwFOPPortState)

Table 5-2 SW MIB Definitions (continued)

Type Definition	Value	Declaration
SwFwWriteVals	Integer	1 (swFwCancelWrite) 2 (swFwApplyWrite)
SwFwTimebase	Integer	1 (swFwTbNone) 2 (swFwTbSec) 3 (swFwTbMin) 4 (swFwTbHour) 5 (swFwTbDay)
SwFwStatus	Integer	1 (disabled) 2 (enabled)
SwFwEvent	Integer	1 (started) 2 (changed) 3 (exceeded) 4 (below) 5 (above) 6 (inBetween)
SwFwBehavior	Integer	1 (triggered) 2 (continuous)
SwFwState	Integer	1 (swFwInformative) 2 (swFwNormal) 3 (swFwFaulty)
SwFwLicense	Integer	1 (swFwLicensed) 2 (swFwNotLicensed)



swTraps

This section contains descriptions and other information that is specific to swTrap types.

The swSsn variable is optional in trap messages. The swGroupName, swGroupType, and swGroupMemPos variables are optional in trap messages in v2.6.x. Each of these optional variables can be set ON/OFF with the **snmpMibCapSet** command.

swFault

Trap Number 1

OID 1.3.6.1.4.1.1588.2.1.1.1.0.1

Enterprise sw

Variables swDiagResult, swSsn

Description A 1 (swFault) is generated whenever the diagnostics detects a fault with the switch. The following are examples of diagnostics.

#TYPE	Switch is faulty.
#SUMMARY	Faulty reason: %d
#ARGUMENTS	0
#SEVERITY	Critical
#TIMEINDEX	1
#STATE	Nonoperational

swSensorScn

This variable was made obsolete by swFabricWatchTrap.

swFCPortScn

Trap Number 3

OID 1.3.6.1.4.1.1588.2.1.1.1.0.3

Enterprise sw

Variables swFCPortOpStatus, swFCPortIndex, swFCPortName, swSsn

Description A 3 (swFCPortScn) is generated whenever an FC_Port changes its operational state. (For instance, the FC_Port goes from on line to off line). The VarBind in the Trap Data Unit shall contain the corresponding instance of the FC_Port's operational status and index.

#TYPE	A Fibre Channel Port changed its operational state.
#SUMMARY	Port Index %d changed state to %d
#ARGUMENTS	1, 0
#SEVERITY	Informational
#TIMEINDEX	1
#STATE	Operational

swEventTrap

Trap Number 4

OID 1.3.6.1.4.1.1588.2.1.1.1.0.4

Enterprise sw

Variables swEventIndex, swEventTimeInfo, swEventLevel, swEventRepeatCount, swEventDescr, swSsn

Description This trap is generated when an event whose level at or below swEventTrapLevel occurs.

#TYPE	A firmware event has been logged.
#SUMMARY	Event %d: %s (severity level %d) - %s
#ARGUMENTS	0, 1, 2, 4
#SEVERITY	Informational
#TIMEINDEX	1
#STATE	Operational

The trap is generated when an entry is created in the Error Log.

swFabricWatchTrap

Trap Number 5

OID 1.3.6.1.4.1.1588.2.1.1.1.0.5

Enterprise sw

Variables

swFwClassAreaIndex on page 5-53

swFwThresholdIndex on page 5-60

swFwName on page 5-61

swFwLabel on page 5-63

swFwLastEvent on page 5-64

swFwLastEventVal on page 5-64

swFwLastEventTime on page 5-64

swFwLastState on page 5-64

swSsn on page 5-18

Description Trap to be sent by Fabric Watch to notify of an event.

#TYPE	Fabric Watch has generated an event.
#SUMMARY	Threshold %s in Class/Area %d at index %d has generated event %d with %d on %s. This event is %d.
#ARGUMENTS	2, 0, 1, 6, 4, 5, 7
#SEVERITY	Warning
#TIMEINDEX	1
#STATE	Operational

swTrackChangesTrap

Trap Number 6

OID 1.3.6.1.4.1.1588.2.1.1.1.0.6

Enterprise sw

Variables swTrackChangesInfo, swSsn

Description Trap to be sent for tracking login/logout/configuration changes.

#TYPE	Track changes has generated a trap.
#SUMMARY	%s
#ARGUMENTS	0
#SEVERITY	Informational
#TIMEINDEX	1
#STATE	Operational

System Group

swCurrentDate

OID 1.3.6.1.4.1.1588.2.1.1.1.1.1

Description The current date and time.

The return string is in the format `ddd MMM DD hh:mm:ss yyyy`
where: *ddd* = day of the week
MMM = month
DD = date
hh = hour
mm = minute
ss = seconds
yyyy = year
Example: `Thu Apr 17 15:16:09 2003`

swBootDate

OID 1.3.6.1.4.1.1588.2.1.1.1.1.2

Description The date and time when the system last booted.

The return string is in the format `ddd MMM DD hh:mm:ss yyyy`
where: *ddd* = day of the week
MMM = month
DD = date
hh = hour
mm = minute
ss = seconds
yyyy = year
Example: `Thu Apr 17 15:16:09 2003`

swFWLastUpdated

OID 1.3.6.1.4.1.1588.2.1.1.1.1.3

Description The date and time when the firmware was last loaded to the switch.

The return string is in the format `ddd MMM DD hh:mm:ss yyyy`
where: *ddd* = day of the week
MMM = month
DD = date
hh = hour
mm = minute
ss = seconds
yyyy = year
Example: `Thu Apr 17 15:16:09 2003`

swFlashLastUpdated

OID 1.3.6.1.4.1.1588.2.1.1.1.1.4

Description The date and time when the firmware was last downloaded or the configuration file was last changed.

The return string is in the format `ddd MMM DD hh:mm:ss yyyy`
where: *ddd* = day of the week
MMM = month
DD = date
hh = hour
mm = minute
ss = seconds
yyyy = year
Example: `Thu Apr 17 15:16:09 2003`

swBootPromLastUpdated

OID 1.3.6.1.4.1.1588.2.1.1.1.1.5

Description The date and time when the BootPROM was last updated.

The return string is in the format `ddd MMM DD hh:mm:ss yyyy`
where: *ddd* = day of the week
MMM = month

DD = date
hh = hour
mm = minute
ss = seconds
yyyy = year
Example: `Thu Apr 17 15:16:09 2003`

swFirmwareVersion

OID 1.3.6.1.4.1.1588.2.1.1.1.1.6

Description The current version of the firmware.

The return value is displayed using the following format:
vM.m.f
Where:
v = The deployment indicator
M = Major version
m = Minor version
f = Software maintenance version
(For example: `2.2.1` (indicating FOS version 2.2.1.))

swOperStatus

OID 1.3.6.1.4.1.1588.2.1.1.1.1.7

Description The current operational status of the switch.

Possible values are:

online (1)	The switch is accessible by an external Fibre Channel port.
offline (2)	The switch is not accessible.
testing (3)	The switch is in a built-in test mode and is not accessible by an external Fibre Channel port.
faulty (4)	The switch is not operational.

swAdmStatus

OID 1.3.6.1.4.1.1588.2.1.1.1.1.8

Description The desired administrative status of the switch. A management station may place the switch in a desired state by setting this object accordingly.

Possible values are:

online (1):	Set the switch to be accessible by an external Fibre Channel port.
offline (2):	Set the switch to be inaccessible.
testing (3):	Set the switch to run the built-in test.
faulty (4):	Set the switch to a "soft" faulty condition.
reboot (5):	Set the chassis to reboot in 1 second.
fastboot (6):	Set the chassis to fastboot in 1 second. Fastboot causes the chassis to boot but skip over the POST.
switchReboot (7):	(ED-1200B only) Set the current director to reboot in 1 second.

The testing (3), faulty (4), and switchReboot (7) values do not apply to the DS-32B2.

When the switch is in faulty state, only two states can be set: faulty and reboot/fastboot/switchReboot.

swTelnetShellAdmStatus

OID 1.3.6.1.4.1.1588.2.1.1.1.1.9

Description The desired administrative status of the Telnet shell.

This variable is not supported in v4.x.

swSsn

OID 1.3.6.1.4.1.1588.2.1.1.1.10

Description The soft serial number of the switch.

By default, the return value is the WWN of the switch.

Flash Administration

The next six objects are related to firmware or configuration file management. The underlying method in the transfer of the firmware or configuration file is based on either FTP or remote shell:

- If a password is provided, then FTP is used.
- If no password is provided, then remote shell is used.

Use one of the following methods to manage the firmware or switch configuration file in the switch Flash:

Method 1 Set swFlashDLHost.0, swFlashDLUser.0, and swFlashDLFile.0 to appropriate host IP address in dot notation (for example, `192.168.1.7`), user name (for example, administrator), and file name of the firmware or configuration file (for example, `/home/fcswh/2.2`), respectively.

Method 2

1. Set swFlashDLPassword.0 to an appropriate value (for example, `secret`) if FTP is the desired method of transfer.
2. Set swFlashDLAdmStatus.0 to `2` (swFwUpgrade), `3` (swCfUpload), or `4` (swCfDownload) accordingly.

swFlashDLOperStatus

OID 1.3.6.1.4.1.1588.2.1.1.1.11

Description The operational status of the Flash.

Possible values are:

unknown (0):

swCurrent (1): The Flash contains the current firmware image or configuration file.

swFwUpgraded (2): The Flash contains the image upgraded from the swFlashDLHost.0.

swCfUploaded (3): The switch configuration file has been uploaded to the host.

swCfDownloaded (4): The switch configuration file has been downloaded from the host.

swFwCorrupted (5): The firmware in the Flash of the switch is corrupted.

swFlashDLAdmStatus

MIB v4.x does not support this variable.

OID 1.3.6.1.4.1.1588.2.1.1.1.12

Description The desired state of the Flash.

The host is specified in swFlashDLHost.0. In addition, the user name is specified in swFlashDLUser.0, and the file name specified in swFlashDLFile.0.

Possible values are:

wCurrent (1): The Flash contains the current firmware image or configuration file.

swCfUpload (3): The switch configuration file is to be uploaded to the host specified.

swCfDownload (4) The switch configuration file is to be downloaded from the host specified.

swFwCorrupted (5): The firmware in the Flash is corrupted. This value is for informational purposes only. However, set of swFlashDLAdmStatus to this value is not allowed.

For more information on the **configUpload** and **configDownload** commands, refer to the *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS Reference Manual*.

swFlashDLHost

OID 1.3.6.1.4.1.1588.2.1.1.1.1.13

Description The name or IP address (in dot notation) of the host to download or upload a relevant file to the Flash.

swFlashDLUser

OID 1.3.6.1.4.1.1588.2.1.1.1.1.14

Description The user name on the host that is used for downloading or uploading a relevant file, to or from the Flash.

swFlashDLFile

OID 1.3.6.1.4.1.1588.2.1.1.1.1.15

Description The name of the file to be downloaded or uploaded.

swFlashDLPassword

OID 1.3.6.1.4.1.1588.2.1.1.1.1.16

Description The password to be used in for FTP transfer of files in the download or upload operation.

swBeaconOperStatus

OID 1.3.6.1.4.1.1588.2.1.1.1.1.18

Description The current operational status of the switch beacon. When the beacon is on, the LEDs on the front panel of the switch run alternately from left to right and right to left. In this state, the color of the LED is yellow. When the beacon is off, each LED will be in their its regular status indicating color and state.

Possible values are:

on (1)	The LEDs on the front panel of the switch run alternately from left to right and right to left. The color is yellow.
off (2)	Each LED is in its regular status, indicating color and state.

swBeaconAdmStatus

OID 1.3.6.1.4.1.1588.2.1.1.1.19

Description The desired status of the switch beacon. When the beacon is set to on, the LEDs on the front panel of the switch run alternately from left to right and right to left. The color is yellow. When the beacon is set to off, each LED will be in its regular status indicating color and state.

Possible values are:

on (1)	The LEDs on the front panel of the switch run alternately from left to right and right to left. Set the color to yellow.
off (2)	Set each LED to its regular status, indicating color and state.

swDiagResult

OID 1.3.6.1.4.1.1588.2.1.1.1.20

Description The result of the power-on self test (POST) diagnostics.

Possible values are:

sw-ok (1)	The switch is okay.
sw-faulty (2)	The switch has experienced an unknown fault.
sw-embedded-port-fault (3)	The switch has experienced an embedded port fault.

Environment Sensor Table

swNumSensors

OID 1.3.6.1.4.1.1588.2.1.1.1.1.21

Description The number of sensors inside the switch. If no sensor is available, the variable is assigned value -1.

swSensorTable

OID 1.3.6.1.4.1.1588.2.1.1.1.1.22

Description The table of sensor entries.

swSensorEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.1.22.1
swSensorTable.1

Description An entry of the sensor information.

Index swSensorIndex

swSensorIndex

OID 1.3.6.1.4.1.1588.2.1.1.1.1.22.1.1
swSensorTable.1.1

Description The index of the sensor.

Values for the index range from 1 through the value in swNumSensors.

swSensorType

OID 1.3.6.1.4.1.1588.2.1.1.1.1.22.1.2
swSensorTable.1.2

Description The type of sensor.

swSensorStatus

OID 1.3.6.1.4.1.1588.2.1.1.1.22.1.3
swSensorTable.1.3

Description The current status of the sensor.

Possible values are:

unknown (1)	The status of the sensor is unknown.
faulty (2)	The status of the sensor is in a faulty state.
below-min (3)	The sensor value is below the minimal threshold.
nominal (4)	The status of the sensor is in a nominal state.
above-max (5)	The sensor value is above the maximum threshold.
absent (6)	The sensor is missing.

Valid values are:

- For temperature: 3 (below-min), 4 (above-max), and 4 (nominal).
- For fan: 3 (below-min), 4 (nominal)., and 6 (absent).
- For power supply: 2 (faulty), 4 (nominal), and 6 (absent).

swSensorValue

OID 1.3.6.1.4.1.1588.2.1.1.1.22.1.4
swSensorTable.1.4

Description The current value (reading) of the sensor.

The value `-2147483648` represents an unknown quantity.

It also means that the sensor cannot measure the actual value. In 2.0, the temperature sensor value will be in Celsius; the fan value will be in RPM (revolution per minute); and the power supply sensor reading will be unknown.

The value -2147483648 (unknown) indicates the maximum value of integer value 2^{-32}.

---

swSensorInfo

OID 1.3.6.1.4.1.1588.2.1.1.1.1.22.1.5
swSensorTable.1.5

Description Additional displayable information on the sensor. In 2x, it contains the sensor type and number in textual format. For example, `Temp 3` or `Fan 6`.

Return values depend on the configuration of your system.

swTrackChangesInfo

OID 1.3.6.1.4.1.1588.2.1.1.1.1.23

Description Track changes string. For trap only.

If there are no events to track, the default return value is `No event so far`.
If there are events to track, the following are valid return values:

```
Successful login
Unsuccessful login
Logout
Configuration file change from task [name of task]
Track-changes on
Track-changes off
```

swID

OID 1.3.6.1.4.1.1588.2.1.1.1.1.24

Description The number of the logical switch (0 or 1).

swEtherIPAddress

OID 1.3.6.1.4.1.1588.2.1.1.1.1.25

Description The IP address of the Ethernet interface of this logical switch.

swEtherIPMask

OID 1.3.6.1.4.1.1588.2.1.1.1.1.26

Description The IP Mask of the Ethernet interface of this logical switch.

swFCIPAddress

OID 1.3.6.1.4.1.1588.2.1.1.1.1.27

Description The IP address of the FC interface of this logical switch.

swFCIPMask

OID 1.3.6.1.4.1.1588.2.1.1.1.1.28

Description The IP Mask of the FC interface of this logical switch.

Fabric Group

swDomainID

OID 1.3.6.1.4.1.1588.2.1.1.1.2.1

Description The current Fibre Channel domain ID of the switch. To set a new value, the switch (swAdmStatus) must be in offline or testing state.

swPrincipalSwitch

OID 1.3.6.1.4.1.1588.2.1.1.1.2.2

Description Indicates whether the switch is the principal switch as per FC-SW.

Possible values are:

yes(1)

no(2)

Immediate Neighborhood ISL Family Table

swNumNbs

OID 1.3.6.1.4.1.1588.2.1.1.1.2.8

Description The number of inter-switch links (ISLs) in the (immediate) neighborhood.

swNbTable

OID 1.3.6.1.4.1.1588.2.1.1.1.2.9

Description The ISLs in the immediate neighborhood of the switch.

swNbEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.2.9.1
swNbTable.1

Description An entry containing each neighbor ISL parameters.

Index swNbIndex

swNbIndex

OID 1.3.6.1.4.1.1588.2.1.1.1.2.9.1.1
swNbTable.1.1

Description The index for neighborhood entry.

swNbMyPort

OID 1.3.6.1.4.1.1588.2.1.1.1.2.9.1.2
swNbTable.1.2

Description The port that has an ISL to another switch.

This value is the same as the physical port number of the local switch +1.

The valid value for the ED-12000B is 1 through the maximum number of ports.

swNbRemDomain

OID 1.3.6.1.4.1.1588.2.1.1.1.2.9.1.3
swNbTable.1.3

Description This is the Fibre Channel domain on the other end of the ISL.

This is the domain ID of the remote switch. Valid values are 1 through 239 as defined by FCS-SW.

swNbRemPort

OID 1.3.6.1.4.1.1588.2.1.1.1.2.9.1.4
swNbTable.1.4

Description The port index on the other end of the ISL.

This value is the same as the physical port number of the local switch plus 1.

The valid values for the DS-32B2 and ED-12000B switches are 0 through maximum number of ports.

swNbBaudRate

OID 1.3.6.1.4.1.1588.2.1.1.1.2.9.1.5
swNbTable.1.5

Description The baud rate of the ISL.

Possible values are:

other (1)	None of the following
oneEighth (2)	155 Mbaud
quarter (4)	266 Mbaud

half (8)	532 Mbaud
full (16)	1 Gbaud
double (32)	2 Gbaud
quadruple (64)	4 Gbaud

Valid values for the DS-32B2 and ED-12000B switches are 16 (full) and 32 (double).

swNbIslState

OID 1.3.6.1.4.1.1588.2.1.1.1.2.9.1.6
swNbTable.1.6

Description The current state of the ISL.

swNbIslCost

OID 1.3.6.1.4.1.1588.2.1.1.1.2.9.1.7
swNbTable.1.7

Description The current link cost of the ISL. In other words, the cost of a link to control the routing algorithm.

swNbRemPortName

OID 1.3.6.1.4.1.1588.2.1.1.1.2.9.1.8
swNbTable.1.8

Description The WWN of the remote port.

swFabricMemTable

OID 1.3.6.1.4.1.1588.2.1.1.1.2.10

Description This table contains information on the member switches of a fabric. This may not be available on all versions of Fabric OS.

swFabricMemEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.2.10.1
swFabricMemTable.1

Description An entry containing each switch in the fabric.

Index swFabricMemWwn

swFabricMemWwn

OID 1.3.6.1.4.1.1588.2.1.1.1.2.10.1.1
swFabricMemTable.1.1

Description This object identifies the World Wide Name of the member switch.

swFabricMemDid

OID 1.3.6.1.4.1.1588.2.1.1.1.2.10.1.2
swFabricMemTable.1.2

Description This object identifies the domain ID of the member switch.

swFabricMemName

OID 1.3.6.1.4.1.1588.2.1.1.1.2.10.1.3
swFabricMemTable.1.3

Description This object identifies the name of the member switch.

swFabricMemEIP

OID 1.3.6.1.4.1.1588.2.1.1.1.2.10.1.4
swFabricMemTable.1.4

Description This object identifies the Ethernet IP address of the member switch.

swFabricMemFCIP

OID 1.3.6.1.4.1.1588.2.1.1.1.2.10.1.5
swFabricMemTable.1.5

Description This object identifies the Fibre Channel IP address of the member switch.

swFabricMemGWIP

OID 1.3.6.1.4.1.1588.2.1.1.1.2.10.1.6
swFabricMemTable.1.6

Description This object identifies the Gateway IP address of the member switch.

swFabricMemType

OID 1.3.6.1.4.1.1588.2.1.1.1.2.10.1.7
swFabricMemTable.1.7

Description This object identifies the member switch type.

swFabricMemShortVersion

OID 1.3.6.1.4.1.1588.2.1.1.1.2.10.1.8
swFabricMemTable.1.8

Description This object identifies the Fabric OS version of the member switch.

Short version of Fabric OS; for example, it gives v410 for Fabric OS v4.1.x.

SW Agent Configuration Group

swAgtCmtyTable

OID 1.3.6.1.4.1.1588.2.1.1.1.4.11

Description A table that contains one entry for each community and the access control and parameters of the Community.

The table shows all of the community strings (read and write) if it is accessed by the *write* community string. Only *read* community strings appear if the table is accessed by the *read* community string.

In Secure Fabric OS, the community strings can be modified only on the primary switch.

swAgtCmtyEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.4.11.1
swAgtCmtyTable.1

Description An entry containing the community parameters.

Index swAgtCmtyIdx

swAgtCmtyIdx

OID 1.3.6.1.4.1.1588.2.1.1.1.4.11.1.1
swAgtCmtyTable.1.1

Description The SNMPv1 community entry.

The return value for this entry is always a number from 4 to 6.

swAgtCmtyStr

OID 1.3.6.1.4.1.1588.2.1.1.1.4.11.1.2
swAgtCmtyTable.1.2

Description A community string supported by the agent. If a new value is set successfully, it takes effect immediately.

Default values for communities are as follows:

1 Secret Code
2 OrigEquipMfr
3 private
4 public
5 common
6 Fibre Channel

Community strings 1 to 3 are read/write and strings 4 to 6 are read-only. Change the community setting using the `agtcfgSet` Telnet command.

swAgtTrapRcp

OID 1.3.6.1.4.1.1588.2.1.1.1.4.11.1.3
swAgtCmtyTable.1.3

Description The trap recipient associated with the community. If a new value is set successfully, it takes effect immediately.

If not otherwise set, the default IP address for this trap recipient is `0.0.0.0`, and the SNMP trap is not sent for the associated community string.

With a setting of `non-0.0.0.0` IP address, SNMP traps are sent to the host with the associated community string.

Any or all of the trap recipients can be configured to send a trap for the associated community string. The maximum number of trap recipients that can be configured is 6. If no trap recipient is configured, no traps are sent.

The trap recipient IP address should be part of the Access Control List. (Refer to **agtCfgSet** Telnet command.)

The Fibre Channel Port Group

This group contains information about the physical state, operational status, performance and error statistics of each Fibre Channel port on the switch. A Fibre Channel port is one that supports the Fibre Channel protocol, for example, F_Port, E_Port, U_Port, or FL_Port.

swFCPortCapacity

OID 1.3.6.1.4.1.1588.2.1.1.1.6.1

Description The number of Fibre Channel ports on this switch. It includes U_Port, F_Port, FL_Port and any other types of Fibre Channel port.

Fibre Channel Port Table

swFCPortTable

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2

Description A table that contains one entry for each switch port, and configuration and service parameters of the port.

swFCPortEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1
swFCPortTable.1

Description An entry containing the configuration and service parameters of the switch port.

Index swFCPortIndex

swFCPortIndex

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.1
swFCPortTable.1.1

Description The switch port index.

This value is the same as the physical port number of the local switch +1.

The valid values for the DS-32B2 and ED-12000B switches are 0 through maximum number of ports.

swFCPortType

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.2
swFCPortTable.1.2

Description The type of ASIC for the switch port.

The valid value for the DS-32B2 and ED-12000B switches is 4.

swFCPortPhyState

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.3
swFCPortTable.1.3

Description The physical state of the port.

Possible values are:

noCard (1)	No card is present in this switch slot.
noTransceiver (2)	No Transceiver module in this port (Transceiver is the generic name for GBIC, SFP, etc.).
laserFault (3)	The module is signaling a laser fault (defective GBIC)
noLight (4)	The module is not receiving light.
noSync (5)	The module is receiving light but is out of sync.
inSync (6)	The module is receiving light and is in sync.
portFault (7)	The port is marked faulty (defective GBIC, cable, or device).
diagFault (8)	The port failed diagnostics (defective G_Port or FL_Port card or motherboard.
lockRef (9)	Port is locking to the reference signal.

swFCPortOpStatus

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.4
swFCPortTable.1.4

Description The operational status of the port.

Possible values are:

unknown (0)	The port module is physically absent.
online (1)	User frames can be passed.

offline (2)	No user frames can be passed.
testing (3)	No user frames can be passed.
faulty (4)	The port module is physically faulty.

swFCPortAdmStatus

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.5
swFCPortTable.1.5

Description The desired state of the port. A management station may place the port in a desired state by setting this object accordingly.

Possible values are:

online (1)	User frames can be passed.
offline (2)	No user frames can be passed.
testing (3)	No user frames can be passed.
faulty (4)	No user frames can be passed.

In v4.1: The testing (3) state is not supported.

swFCPortLinkState

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.6
swFCPortTable.1.6

Description The link state of the port:

enabled (1)	The port is allowed to participate in the FC-PH protocol with its attached port (or ports if it is in an FC-AL loop).
disabled (2)	The port is not allowed to participate in the FC-PH protocol with its attached ports.
loopback (3)	The port may transmit frames through an internal path to verify the health of the transmitter and receiver path.

When the port's link state changes, its operational status (swFCPortOpStatus) is affected.

swFCPortTxType

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.7
swFCPortTable.1.7

Description The media transmitter type of the port.

Possible values are:

unknown (1)	Cannot determine the port driver.
lw (2)	Long wave laser.
sw (3)	Short wave laser.
ld (4)	Long wave LED.
cu (5)	Copper (electrical).

swFCPortTxWords

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.11
swFCPortTable.1.11

Description The number of Fibre Channel words that the port has transmitted.

swFCPortRxWords

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.12
swFCPortTable.1.12

Description The number of Fibre Channel words that the port has received.

swFCPortTxFrames

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.13
swFCPortTable.1.13

Description The number of Fibre Channel frames that the port has transmitted.

swFCPortRxFrames

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.14
swFCPortTable.1.14

Description The number of Fibre Channel frames that the port has received.

swFCPortRxC2Frames

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.15
swFCPortTable.1.15

Description The number of Class 2 frames that the port has received.

swFCPortRxC3Frames

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.16
swFCPortTable.1.16

Description The number of Class 3 frames that the port has received.

swFCPortRxLCs

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.17
swFCPortTable.1.17

Description The number of Link Control frames that the port has received.

swFCPortRxMcasts

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.18
swFCPortTable.1.18

Description The number of Multicast frames that the port has received.

swFCPortTooManyRdys

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.19
swFCPortTable.1.19

Description The number of times when RDYs exceeds the frames received.

swFCPortNoTxCredits

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.20
swFCPortTable.1.20

Description The number of times when the transmit credit has reached zero.

swFCPortRxEncInFrs

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.21
swFCPortTable.1.21

Description The number of encoding error or disparity error inside frames received.

swFCPortRxCrcs

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.22
swFCPortTable.1.22

Description The number of CRC errors detected for frames received.

swFCPortRxTruncs

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.23
swFCPortTable.1.23

Description The number of truncated frames that the port has received.

swFCPortRxTooLongs

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.24
swFCPortTable.1.24

Description The number of received frames that are too long.

swFCPortRxBadEofs

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.15
swFCPortTable.1.25

Description The number of received frames that have bad EOF delimiter.

swFCPortRxEncOutFrs

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.26
swFCPortTable.1.26

Description The number of encoding error or disparity error outside frames received.

swFCPortRxBadOs

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.27
swFCPortTable.1.27

Description The number of invalid ordered sets received.

swFCPortC3Discards

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.28
swFCPortTable.1.28

Description The number of Class 3 frames that the port has discarded.

swFCPortMcastTimedOuts

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.29
swFCPortTable.1.29

Description The number of multicast frames that have timed out.

swFCPortTxMcasts

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.30
swFCPortTable.1.20

Description The number of multicast frames that have been transmitted.

swFCPortLipIns

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.31
swFCPortTable.1.31

Description The number of loop initializations that have been initiated by loop devices attached.

swFCPortLipOuts

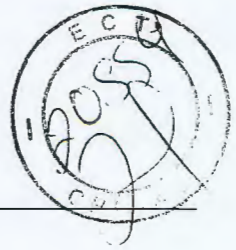
OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.32
swFCPortTable.1.32

Description The number of loop initializations that have been initiated by the port.

swFCPortLipLastAlpa

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.33
swFCPortTable.1.33

Description The Physical Address (AL_PA) of the loop device that initiated the last loop initialization.



swFCPortWwn

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.34
swFCPortTable.1.34

Description The WWN of the Fibre Channel port. The contents of an instance are in the IEEE extended format as specified in FC-PH.

swFCPortSpeed

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.35
swFCPortTable.1.35

Description The desired baud rate for the port.

swFCPortName

OID 1.3.6.1.4.1.1588.2.1.1.1.6.2.1.36
swFCPortTable.1.36

Description A string that indicates the name of the addressed port.

The names should be persistent across switch reboots. Port names do not have to be unique within a switch or within a fabric.

The Name Server Database Group

swNsLocalNumEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.7.1

Description The number of local Name Server entries.

sw Name Server Local Table

swNsLocalTable

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2

Description The table of local Name Server entries.

swNsLocalEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1
swNsLocalTable.1

Description An entry from the local Name Server database.

Index swNsEntryIndex

swNsEntryIndex

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.1
swNsLocalTable.1.1

Description The index of the Name Server database entry.

swNsPortID

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.2
swNsLocalTable.1.2

Description The Fibre Channel port address ID of the entry.

swNsPortType

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.3
swNsLocalTable.1.3

Description The type of port for this entry.

Possible values are:

unknown (0)	The type is defined in FC-GS-2.
nPort (1)	The type is defined in FC-GS-2.
nlPort (2)	The type is defined in FC-GS-2.

swNsPortName

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.4
swNsLocalTable.1.4

Description The Fibre Channel WWN of the port entry.

swNsPortSymb

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.5
swNsLocalTable.1.5

Description The contents of a Symbolic Name of the port entry. In FC-GS-2, a Symbolic Name consists of a byte array of 1 through 256 bytes, and the first byte of the array specifies the length of its contents. This object variable corresponds to the contents of the Symbolic Name, with the first byte removed.

swNsNodeName

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.6
swNsLocalTable.1.6

Description The Fibre Channel WWN of the associated node as defined in FC-GS-2.

swNsNodeSymb

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.7
swNsLocalTable.1.7

Description The contents of a Symbolic Name of the node associated with the entry. In FC-GS-2, a Symbolic Name consists of a byte array of 1 through 256 bytes, and the first byte of the array specifies the length of its contents. This object variable corresponds to the contents of the Symbolic Name, with the first byte removed.

swNsIPA

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.8
swNsLocalTable.1.8

Description The Initial Process Associators of the node for the entry as defined in FC-GS-2.

swNsIpAddress

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.9
swNsLocalTable.1.9

Description The IP address of the node for the entry as defined in FC-GS-2. The format of the address is in IPv6.

swNsCos

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.10
swNsLocalTable.1.10

Description The class of services supported by the port.

swNsFc4

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.11
swNsLocalTable.1.11

Description The FC-4s supported by the port as defined in FC-GS-2.

swNsIpNxPort

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.12
swNsLocalTable.1.12

Description The IpAddress of the Nx_port for the entry.

swNsWwn

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.13
swNsLocalTable.1.13

Description The World Wide Name (WWN) of the Fx_port for the entry.

swNsHardAddr

OID 1.3.6.1.4.1.1588.2.1.1.1.7.2.1.14
swNsLocalTable.1.14

Description The 24-bit hard address of the node for the entry.

Event Group

To Map the errLog

Logically, the swEventTable is separate from the error log since it is essentially a view of the error log within a particular time window. The value of swEventIndex shall indicate the event number that has occurred since the switch booted. The values range from 1 through 2147383647 (2^31 - 1).

swEventTrapLevel

OID 1.3.6.1.4.1.1588.2.1.1.1.8.1

Description The swEventTrap level in conjunction with an event's severity level. When an event occurs, if its severity level is at or below the specified numeric value, the agent sends the associated swEventTrap to the configured recipients.

Possible values are:

none (0)
critical (1)
error (2)
warning (3)
informational (4)
debug (5)

For example, if this variable is set to 3 (warning), all error logs of severity 1 (critical), 2 (error), and 3 (warning) are sent as an SNMP trap of swEventTrap, as shown in *swEventTrap* on page 5-11.

swEventNumEntries

OID 1.3.6.1.4.1.1588.2.1.1.1.8.4

Description The number of entries in the Event Table. Valid values vary (from 1 through 2048) for each Fabric OS.

swEventTable

OID 1.3.6.1.4.1.1588.2.1.1.1.8.5

Description The table of event entries.

swEventEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.8.5.1
swEventTable.1

Description An entry of the event table.

Index swEventIndex

swEventIndex

OID 1.3.6.1.4.1.1588.2.1.1.1.8.5.1.1
swEventTable.1.1

Description The index of the event entry.

Logically, the swEventTable is separate from the error log since it is essentially a view of the error log within a particular time window. The value of swEventIndex shall indicate the event number that has occurred since the switch booted. The values range from 1 through 2147383647 (2^{31} minus 1).

swEventTimeInfo

OID 1.3.6.1.4.1.1588.2.1.1.1.8.5.1.2
swEventTable.1.2

Description The date and time when this event occurred.

The return string is displayed using the following format:
ddd MMM DD hh:mm:ss.
Where:
ddd = Day
MMM = Month
DD = Date
hh = Hour

mm = Minute
ss = Seconds
(For example: `Thu Aug 17 15:16:09`.)

swEventLevel

OID 1.3.6.1.4.1.1588.2.1.1.1.8.5.1.3
swEventTable.1.3

Description The severity level of this event entry.

Possible values are:

critical (1)
error (2)
warning (3)
informational (4)
debug (5)

swEventRepeatCount

OID 1.3.6.1.4.1.1588.2.1.1.1.8.5.1.4
swEventTable.1.4

Description The count of consecutive times this particular event has occurred if the most recent event is the same as the previous, this number is incremented by one.

swEventDescr

OID 1.3.6.1.4.1.1588.2.1.1.1.8.5.1.5
swEventTable.1.5

Description A textual description of the event.

For more information about error messages, see *EMC Connectrix Departmental Switch DS-32B2 and Enterprise Director ED-12000B Fabric OS Reference Manual.*

Fabric Watch Group

Fabric Watch subsystem consists of one license scalar and two tables:

- The license scalar, swFwFabricWatchLicense, is used to tell is if the switch has proper license for Fabric Watch.
- One table, *swFwClassAreaTable* on page 5-52, contains classArea information such as threshold unit string, time base, low thresholds, and so on. SwFwClassAreaEntry contains control information for a class/area's threshold.
- The other table, *swFwThresholdTable* on page 5-60, contains individual threshold information such as name, label, last event, and so forth. SwFwThresholdEntry contains the thresholds.

swFwFabricWatchLicense

OID 1.3.6.1.4.1.1588.2.1.1.1.10.1

Description If the Fabric Watch license key is installed on the switch, the return value is swFwLicensed. Otherwise, the value is swFwNotLicensed.

swFwClassAreaTable

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2

Description The table of classes and areas.

swFwClassAreaEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1
swFwClassAreaTable.1

Description An entry of the classes and areas.

Index swFwClassAreaIndex

swFwClassAreaIndex

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.1
swFwClassAreaTable.1.1

Description An index representing the Fabric Watch classArea combination.

swFwWriteThVals

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.2
swFwClassAreaTable.1.2

Description A flag that applies or cancels the configuration value changes.

For a read operation, the return value is always swFwCancelWrite.
The following are the custom configuration variables that can be modified.

```
swFwCustUnit
swFwCustTimebase
swFwCustLow
swFwCustHigh
swFwCustBufSize
```

Changes to these custom configuration variables can be saved by setting this variable to swFwApplyWrite, and they can be removed by setting this variable to swFwCancelWrite.

swFwDefaultUnit

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.3
swFwClassAreaTable.1.3

Description A default unit string name, used to identify the unit of measure for a Fabric Watch classArea combination. For example:

- `C` = environment (class), temperature (area).
- `RPM` = environment (class), fan (area).

swFwDefaultTimebase

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.4
swFwClassAreaTable.1.4

Description A default polling period for the Fabric Watch classArea combination. For example:

- swFwTbMin = port (class), link loss (area).
- swFwTbNone = environment (class), temperature (area).

swFwDefaultLow

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.5
swFwClassAreaTable.1.5

Description A default low-threshold value.

swFwDefaultHigh

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.6
swFwClassAreaTable.1.6

Description A default high-threshold value.

swFwDefaultBufSize

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.7
swFwClassAreaTable.1.7

Description A default buffer-size value.

swFwCustUnit

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.8
swFwClassAreaTable.1.8

Description A customizable unit string name, used to identify the unit of measure for a Fabric Watch classArea combination. For example:

- C = environment (class), temperature (area).
- RPM = environment (class), fan (area).

swFwCustTimebase

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.9
swFwClassAreaTable.1.9

Description A customizable polling period for the Fabric Watch classArea combination. For example:

- swFwTbMin = port (class), link loss (area).
- swFwTbNone = environment (class), temperature (area).

swFwCustLow

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.10
swFwClassAreaTable.1.10

Description A customizable low-threshold value for a Fabric Watch ClassArea combination.

swFwCustHigh

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.11
swFwClassAreaTable.1.11

Description A customizable high-threshold value for a Fabric Watch ClassArea combination.

swFwCustBufSize

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.12
swFwClassAreaTable.1.12

Description A customizable buffer-size value for a Fabric Watch ClassArea combination.

swFwThLevel

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.13
swFwClassAreaTable.1.13

Description A pointer to the current level for classArea values. It is either default or custom.

For a read operation, the return value is either 2 (swFwDefault) or 3 (swFwCustom). 1 (swFwReserved) is obsolete.

If the write operation sets the variable to 2 (swFwDefault), the following default configuration variables are used for the Fabric Watch classArea combination:

swFwDefaultUnit
swFwDefaultTimebase
swFwDefaultLow
swFwDefaultHigh
swFwDefaultBufSize

If the write operation sets the variable to 3 (swFwCustom), the following custom configuration variables are used for the Fabric Watch classArea combination:

swFwCustUnit
swFwCustTimebase
swFwCustLow
swFwCustHigh
swFwCustBufSize

swFwWriteActVals

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.14
swFwClassAreaTable.1.14

Description A variable that applies or cancels the alarm value changes.

For a read operation, the return value is always swFwCancelWrite. The following are the custom alarm variables that can be modified:

swFwCustChangedActs
swFwCustExceededActs

swFwCustBelowActs
swFwCustAboveActs
swFwCustInBetweenActs

Changes to these custom alarm variables can be saved by setting this variable to swFwApplyWrite.

Changes to these custom alarm variables can be removed by setting this variable to swFwCancelWrite.

swFwDefaultChangedActs

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.15
swFwClassAreaTable.1.15

Description Default action matrix for changed event.

swFwDefaultExceededActs

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.16
swFwClassAreaTable.1.16

Description Default action matrix for an exceeded event. The exceeded value may be either above the high threshold or below the low threshold.

swFwDefaultBelowActs

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.17
swFwClassAreaTable.1.17

Description Default action matrix for below event.

swFwDefaultAboveActs

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.18
swFwClassAreaTable.1.18

Description Default action matrix for above event.

swFwDefaultInBetweenActs

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.19
swFwClassAreaTable.1.19

Description Default action matrix for in-between event.

swFwCustChangedActs

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.20
swFwClassAreaTable.1.20

Description Custom action matrix for changed event.

swFwCustExceededActs

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.21
swFwClassAreaTable.1.21

Description Custom action matrix for an exceeded event.

swFwCustBelowActs

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.22
swFwClassAreaTable.1.22

Description Custom action matrix for below event.

swFwCustAboveActs

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.23
swFwClassAreaTable.1.23

Description Custom action matrix for above event.

swFwCustInBetweenActs

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.24
swFwClassAreaTable.1.24

Description Custom action matrix for in-between event.

swFwValidActs

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.25
swFwClassAreaTable.1.25

Description Matrix of valid acts for a classArea.

swFwActLevel

OID 1.3.6.1.4.1.1588.2.1.1.1.10.2.1.26
swFwClassAreaTable.1.26

Description A pointer to the current level for classArea values. It is either default or custom.

For a read operation, the return value is either 2 (swFwDefault) or 3 (swFwCustom). 1 (swFwReserved) is obsolete.

If the write operation sets the variable to 2 (swFwDefault), the following default action matrix variables are used for the Fabric Watch classArea combination:

swFwDefaultChangedActs
swFwDefaultExceededActs
swFwDefaultBelowActs
swFwDefaultAboveActs
swFwDefaultInBetweenActs

If the write operation sets the variable to 3 (swFwCustom), the following custom action matrix variables are used for the Fabric Watch classArea combination:

swFwCustChangedActs
swFwCustExceededActs

swFwCustBelowActs
swFwCustAboveActs
swFwCustInBetweenActs

swFwThresholdTable

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3

Description The table of individual thresholds.

swFwThresholdEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3.1
swFwThresholdTable.1

Description An entry of an individual threshold.

Index swFwClassAreaIndex, swFwThresholdIndex

swFwThresholdIndex

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3.1.1
swFwThresholdTable.1.1

Description Represents the element index of a threshold.

For environment class, the indexes are from 2 through *number of environment sensors+1*. For example, the indexes for environment class temperature area are:

envTemp001: index of 2
envTemp002: index of 3
envTemp003: index of 4
envTemp004: index of 5
envTemp005: index of 6

For port-related classes such as E_Port, the indexes are from 1 through *number of ports*. For example, the indexes for E_Port classlink loss area:

eportLink000: index of 1
eportLink001: index of 2
eportLink002: index of 3
eportLink003: index of 4

eportLink004: index of 5
eportLink005: index of 6
eportLink006: index of 7
eportLink007: index of 8
eportLink008: index of 9
eportLink009: index of 10
eportLink010: index of 11
eportLink011: index of 12
eportLink012: index of 13
eportLink013: index of 14
eportLink014: index of 15
eportLink015: index of 16

swFwStatus

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3.1.2
swFwThresholdTable.1.2

Description A flag that indicates whether a threshold is enabled or disabled.

swFwName

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3.1.3
swFwThresholdTable.1.3

Description Name of the threshold. Table 5-3 contains examples.

Table 5-3 Threshold Names

swFwName	Threshold Name
envFan001	Env Fan 1
envPS002	Env Power Supply 2
envTemp001	Env Temperature 1
gbicTemp001	GBIC Temperature 1
gbicRXP001	GBIC RX power 1
gbicTXP001	GBIC TX power 1
gbicCrnt001	GBIC Current 1
eportCRCs007	E_Port Invalid CRCs 7

Table 5-3 Threshold Names (continued)

eportLink007	E_Port Link Failures 7
eportProtoErr007	E_Port Protocol Errors 7
eportRXPerf007	E_Port RX Performance 7
eportSignal007	E_Port Loss of Signal 7
eportState007	E_Port State Changes 7
eportSync007	E_Port Loss of Sync 7
eportTXPerf007	E_Port TX Performance 7
eportWords007	E_Port Invalid Words 7
fabricDI000	Fabric Domain ID
fabricED000	Fabric E_port down
fabricFL000	Fabric Fabric login
fabricFQ000	Fabric Fabric<->QL
fabricFR000	Fabric Reconfigure
fabricGS000	Fabric GBIC change 0
fabricSC000	Fabric Segmentation
fabricZC000	Fabric Zoning change
fcuportCRCs013	FCU Port Invalid CRCs 13
fcuportLink013	FCU Port Link Failures 13
fcuportProtoErr0	FCU Port Protocol Errors 13
fcuportRXPerf013	FCU Port RX Performance 13
fcuportSignal013	FCU Port Loss of Signal 13
fcuportState013	FCU Port State Changes 13
fcuportSync013	FCU Port Loss of Sync 13
fcuportTXPerf013	FCU Port TX Performance 13
fcuportWords013	FCU Port Invalid Words 13
portCRCs000 Port Invalid CRCs 0	Port Invalid CRCs 0

Table 5-3 Threshold Names (continued)

portLink000	Port Link Failures 0
portProtoErr000	Port Protocol Errors 0
portRXPerf000	Port RX Performance 0
portSignal000	Port Loss of Signal 0
portState000	Port State Changes 0
portSync000	Port Loss of Sync 0
portTXPerf000	Port TX Performance 0
portWords000	Port Invalid Words 0
fopportCRCs013	FOP Port Invalid CRCs 13
fopportLink013	FOP Port Link Failures 13
fopportProtoErr0	FOP Port Protocol Errors 13
fopportRXPerf013	FOP Port RX Performance 13
fopportSignal013	FOP Port Loss of Signal 13
fopportState013	FOP Port State Changes 13
fopportSync013	FOP Port Loss of Sync 13
fopportTXPerf013	FOP Port TX Performance 13
fopportWords013	FOP Port Invalid Words 13

swFwLabel

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3.1.4
swFwThresholdTable.1.4

Description Label of the threshold.

Refer to Table 5-3 on page 5-61.

swFwCurVal

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3.1.5
swFwThresholdTable.1.5

Description Current counter of the threshold.

swFwLastEvent

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3.1.6
swFwThresholdTable.1.6

Description Last event type of the threshold.

swFwLastEventVal

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3.1.7
swFwThresholdTable.1.7

Description Last event value of the threshold.

swFwLastEventTime

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3.1.8
swFwThresholdTable.1.8

Description Last event time of the threshold.

This value is in the same format as in swCurrentDate.

swFwLastState

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3.1.9
swFwThresholdTable.1.9

Description Last event state of the threshold.

swFwBehaviorType

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3.1.10
swFwThresholdTable.1.10

Description A behavior of which the thresholds generate events.

swFwBehaviorInt

OID 1.3.6.1.4.1.1588.2.1.1.1.10.3.1.11
swFwThresholdTable.1.11

Description An integer of which the thresholds generate continuous events.

End Device Group

swEndDeviceRlsTable

OID 1.3.6.1.4.1.1588.2.1.1.1.21.1

Description The table of rls for individual end devices.

By default, no data appears in this table.

swEndDeviceRlsEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.21.1.1
swEndDeviceRlsTable.1

Description An entry of an individual end devices' rls.

Index swEndDevicePort, swEndDeviceAlpa

Since switches start with port 0, the SNMP port number should be the physical port number plus 1. Conversely, SNMP port 3 (for example) translates to port 2.

swEndDevicePort

OID 1.3.6.1.4.1.1588.2.1.1.1.21.1.1.1
swEndDeviceRlsTable.1.1

Description The port of the local switch to which the end device is connected.

swEndDeviceAlpa

OID 1.3.6.1.4.1.1588.2.1.1.1.21.1.1.2
swEndDeviceRlsTable.1.2

Description The ALPA of the end device. The SNMP ALPA number should be the logical ALPA number +1. For example, SNMP ALPA number 0xf0 translates to 0xef.

swEndDevicePortID

OID 1.3.6.1.4.1.1588.2.1.1.1.21.1.1.3
swEndDeviceRlsTable.1.3

Description The Fibre Channel port address ID of the entry.

swEndDeviceLinkFailure

OID 1.3.6.1.4.1.1588.2.1.1.1.21.1.1.4
swEndDeviceRlsTable.1.4

Description Link failure count for the end device.

swEndDeviceSyncLoss

OID 1.3.6.1.4.1.1588.2.1.1.1.21.1.1.5
swEndDeviceRlsTable.1.5

Description Sync loss count for the end device.

swEndDeviceSigLoss

OID 1.3.6.1.4.1.1588.2.1.1.1.21.1.1.6
swEndDeviceRlsTable.1.6

Description Signal loss count for the end device.

swEndDeviceProtoErr

OID 1.3.6.1.4.1.1588.2.1.1.1.21.1.1.7
swEndDeviceRlsTable.1.7

Description Protocol error count for the end device.

swEndDeviceInvalidWord

OID 1.3.6.1.4.1.1588.2.1.1.1.21.1.1.8
swEndDeviceRlsTable.1.8

Description Invalid word count for the end device.

swEndDeviceInvalidCRC

OID 1.3.6.1.4.1.1588.2.1.1.1.21.1.1.9
swEndDeviceRlsTable.1.9

Description Invalid CRC count for the end device.

ASIC Performance Monitoring Group

swBlmPerfALPAMntTable

OID 1.3.6.1.4.1.1588.2.1.1.1.23.1

Description ALPA monitoring counter table.

swBlmPerfALPAMntEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.23.1.1
swBlmPerfALPAMntTable.1

Description ALPA monitoring counter for given ALPA.

Index swEndDevicePort, swEndDeviceAlpa

swBlmPerfAlpaPort

OID 1.3.6.1.4.1.1588.2.1.1.1.23.1.1.1
swBlmPerfALPAMntTable.1.1

Description The port index of the switch.

swBlmPerfAlpaIndx

OID 1.3.6.1.4.1.1588.2.1.1.1.23.1.1.2
swBlmPerfALPAMntTable.1.2

Description The ALPA index. There can be 126 ALPA values.

swBlmPerfAlpa

OID 1.3.6.1.4.1.1588.2.1.1.1.23.1.1.3
swBlmPerfALPAMntTable.1.3

Description The ALPA values. These values range between x'01' and x'EF'(1 to 239). ALPA value x'00' is reserved for FL_Port. If the ALPA device is invalid, then it will have a -1 value.

swBlmPerfAlpaCRCCnt

OID 1.3.6.1.4.1.1588.2.1.1.1.23.1.1.4
swBlmPerfALPAMntTable.1.4

Description The CRC count for given ALPA and port. This monitoring provides information on the number of CRC errors that occurred on the frames destined to each possible ALPA attached to a specific port.

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ANEXO SWITCH TIPO 03
PARTE 14/C

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ASIC Performance End-to-End Monitoring Table

swBlmPerfEEMntTable

OID 1.3.6.1.4.1.1588.2.1.1.1.23.2

Description End-to-end monitoring counter table.

swBlmPerfEEMntEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.23.2.1
swBlmPerfEEMntTable.1

Description End-to-end monitoring counter for given port.

Index swBlmPerfEEPort, swBlmPerfEERefKey

swBlmPerfEEPort

OID 1.3.6.1.4.1.1588.2.1.1.1.23.2.1.1
swBlmPerfEEMntTable.1.1

Description This object identifies the port number of the switch.

swBlmPerfEERefKey

OID 1.3.6.1.4.1.1588.2.1.1.1.23.2.1.2
swBlmPerfEEMntTable.1.2

Description The reference number of the counter. This reference is a number assigned when a filter is created. In SNMP Index, start one instead of 0, add one to actual ref key.

swBlmPerfEECRC

OID 1.3.6.1.4.1.1588.2.1.1.1.23.2.1.3
swBlmPerfEEMntTable.1.3

Description End-to-end CRC error for the frames that matched the SID-DID pair.

swBlmPerfEEFCWRx

OID 1.3.6.1.4.1.1588.2.1.1.1.23.2.1.4
swBlmPerfEEMntTable.1.4

Description End-to-End count of fibre channel words (FCW), received by the port, that matched the SID-DID pair.

swBlmPerfEEFCWTx

OID 1.3.6.1.4.1.1588.2.1.1.1.23.2.1.5
swBlmPerfEEMntTable.1.5

Description End-to-End count of fibre channel words (FCW), transmitted by the port, that matched the SID-DID pair.

swBlmPerfEESid

OID 1.3.6.1.4.1.1588.2.1.1.1.23.2.1.6
swBlmPerfEEMntTable.1.6

Description DID info by reference number.

swBlmPerfEEDid

OID 1.3.6.1.4.1.1588.2.1.1.1.23.2.1.7
swBlmPerfEEMntTable.1.7

Description SID info by reference number. SID (source identifier) is a 3-byte field in the frame header used to indicate the address identifier of the N_Port from which the frame was sent.

ASIC Performance Filter-Based Monitoring Table

swBlmPerfFltMntTable

OID 1.3.6.1.4.1.1588.2.1.1.1.23.3

Description Filter-based monitoring counter.

swBlmPerfFltMntEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.23.3.1
swBlmPerfFltMntTable.1

Description Filter-based monitoring counter for given port.

Index swBlmPerfFltPort, swBlmPerfFltRefkey

swBlmPerfFltPort

OID 1.3.6.1.4.1.1588.2.1.1.1.23.3.1.1
swBlmPerfFltMntTable.1.1

Description This object identifies the port number of the switch.

swBlmPerfFltRefkey

OID 1.3.6.1.4.1.1588.2.1.1.1.23.3.1.2
swBlmPerfFltMntTable.1.2

Description The reference number of the filter. This reference number is assigned when a filter is created. In SNMP Index start one instead of 0, add one to actual ref key.

swBlmPerfFltCnt

OID 1.3.6.1.4.1.1588.2.1.1.1.23.3.1.3
swBlmPerfFltMntTable.1.3

Description Statistics of filter-based monitor. Filter-based monitoring provides information about a filter hit count such as:

- Read command
- SCSI or IP traffic
- SCSI Read/Write

swBlmPerfFltAlias

OID 1.3.6.1.4.1.1588.2.1.1.1.23.3.1.4
swBlmPerfFltMntTable.1.4

Description Alias name for the filter.

Trunking Group and Trunking Table

swSwitchTrunkable

OID 1.3.6.1.4.1.1588.2.1.1.1.24.1

Description The trunking status of the switch, whether the switch supports the trunking feature or not.

Possible values are:

No (0)
Yes (8)

swTrunkTable

OID 1.3.6.1.4.1.1588.2.1.1.1.24.2

Description Table to display trunking information for the switch.

swTrunkEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.24.2.1
swTrunkTable.1

Description Entry for the trunking table.

Index swTrunkPortIndex

swTrunkPortIndex

OID 1.3.6.1.4.1.1588.2.1.1.1.24.2.1.1
swTrunkTable.1.1

Description The switch port index.

The value of a port index is 1 higher than the port number labeled on the front panel. For exmaple, port index 1 corresponds to port number 0.

swTrunkGroupNumber

OID 1.3.6.1.4.1.1588.2.1.1.1.24.2.1.2
swTrunkTable.1.2

Description A logical entity that specifies the Group Number to which the port belongs. If this value is `0`, the port is not trunked.

swTrunkMaster

OID 1.3.6.1.4.1.1588.2.1.1.1.24.2.1.3
swTrunkTable.1.3

Description Port number that is the trunk master of the group. The trunk master implicitly defines the group. All ports with the same master are considered to be part of the same group.

swPortTrunked

OID 1.3.6.1.4.1.1588.2.1.1.1.24.2.1.4
swTrunkTable.1.4

Description The current state of trunking for a member port.

Trunking Group Table

swTrunkGrpTable

OID 1.3.6.1.4.1.1588.2.1.1.1.24.3

Description Table to display trunking performance information for the switch.

swTrunkGrpEntry

OID 1.3.6.1.4.1.1588.2.1.1.1.24.3.1
swTrunkGrpTable.1

Description Entry for the trunking group table.

Index swTrunkGrpNumber

swTrunkGrpNumber

OID 1.3.6.1.4.1.1588.2.1.1.1.24.3.1.1
swTrunkGrpTable.1.1

Description This object is a logical entity which specifies the Group Number to which port belongs.

swTrunkGrpMaster

OID 1.3.6.1.4.1.1588.2.1.1.1.24.3.1.2
swTrunkGrpTable.1.2

Description The master port ID for the TrunkGroup.

swTrunkGrpTx

OID 1.3.6.1.4.1.1588.2.1.1.1.24.3.1.3
swTrunkGrpTable.1.3

Description The aggregate value of the transmitted words from this TrunkGroup.

swTrunkGrpRx

OID 1.3.6.1.4.1.1588.2.1.1.1.24.3.1.4
swTrunkGrpTable.1.4

Description The aggregate value of the received words by this TrunkGroup.

6 Entiity MIB Object Types

This chapter contains descriptions and other information specific to Entiity MIB object types.

Overview

The EntityMIB is the MIB module for representing multiple logical entities supported by a single SNMP agent. This MIB is supported only in Fabric OS v4.*x*.

The descriptions of each of the MIB variables in this chapter come directly from the entityMIB itself. The notes that follow the descriptions typically pertain to EMC-specific information and are provided by EMC.

The entityMib objects are divided into the following groups:

- Physical Entity Group
- Logical Entity Group
- Entity Mapping Group
- General Group

Refer to Appendix F for the entire Entity MIB.

Definitions for Entity MIB

Table 6-1 lists the objects or definitions that are imported into the entityMIB, and the modules from which they are imported.

Table 6-1 Objects Imported into the entityMIB

Object	Imported from this module
MODULE-IDENTITY	SNMPv2-SMI
OBJECT-TYPE	
NOTIFICATION-TYPE	
mib-2	
TDomain	SNMPv2-TC
TAddress	
TEXTUAL-CONVENTION	
AutonomousType	
RowPointer	
TimeStamp	
TruthValue	
MODULE-COMPLIANCE	SNMPv2-CONF
OBJECT-GROUP	
NOTIFICATION-GROUP	
SnmpAdminString	SNMP-FRAMEWORK-MIB

Textual Conventions

PhysicalIndex

Status Current

Description An arbitrary value that uniquely identifies the physical entity. The value should be a small positive integer; index values for different physical entities are not necessarily contiguous.

Syntax Integer (1... 2147483647)

PhysicalClass

Status Current

Description An enumerated value that provides an indication of the general hardware type of a particular physical entity. There are no restrictions as to the number of entPhysicalEntries of each entPhysicalClass, which must be instantiated by an agent.

Syntax Integer

Table 6-2 Possible Values for PhysicalClass

Values	Description
other (1)	The physical entity class is known, but does not match any of the supported values.
unknown (2)	The physical entity class is unknown to the agent.
chassis (3)	The physical entity class is an overall container for networking equipment. Any class of physical entity except a stack may be contained within a chassis, and a chassis may be contained only within a stack.
backplane (4)	The physical entity class is a device for aggregating and forwarding networking traffic, such as a shared backplane in a modular ethernet switch. Note that an agent may model a backplane as a single physical entity, which is actually implemented as multiple discrete physical components (within a chassis or stack).

Table 6-2 Possible Values for PhysicalClass (continued)

Values	Description
container (5)	The physical entity class is capable of containing one ore more removable physical entities, possibly of different types (such as a chassis slot or daughter-card holder). For example, each (empty or full) slot in a chassis will be modeled as a container. Note that all removable physical entities should be modeled within a container entity, such as field-replaceable modules, fans, or power supplies. Note that all known containers, including empty containers, should be modeled by the agent.
powerSupply (6)	The physical entity class is a power-supplying component.
fan (7)	The physical entity class is a fan or other heat-reduction component.
sensor (8)	The physical entity class is a sensor, such as a temperature sensor within a router chassis.
module (9)	The physical entity class is a self-contained sub-system (such as a plug-in card or daughter-card). If it is removable, then it should be modeled within a container entity, otherwise it should be modeled directly within another physical entity (for example, a chassis or another module).
port (10)	The physical entity class is a networking port, capable of receiving or transmitting networking traffic.
stack (11)	The physical entity class is a super-container (possibly virtual), intended to group together multiple chassis entities (such as a stack of multiple chassis entities). A stack may be realized by a virtual cable, a real interconnect cable attached to multiple chassis, or may be comprised of multiple interconnect cables. A stack should not be modeled within any other physical entities, but a stack may be contained within another stack. Only chassis entities should be contained within a stack.

SnmpEngineIdOrNone

Status Current

Description A specially formatted SnmpEngineID string for use with the Entity MIB.

If an instance of an object with syntax SnmpEngineIdOrNone has a non-zero length, then the object encoding and semantics are defined by the SnmpEngineID textual convention (see RFC 2571 [RFC2571]).

If an instance of an object with syntax SnmpEngineIdOrNone contains a zero-length string, then no appropriate SnmpEngineID is associated with the logical entity (that is, SNMPv3 not supported).

Syntax OCTET STRING (SIZE(0..32))
Empty string or SnmpEngineID

Physical Entity Group

entPhysicalTable

OID 1.3.6.1.2.1.47.1.1.1

Status Current

Description This table contains one row per physical entity. (See Figure 6-1.) The table always contains at least one row for an overall physical entity.

This object implemented for Fabric OS v4.1 only.

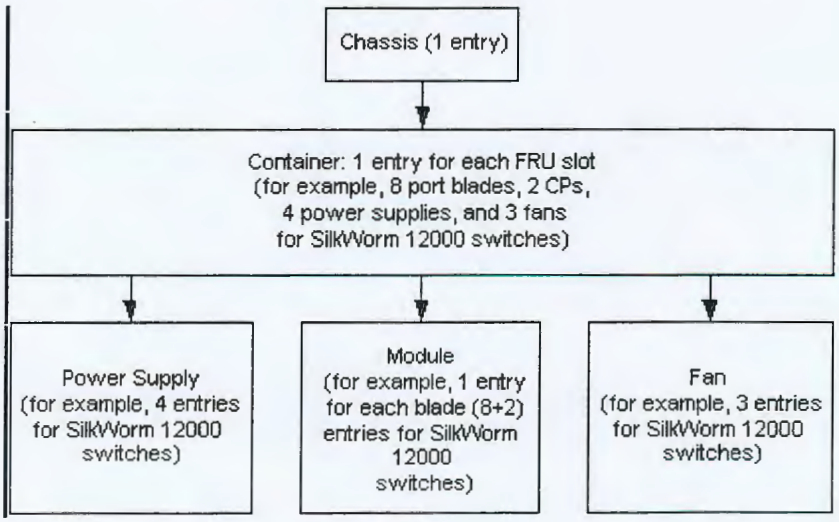

Figure 6-1 entPhysicalTable Containment Hierarchy

entPhysicalEntry

OID 1.3.6.1.2.1.47.1.1.1.1

Status Current

Description Information about a particular physical entity.

Each entry provides objects (entPhysicalDescr, entPhysicalVendorType, and entPhysicalClass) to help an NMS identify and characterize the entry, and objects (entPhysicalContainedIn and entPhysicalParentRelPos) to help an NMS relate the particular entry to other entries in this table.

Index entPhysicalIndex

entPhysicalIndex

OID 1.3.6.1.2.1.47.1.1.1.1.1

Status Current

Description Unique identifier of the physical entity.

entPhysicalDescr

OID 1.3.6.1.2.1.47.1.1.1.1.2

Status Current

Description A textual description of the physical entity (physical name of the entity such as chassis, blade, port, etc.). This object should contain a string that identifies the manufacturer's name for the physical entity and should be set to a distinct value for each version or model of the physical entity.

The name provides the type of the entry and its number (for example, slot 1, power supply, etc.). The description gives the textual description of the type of the entry (for example, power supply, module, etc.)

entPhysicalVendorType

OID 1.3.6.1.2.1.47.1.1.1.1.3

Status Current

Description An indication of the vendor-specific hardware type of the physical entity. Note that this is different from the definition of MIB-II sysObjectID.

An agent should set this object to an enterprise-specific registration identifier value indicating the specific equipment type in detail. The associated instance of entPhysicalClass indicates the general type of hardware device.

If no vendor-specific registration identifier exists for this physical entity, or if the value is unknown by this agent, then the value { 0, 0 } is returned.

Currently, NULL OID { 0, 0 } is returned.

entPhysicalContainedIn

OID 1.3.6.1.2.1.47.1.1.1.1.4

Status Current

Description The value of entPhysicalIndex for the physical entity that "contains" this physical entity. A value of zero indicates this physical entity is not contained in any other physical entity. Note that the set of containment relationships define a strict hierarchy; that is, recursion is not allowed.

In the event a physical entity is contained by more than one physical entity (for example, double-wide modules), this object should identify the containing entity with the lowest value of entPhysicalIndex.

Value 0 for chassis entry. All containers have "ContainedIn" set to 1. All FRUs are contained in their respective slot container entries.

entPhysicalClass

OID 1.3.6.1.2.1.47.1.1.1.1.5

Status Current

Description An indication of the general hardware type of the physical entity.

An agent should set this object to the standard enumeration value that most accurately indicates the general class of the physical entity, or the primary class if there is more than one.

If no appropriate standard registration identifier exists for this physical entity, then the value "`other(1)`" is returned. If the value is unknown by this agent, then the value "`unknown(2)`" is returned.

ED-12000B directors can have the following hierarchy of physical objects:

- Chassis: 1 entry (1 row)
- Container: 1 entry for each FRU slot (8 port blades + 2 CPs + 4 power supplies + 3 fans)
- Module: 8 entries for port blades, 2 entries for CPs, 4 entries for power supplies, and 3 entries for fans.

DS-32B2 switches can have the following hierarchy of physical objects:

- Chassis: 1 entry (1 row)
- Container: 1 entry for each FRU slot (1 switch blade + 2 power supplies + 6 fans)
- Module: 1 entry for switch blade, 0-2 entries for power supplies, and 0-6 entries for fans.

entPhysicalParentRelPos

OID 1.3.6.1.2.1.47.1.1.1.1.6

Status Current

Description An indication of the relative position of this child component among all its *sibling* components. Sibling components are defined as entPhysicalEntries that share the same instance values of each of the entPhysicalContainedIn and entPhysicalClass objects.

For chassis entry, this value is -1. For containers it is the sequential number of the container from the first one. For all FRUs it is always 1.

An NMS can use this object to identify the relative ordering for all sibling components of a particular parent (identified by the entPhysicalContainedIn instance in each sibling entry).

This value should match any external labeling of the physical component if possible. For example, for a container (such as a card slot) labeled as "slot #3", entPhysicalParentRelPos should have the

value "3". Note that the entPhysicalEntry for the module plugged into slot 3 should have an entPhysicalParentRelPos value of "1".

If the physical position of this component does not match any external numbering or clearly visible ordering, then user documentation or other external reference material should be used to determine the parent-relative position. If this is not possible, then the the agent should assign a consistent (but possibly arbitrary) ordering to a given set of sibling components, perhaps based on internal representation of the components.

If the agent cannot determine the parent-relative position for some reason, or if the associated value of entPhysicalContainedIn is 0, then the value "-1" is returned. Otherwise a non-negative integer is returned, indicating the parent-relative position of this physical entity.

Parent-relative ordering normally starts from 1 and continues to *N*, where *N* represents the highest positioned child entity. However, if the physical entities (for example, slots) are labeled from a starting position of zero, then the first sibling should be associated with an entPhysicalParentRelPos value of "0". Note that this ordering may be sparse or dense, depending on agent implementation.

The actual values returned are not globally meaningful, as each parent component may use different numbering algorithms. The ordering is meaningful only among siblings of the same parent component.

The agent should retain parent-relative position values across reboots, either through algorithmic assignment or use of non-volatile storage.

entPhysicalName

OID 1.3.6.1.2.1.47.1.1.1.1.7

Status Current

Description The textual name of the physical entity (physical name of the entity such as chassis, blade, port, etc.). The value of this object should be the name of the component as assigned by the local device and should be suitable for use in commands entered at the device's "console". This might be a text name, such as "console" or a simple component number (for example, port or module number) such as

"1", depending on the physical component naming syntax of the device.

If there is no local name, or this object is otherwise not applicable, then this object contains a zero-length string.

Note that the value of entPhysicalName for two physical entities will be the same in the event that the console interface does not distinguish between them (for example, slot-1 and the card in slot-1).

The name provides the type of the entry and its number (for example, slot 1, power supply, etc.). The description gives the textual description of the type of the entry (for example, power supply, module, etc.)

entPhysicalHardwareRev

OID 1.3.6.1.2.1.47.1.1.1.1.8

Status Current

Description The vendor-specific hardware revision string for the physical entity. The preferred value is the hardware revision identifier actually printed on the component itself (if present).

Note that if revision information is stored internally in a non-printable (for example, binary) format, then the agent must convert such information to a printable format, in an implementation-specific manner.

If no specific hardware revision string is associated with the physical component, or if this information is unknown to the agent, then this object will contain a zero-length string.

Set to empty string.

entPhysicalFirmwareRev

OID 1.3.6.1.2.1.47.1.1.1.1.9

Status Current

Description The vendor-specific firmware revision string for the physical entity.

Note that if revision information is stored internally in a non-printable (for example, binary) format, then the agent must convert such information to a printable format, in an implementation-specific manner.

If no specific firmware programs are associated with the physical component, or if this information is unknown to the agent, then this object will contain a zero-length string.

Set to empty string.

entPhysicalSoftwareRev

OID 1.3.6.1.2.1.47.1.1.1.1.10

Status Current

Description The vendor-specific software revision string for the physical entity.

Note that if revision information is stored internally in a non-printable (for example, binary) format, then the agent must convert such information to a printable format, in an implementation-specific manner.

If no specific software programs are associated with the physical component, or if this information is unknown to the agent, then this object will contain a zero-length string.

Set to empty string.

entPhysicalSerialNum

OID 1.3.6.1.2.1.47.1.1.1.1.11

Status Current

Description The vendor-specific serial number string for the physical entity. The preferred value is the serial number string actually printed on the component itself (if present).

On the first instantiation of a physical entity, the value of entPhysicalSerialNum associated with that entity is set to the correct vendor-assigned serial number, if this information is available to the

agent. If a serial number is unknown or non-existent, the entPhysicalSerialNum will be set to a zero-length string instead.

Note that implementations that can correctly identify the serial numbers of all installed physical entities do not need to provide write access to the entPhysicalSerialNum object. Agents that cannot provide non-volatile storage for the entPhysicalSerialNum strings are not required to implement write access for this object.

Not every physical component will have a serial number, or even need one. Physical entities for which the associated value of the entPhysicalIsFRU object is equal to "false(2)" (for example, the repeater ports within a repeater module), do not need their own unique serial number. An agent does not have to provide write access for such entities, and may return a zero-length string.

If write access is implemented for an instance of entPhysicalSerialNum, and a value is written into the instance, the agent must retain the supplied value in the entPhysicalSerialNum instance associated with the same physical entity for as long as that entity remains instantiated. This includes instantiations across all re-initializations/reboots of the network management system, including those that result in a change of the physical entity's entPhysicalIndex value.

Set to serial number and part number (if available) respectively.

---

entPhysicalMfgName

OID 1.3.6.1.2.1.47.1.1.1.1.12

Status Current

Description The name of the manufacturer of this physical component. The preferred value is the manufacturer name string actually printed on the component itself (if present).

Note that comparisons between instances of the entPhysicalModelName, entPhysicalFirmwareRev, entPhysicalSoftwareRev, and the entPhysicalSerialNum objects, are meaningful only amongst entPhysicalEntries with the same value of entPhysicalMfgName.

If the manufacturer name string associated with the physical component is unknown to the agent, then this object will contain a zero-length string.

Set to empty string.

entPhysicalModelName

OID 1.3.6.1.2.1.47.1.1.1.1.13

Status Current

Description The vendor-specific model name identifier string associated with this physical component. The preferred value is the customer-visible part number, which may be printed on the component itself.

If the model name string associated with the physical component is unknown to the agent, then this object will contain a zero-length string.

Set to serial number and part number (if available) respectively.

entPhysicalAlias

OID 1.3.6.1.2.1.47.1.1.1.1.14

Status Current

Description This object is an alias name for the physical entity as specified by a network manager, and provides a non-volatile handle for the physical entity.

On the first instantiation of a physical entity, the value of entPhysicalAlias associated with that entity is set to the zero-length string. However, agent may set the value to a locally unique default value, instead of a zero-length string.

If write access is implemented for an instance of entPhysicalAlias, and a value is written into the instance, the agent must retain the supplied value in the entPhysicalAlias instance associated with the same physical entity for as long as that entity remains instantiated. This includes instantiations across all re-initializations/reboots of the

network management system, including those which result in a change of the physical entity's entPhysicalIndex value.

Set to empty string.

entPhysicalAssetID

OID 1.3.6.1.2.1.47.1.1.1.1.15

Status Current

Description This object is a user-assigned asset tracking identifier for the physical entity as specified by a network manager, and provides non-volatile storage of this information.

On the first instantiation of a physical entity, the value of entPhysicalAssetID associated with that entity is set to the zero-length string.

Not every physical component will have a asset tracking identifier, or even need one. Physical entities for which the associated value of the entPhysicalIsFRU object is equal to "false(2)" (for example, the repeater ports within a repeater module) do not need their own unique asset tracking identifier. An agent does not have to provide write access for such entities, and may instead return a zero-length string.

If write access is implemented for an instance of entPhysicalAssetID, and a value is written into the instance, the agent must retain the supplied value in the entPhysicalAssetID instance associated with the same physical entity for as long as that entity remains instantiated. This includes instantiations across all re-initializations/reboots of the network management system, including those that result in a change of the physical entity's entPhysicalIndex value.

If no asset tracking information is associated with the physical component, then this object will contain a zero-length string.

Set to empty string.

entPhysicalIsFRU

OID 1.3.6.1.2.1.47.1.1.1.1.16

Status Current

Description The entPhysicalIsFRU object indicates whether this physical entity is considered a field replaceable unit by the vendor. If this object contains the value "true(1)" then this entPhysicalEntry identifies a field replaceable unit. For all entPhysicalEntries representing components that are permanently contained within a field replaceable unit, the value "false(2)" should be returned for this object.

True (1) for FRU entries (port blades, CPs, sensors, power supplies, and fans; False (2) for container and chassis type entries.

entPhysicalContainsTable

OID 1.3.6.1.2.1.47.1.1.1.1.17

Status Current

Description The entPhysicalIsFRU object indicates whether this physical entity is considered a field replaceable unit by the vendor. If this object contains the value "true(1)" then this entPhysicalEntry identifies a field replaceable unit. For all entPhysicalEntries representing components that are permanently contained within a field replaceable unit, the value "false(2)" should be returned for this object.

Logical Entity Group

This section lists the entityLogical MIBs.

entLogicalTable

OID 1.3.6.1.2.1.47.1.2.1

Description This table contains one row per logical entity. For agents that implement more than one naming scope, at least one entry must exist. Agents that instantiate all MIB objects within a single naming scope are not required to implement this table.

entLogicalEntry

OID 1.3.6.1.2.1.47.1.2.1.1

Description Information about a particular logical entity. Entities may be managed by this agent or other SNMP agents (possibly) in the same chassis.

Index entLogicalIndex

entLogicalIndex

OID 1.3.6.1.2.1.47.1.2.1.1.1

Description The value of this object uniquely identifies the logical entity. The value should be a small positive integer; index values for different logical entities are are not necessarily contiguous.

entLogicalDescr

OID 1.3.6.1.2.1.47.1.2.1.1.2

Description A textual description of the logical entity. This object should contain a string that identifies the manufacturer's name for the logical entity, and should be set to a distinct value for each version of the logical entity.

entLogicalType

OID 1.3.6.1.2.1.47.1.2.1.1.3

Description An indication of the type of logical entity. This will typically be the Object Identifier name of the node in the SMI's naming hierarchy that represents the major MIB module, or the majority of the MIB modules, supported by the logical entity. For example:

- a logical entity of a regular host/router -> mib-2
- a logical entity of a 802.1d bridge -> dot1dBridge
- a logical entity of a 802.3 repeater -> snmpDot3RptrMgmt
- If an appropriate node in the SMI's naming hierarchy cannot be identified, the value "mib-2" should be used.

entLogicalCommunity

OID 1.3.6.1.2.1.47.1.2.1.1.4

Description An SNMPv1 or SNMPv2C community-string, which can be used to access detailed management information for this logical entity. The agent should allow read access with this community string (to an appropriate subset of all managed objects) and may also return a community string based on the privileges of the request used to read this object.

Note that an agent may return a community string with read-only privileges, even if this object is accessed with a read-write community string. However, the agent must take care not to return a community string that allows more privileges than the community string used to access this object.

A compliant SNMP agent may wish to conserve naming scopes by representing multiple logical entities in a single default naming scope. This is possible when the logical entities represented by the same value of entLogicalCommunity have no object instances in common. For example, "bridge1" and "repeater1" may be part of the main naming scope, but at least one additional community string is needed to represent "bridge2" and "repeater2".

Logical entities "bridge1" and "repeater1" would be represented by sysOREntries associated with the default naming scope.

For agents not accessible via SNMPv1 or SNMPv2C, the value of this object is the empty string. This object may also contain an empty string if a community string has not yet been assigned by the agent, or no community string with suitable access rights can be returned for a particular SNMP request.

Note that this object is deprecated. Agents that implement SNMPv3 access should use the entLogicalContextEngineID and entLogicalContextName objects to identify the context associated with each logical entity. SNMPv3 agents may return a zero-length string for this object, or may continue to return a community string (for example, tri-lingual agent support).

entLogicalTAddress

OID 1.3.6.1.2.1.47.1.2.1.1.5

Description The transport service address by which the logical entity receives network management traffic, formatted according to the corresponding value of entLogicalTDomain.

For snmpUDPDomain, a TAddress is 6 octets long, the initial 4 octets containing the IP-address in network-byte order and the last 2 containing the UDP port in network-byte order. Consult *Transport Mappings for Version 2 of the Simple Network Management Protocol* (RFC 1906 [RFC1906]) for further information on snmpUDPDomain.

entLogicalTDomain

OID 1.3.6.1.2.1.47.1.2.1.1.6

Description Indicates the kind of transport service by which the logical entity receives network management traffic. Possible values for this object are presently found in the *Transport Mappings for SNMPv2* document (RFC 1906 [RFC1906]).

entLogicalContextEngineID

OID 1.3.6.1.2.1.47.1.2.1.1.7

Description The authoritative contextEngineID that can be used to send an SNMP message concerning information held by this logical entity, to the

address specified by the associated entLogicalTAddress/entLogicalTDomain pair.

This object, together with the associated entLogicalContextName object, defines the context associated with a particular logical entity, and allows access to SNMP engines identified by a contextEngineId and contextName pair.

If no value has been configured by the agent, a zero-length string is returned, or the agent may choose not to instantiate this object at all.

entLogicalContextName

OID 1.3.6.1.2.1.47.1.2.1.1.8

Description The contextName that can be used to send an SNMP message concerning information held by this logical entity, to the address specified by the associated entLogicalTAddress/entLogicalTDomain pair.

This object, together with the associated entLogicalContextEngineID object, defines the context associated with a particular logical entity, and allows access to SNMP engines identified by a contextEngineId and contextName pair.

If no value has been configured by the agent, a zero-length string is returned, or the agent may choose not to instantiate this object at all.

Entity Mapping Group

This section lists the entityMapping MIB.

entLPMappingTable

OID 1.3.6.1.2.1.47.1.3.1

Description This table contains zero or more rows of logical entity to physical equipment associations. For each logical entity known by this agent, there are zero or more mappings to the physical resources that are used to realize that logical entity.

An agent should limit the number and nature of entries in this table such that only meaningful and non-redundant information is returned. For example, in a system that contains a single power supply, mappings between logical entities and the power supply are not useful and should not be included.

Also, only the most appropriate physical component that is closest to the root of a particular containment tree should be identified in an entLPMapping entry.

For example, suppose a bridge is realized on a particular module, and all ports on that module are ports on this bridge. A mapping between the bridge and the module would be useful, but additional mappings between the bridge and each of the ports on that module would be redundant (since the entPhysicalContainedIn hierarchy can provide the same information). If, on the other hand, more than one bridge was utilizing ports on this module, then mappings between each bridge and the ports it used would be appropriate.

Also, in the case of a single backplane repeater, a mapping for the backplane to the single repeater entity is not necessary.

entLPMappingEntry

OID 1.3.6.1.2.1.47.1.3.1.1

Description Information about a particular logical entity to physical equipment association. Note that the nature of the association is not specifically identified in this entry. It is expected that sufficient information exists

in the MIBs used to manage a particular logical entity to infer how physical component information is utilized.

Index entLogicalIndex
entLPPhysicalIndex

entLPPhysicalIndex

OID 1.3.6.1.2.1.47.1.3.1.1.1

Description The value of this object identifies the index value of a particular entPhysicalEntry associated with the indicated entLogicalEntity.

entAliasMappingTable

OID 1.3.6.1.2.1.47.1.3.2

Description This table contains zero or more rows, representing mappings of logical entity and physical component to external MIB identifiers. Each physical port in the system may be associated with a mapping to an external identifier, which itself is associated with a particular logical entity's naming scope. A wildcard mechanism is provided to indicate that an identifier is associated with more than one logical entity.

entAliasMappingEntry

OID 1.3.6.1.2.1.47.1.3.2.1

Description Information about a particular physical equipment, logical entity to external identifier binding. Each logical entity/physical component pair may be associated with one alias mapping. The logical entity index may also be used as a wildcard. (Refer to *entAliasLogicalIndexOrZero* on page 6-23 for details.)

Note that only entPhysicalIndex values that represent physical ports (that is, associated entPhysicalClass value is "port(10)") are permitted to exist in this table.

Index entPhysicalIndex
entAliasLogicalIndexOrZero

entAliasLogicalIndexOrZero

OID 1.3.6.1.2.1.47.1.3.2.1.1

Description The value of this object identifies the logical entity that defines the naming scope for the associated instance of the entAliasMappingIdentifier object.

If this object has a non-zero value, then it identifies the logical entity named by the same value of entLogicalIndex.

If this object has a value of zero, then the mapping between the physical component and the alias identifier for this entAliasMapping entry is associated with all unspecified logical entities. That is, a value of zero (the default mapping) identifies any logical entity that does not have an explicit entry in this table for a particular entPhysicalIndex/entAliasMappingIdentifier pair.

For example, to indicate that a particular interface (such as "physical component 33") is identified by the same value of ifIndex for all logical entities, the following instance might exist:

```
entAliasMappingIdentifier.33.0 = ifIndex.5
```

In the event an entPhysicalEntry is associated differently for some logical entities, additional entAliasMapping entries may exist, for example:

```
entAliasMappingIdentifier.33.0 = ifIndex.6

entAliasMappingIdentifier.33.4 = ifIndex.1

entAliasMappingIdentifier.33.5 = ifIndex.1

entAliasMappingIdentifier.33.10 = ifIndex.12
```

Note that entries with non-zero entAliasLogicalIndexOrZero index values have precedence over any zero-indexed entry. In this example, all logical entities except 4, 5, and 10 associate physical entity 33 with ifIndex.6.

entAliasMappingIdentifier

OID 1.3.6.1.2.1.47.1.3.2.1.2

Description The value of this object identifies a particular conceptual row associated with the indicated entPhysicalIndex and entLogicalIndex pair.

Since only physical ports are modeled in this table, only entries that represent interfaces or ports are allowed. If an ifEntry exists on behalf of a particular physical port, then this object should identify the associated ifEntry. For repeater ports, the appropriate row in the rptrPortGroupTable should be identified instead.

For example, suppose a physical port was represented by entPhysicalEntry.3, entLogicalEntry.15 existed for a repeater, and entLogicalEntry.22 existed for a bridge. Then there might be two related instances of entAliasMappingIdentifier:

```
entAliasMappingIdentifier.3.15 ==
  rptrPortGroupIndex.5.2

entAliasMappingIdentifier.3.22 == ifIndex.17
```

It is possible that other mappings (besides interfaces and repeater ports) may be defined in the future, as required.

Bridge ports are identified by examining the Bridge MIB and appropriate ifEntries associated with each dot1dBasePort, and are thus not represented in this table.

entPhysicalContainsTable

OID 1.3.6.1.2.1.47.1.3.3

Description A table that exposes the container/"containee" relationships between physical entities. This table provides all the information found by constructing the virtual containment tree for a given entPhysicalTable, but in a more direct format.

In the event a physical entity is contained by more than one other physical entity (for example, double-wide modules), this table should include these additional mappings, which cannot be represented in the entPhysicalTable virtual containment tree.

entPhysicalContainsEntry

OID 1.3.6.1.2.1.47.1.3.3.1

Description A single container/"containee" relationship.

Index entPhysicalIndex
entPhysicalChildIndex

entPhysicalChildIndex

OID 1.3.6.1.2.1.47.1.3.3.1.1

Description The value of entPhysicalIndex for the contained physical entity. Through this the containment hierarchy of the physical entities (Figure 6-1 on page 6-6) is displayed.

General Group

This section lists the entityGeneral MIB.

entLastChangeTime

OID 1.3.6.1.2.1.47.1.4.1

Description The value of sysUpTime at the time a conceptual row is created, modified, or deleted in any of the following tables:

- entPhysicalTable
- entLogicalTable
- entLPMappingTable
- entAliasMappingTable
- entPhysicalContainsTable

Entity MIB Trap

This section lists the entityMIBTrap objects.

entConfigChange

OID 1.3.6.1.2.1.47.2.0.1

Status Current

Description An entConfigChange notification is generated when the value of entLastChangeTime changes. It can be utilized by an NMS to trigger logical/physical entity table maintenance polls.

An agent should not generate more than one entConfigChange notification-event in a given time interval (five seconds is the suggested default). A notification-event is the transmission of a single trap or inform PDU to a list of notification destinations.

If additional configuration changes occur within the throttling period, then notification-events for these changes should be suppressed by the agent until the current throttling period expires. At the end of a throttling period, one notification-event should be generated if any configuration changes occurred since the start of the throttling period. In such a case, another throttling period is started right away.

An NMS should periodically check the value of entLastChangeTime to detect any missed entConfigChange notification-events, for example, due to throttling or transmission loss.

Entity MIB Conformance Information

This section lists the entityConformance MIBs.

entityCompliance

OID 1.3.6.1.2.1.47.3.1.1

Status Deprecated

Description The compliance statement for SNMP entities that implement version 1 of the Entity MIB.

Module This module

MANDATORY-GROUPS {
entityPhysicalGroup,
entityLogicalGroup,
entityMappingGroup,
entityGeneralGroup,
entityNotificationsGroup
}

entity2Compliance

OID 1.3.6.1.2.1.47.3.1.2

Status Current

Description The compliance statement for SNMP entities that implement version 2 of the Entity MIB.

Module This module

MANDATORY-GROUPS {
entityPhysicalGroup,
entityPhysical2Group,
entityGeneralGroup,
entityNotificationsGroup
}

Group entityLogical2Group

Description	Implementation of this group is not mandatory for agents that model all MIB object instances within a single naming scope.
Group	entityMappingGroup
Description	Implementation of the entPhysicalContainsTable is mandatory for all agents. Implementation of the entLPMappingTable and entAliasMappingTables are not mandatory for agents that model all MIB object instances within a single naming scope. Note that the entAliasMappingTable may be useful for all agents, however implementation of the entityLogicalGroup or entityLogical2Group is required to support this table.
Object	entPhysicalSerialNum
Access	Not-accessible
Description	Read and write access is not required for agents that cannot identify serial number information for physical entities, or cannot provide non-volatile storage for NMS-assigned serial numbers. Write access is not required for agents that can identify serial number information for physical entities, but cannot provide non-volatile storage for NMS-assigned serial numbers. Write access is not required for physical entities for which the associated value of the entPhysicalIsFRU object is equal to "false(2)".
Object	entPhysicalAlias
Access	Read-only
Description	Write access is required only if the associated entPhysicalClass value is equal to "chassis(3)".
Object	entPhysicalAssetID
Access	Not-accessible
Description	Read and write access is not required for agents that cannot provide non-volatile storage for NMS-assigned asset identifiers. Write access is not required for physical entities for which the associated value of entPhysicalIsFRU is equal to "false(2)".

entityPhysicalGroup

OID 1.3.6.1.2.1.47.3.2.1

Objects entPhysicalDescr,
entPhysicalVendorType,
entPhysicalContainedIn,
entPhysicalClass,
entPhysicalParentRelPos,
entPhysicalName

Status Current

Description The collection of objects that are used to represent physical system components, for which a single agent provides management information.

entityLogicalGroup

OID 1.3.6.1.2.1.47.3.2.2

Objects entLogicalDescr,
entLogicalType,
entLogicalCommunity,
entLogicalTAddress,
entLogicalTDomain

Status Deprecated

Description The collection of objects that are used to represent the list of logical entities for which a single agent provides management information.

entityMappingGroup

OID 1.3.6.1.2.1.47.3.2.3

Objects entLPPhysicalIndex,
entAliasMappingIdentifier,
entPhysicalChildIndex

Status Current

Description The collection of objects that are used to represent the associations between multiple logical entities, physical components, interfaces, and port identifiers for which a single agent provides management information.

entityGeneralGroup

OID 1.3.6.1.2.1.47.3.2.4

Objects entLastChangeTime

Status Current

Description The collection of objects that are used to represent general entity information for which a single agent provides management information.

entityNotificationsGroup

OID 1.3.6.1.2.1.47.3.2.5

Notifications entConfigChange

Status Current

Description The collection of notifications used to indicate Entity MIB data consistency and general status information.

entityPhysical2Group

OID 1.3.6.1.2.1.47.3.2.6

Objects entPhysicalHardwareRev,
entPhysicalFirmwareRev,
entPhysicalSoftwareRev,
entPhysicalSerialNum,
entPhysicalMfgName,
entPhysicalModelName,
entPhysicalAlias,
entPhysicalAssetID,
entPhysicalIsFRU

Status Current

Description The collection of objects that are used to represent physical system components, for which a single agent provides management information. This group augments the objects contained in the entityPhysicalGroup.

entityLogical2Group

OID 1.3.6.1.2.1.47.3.2.7

Objects entLogicalDescr,
entLogicalType,
entLogicalTAddress,
entLogicalTDomain,
entLogicalContextEngineID,
entLogicalContextName

Status Current

Description The collection of objects that are used to represent the list of logical entities for which a single SNMP entity provides management information.

7 High Availability MIB Object Types

This chapter contains descriptions and other information specific to High Availability MIB object types.

Overview

The HA-MIB provides information about the High Availability features of Fabric OS v4.*x*. This MIB is supported only in Fabric OS v4.1.

The HA-MIB has a dependency on the SW MIB. This dependency requires a management application to load the SNMP-FRAMEWORK MIB, then the SW MIB, followed by the Entity MIB before it can load the HA-MIB.

The descriptions of each of the MIB variables in this chapter come directly from the HA-MIB itself.

Table 7-1 lists the objects or definitions that are imported into the HA-MIB, and the modules from which they are imported.

Table 7-1 Objects Imported into the HA-MIB

Object	Imported from this module
MODULE-IDENTITY	SNMPv2-SMI
OBJECT-TYPE	
NOTIFICATION-TYPE	
TimeTicks	
Integer32	
IpAddress	
mib-2	
fibrechannel	SW-MIB
entPhysicalIndex	ENTITY-MIB
entPhysicalName	
DisplayString	SNMPv2-TC
TimeStamp	

Refer to Appendix G for the entire HA-MIB.

High Availability Group

This section describes the MIB objects in the High Availability group.

haStatus

OID 1.3.6.1.4.1.1588.2.1.2.1.1

Description Indicates whether the system is redundant. Possible values are:

redundant (0) — Dual CP with standby CP ready to take over.
nonredundant (1) — Single/Dual CP system with standby CP not available to take over.

FRU Table

fruTable

OID 1.3.6.1.4.1.1588.2.1.2.1.5

Description This table inventories the field replaceable unit (FRU) slots available. This table contains an entry for each entry in the entPhysicalTable that has entPhysicalClass set to "Container (5)" and has a child entry having entPhysicalIsFRU set to "true (1)".

fruEntry

OID 1.3.6.1.4.1.1588.2.1.2.1.5.1

Description An entry for FRU slot in the fruTable

Index entPhysicalIndex

fruClass

OID 1.3.6.1.4.1.1588.2.1.2.1.5.1.1

Description The type of the FRU object that this slot can hold. Possible values are:

other (1)
unknown (2)
chassis (3)
cp (4)
other-CP (5)
switchblade (6)
wwn (7)
powerSupply (8)
fan (9)

fruStatus

OID 1.3.6.1.4.1.1588.2.1.2.1.5.1.2

Description The current status of the FRU object in the slot. Possible values are:

other (1)
unknown (2)
on (3)
off (4)
faulty (5)

fruObjectNum

OID 1.3.6.1.4.1.1588.2.1.2.1.5.1.3

Description The slot number of the blade, and the unit number for everything else.

FRU History Table

fruHistoryTable

OID 1.3.6.1.4.1.1588.2.1.2.1.6

Description This table gives the contents of the entire history log of the FRU events.

fruHistoryEntry

OID 1.3.6.1.4.1.1588.2.1.2.1.6.1

Description An entry in this table represents a particular FRU event.

Index fruHistoryIndex

fruHistoryIndex

OID 1.3.6.1.4.1.1588.2.1.2.1.6.1.1

Description Index of the FRU event in the history table.

fruHistoryClass

OID 1.3.6.1.4.1.1588.2.1.2.1.6.1.2

Description The type of the FRU object related to the event. Possible values are:

other (1)
unknown (2)
chassis (3)
cp (4)
other-CP (5)
switchblade (6)
wwn (7)
powerSupply (8)
fan (9)

fruHistoryObjectNum

OID 1.3.6.1.4.1.1588.2.1.2.1.6.1.3

Description The slot number of the blade, and the unit number for everything else.

fruHistoryEvent

OID 1.3.6.1.4.1.1588.2.1.2.1.6.1.4

Description The type of the FRU event. Possible values are:

added (1)
removed (2)
invalid (3)

fruHistoryTime

OID 1.3.6.1.4.1.1588.2.1.2.1.6.1.5

Description The time at which this event happened.

fruHistoryPartNum

OID 1.3.6.1.4.1.1588.2.1.2.1.6.1.6

Description The EMC part number of the FRU object.

fruHistorySerialNum

OID 1.3.6.1.4.1.1588.2.1.2.1.6.1.7

Description The EMC serial number of the FRU object.

Control Processor (CP) Table

cpTable

OID 1.3.6.1.4.1.1588.2.1.2.1.7

Description This table lists all the Control Processors (CPs) in the system.

cpEntry

OID 1.3.6.1.4.1.1588.2.1.2.1.7.1

Description An entry represents a single CP in the system.

Index entPhysicalIndex

cpStatus

OID 1.3.6.1.4.1.1588.2.1.2.1.7.1.1

Description The current status of the CP. Possible values are:

other (1)
unknown (2)
active (3)
standby (4)
failed (5)

cpIpAddress

OID 1.3.6.1.4.1.1588.2.1.2.1.7.1.2

Description The IP Address of the Ethernet interface of this CP.

cpIpMask

OID 1.3.6.1.4.1.1588.2.1.2.1.7.1.3

Description The IP Mask of the Ethernet interface of this CP.

cpIpGateway

OID 1.3.6.1.4.1.1588.2.1.2.1.7.1.4

Description The IP Address of the IP Gateway for this CP.

cpLastEvent

OID 1.3.6.1.4.1.1588.2.1.2.1.7.1.5

Description The last event related to this CP. Possible values are:

haSync (1) — HA state on both is in sync;
haOutSync (2) — HA state on both is out of sync
cpFaulty (3)
cpHealthy (4)
configChange (5)
failOverStart (6)
failOverDone (7)
firmwareCommit (8)
firmwareUpgrade (9)
other (10)
unknown (11)

haMIBTraps

This section lists the HA-MIB traps.

fruStatusChanged

OID 1.3.6.1.4.1.1588.2.1.2.2.0.1

Objects
entPhysicalName
fruStatus

Status Current

Description This trap is sent when the status of any FRU object changes.

cpStatusChanged

OID 1.3.6.1.4.1.1588.2.1.2.2.0.2

Objects
cpStatus
cpLastEvent
swID
swSsn

Status Current

Description This trap is sent when status of any CP object changes.

The cpLastEvent variable provides the information about the event that occurred.

fruHistoryTrap

OID 1.3.6.1.4.1.1588.2.1.2.2.0.3

Objects
fruHistoryClass
fruHistoryObjectNum
fruHistoryEvent
fruHistoryTime
fruHistoryPartNum
fruHistorySerialNum

Status Current

Description This trap is sent when a FRU is added or removed.

A

MIB Functional Groupings

This appendix provides a function-based listing of MIB objects and the correlation of various objects to a particular function.

Variables

Switch Variables

MIB variables that assist in monitoring or modifying the status/state of switches are in the following tables or groups:

- *Connectivity Unit Table* on page 3-9
- *Connectivity Unit Revisions Table* on page 3-20
- *fcFabric Element Module Table* on page 4-11
- *Flash Administration* on page 5-19

Sensor Variables

MIB variables that assist in monitoring or modifying the status/state of fans, power supply, and temperature are in the following tables or groups:

- *Connectivity Unit Sensor Table* on page 3-22
- *swNumSensors* on page 5-23

Port Variables

MIB variables that assist in monitoring or modifying ports are in the following tables or groups:

- Variables for state and status
  - *Connectivity Unit Port Table* on page 3-26
  - *FxPort Table* on page 4-14
  - *FxPort Status Table* on page 4-20
  - *FxPort Physical Level Table* on page 4-22
  - *FxPort Capability Table* on page 4-41
  - *The Fibre Channel Port Group* on page 5-35
- Variables for statistics and measurement
  - *Connectivity Unit Port Statistics Fabric Table* on page 3-72

    EMC does not support fabric statistics.
  - *FxPort Error Table* on page 4-28

Event Variables

MIB variables that assist in monitoring or modifying events are in the following tables or groups:

- *Connectivity Unit Event Table* on page 3-37
- *Event Group* on page 5-49

ISL and End Device Variables

MIB variables that assist in monitoring or modifying ISL and end devices are in the following tables or groups:

- ISL variables
  - *Connectivity Unit Link Table* on page 3-41
  - *Fabric Group* on page 5-27
- End device variables
  - *Connectivity Unit Link Table* on page 3-41
  - *FxPort Fabric Login Table* on page 4-24
  - *The Name Server Database Group* on page 5-45

SNMP Configuration Variables

MIB variables that assist in configuring SNMP are in the following tables or groups:

- *SNMP Trap Registration Table* on page 3-68
- *SW Agent Configuration Group* on page 5-33
- *Connectivity Unit Link Table* on page 3-41

ASIC Variables

MIB variables that assist in performance monitoring and Trunking for the Bloom chip are in the following tables or groups:

- *ASIC Performance Monitoring Group* on page 5-69
- *ASIC Performance End-to-End Monitoring Table* on page 5-71
- *ASIC Performance Filter-Based Monitoring Table* on page 5-73
- *Trunking Group and Trunking Table* on page 5-75
- *Trunking Group Table* on page 5-77

B

MIB OIDs and Their Matching Object Names

This appendix provides a listing of the v4.1 MIB object names and the corresponding MIB Object ID (OID) associated with each.

MIB OIDs

The following matrix allows you to identify a MIB object name according to its related OID. Reference pages are listed where more information exists.

MIB Object Name	OID	Reference Page
iso	1	
org	1.3	
dod	1.3.6	
internet	1.3.6.1	
directory	1.3.6.1.1	
mgmt	1.3.6.1.2	
mib_2	1.3.6.1.2.1	
entityMIB	1.3.6.1.2.1.47	Page 6-1
entPhysicalTable	1.3.6.1.2.1.47.1.1.1	Page 6-6
entPhysicalEntry	1.3.6.1.2.1.47.1.1.1.1	Page 6-6
entPhysicalIndex	1.3.6.1.2.1.47.1.1.1.1.1	Page 6-7
entPhysicalDescr	1.3.6.1.2.1.47.1.1.1.1.2	Page 6-7
entPhysicalVendorType	1.3.6.1.2.1.47.1.1.1.1.3	Page 6-7
entPhysicalContainedIn	1.3.6.1.2.1.47.1.1.1.1.4	Page 6-8
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swNsPortSymb	1.3.6.1.4.1.1588.2.1.1.1.7.2.1.5	Page 5-46
swNsNodeName	1.3.6.1.4.1.1588.2.1.1.1.7.2.1.6	Page 5-46
swNsNodeSymb	1.3.6.1.4.1.1588.2.1.1.1.7.2.1.7	Page 5-47
swNsIPA	1.3.6.1.4.1.1588.2.1.1.1.7.2.1.8	Page 5-47

MIB Object Name	OID	Reference Page
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swNsCos	1.3.6.1.4.1.1588.2.1.1.1.7.2.1.10	Page 5-47
swNsFc4	1.3.6.1.4.1.1588.2.1.1.1.7.2.1.11	Page 5-47
swNsIpNxPort	1.3.6.1.4.1.1588.2.1.1.1.7.2.1.12	Page 5-48
swNsWwn	1.3.6.1.4.1.1588.2.1.1.1.7.2.1.13	Page 5-48
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swFwDefaultLow	1.3.6.1.4.1.1588.2.1.1.1.10.2.1.5	Page 5-54
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MIB Object Name	OID	Reference Page
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swFwCustLow	1.3.6.1.4.1.1588.2.1.1.1.10.2.1.10	Page 5-55
swFwCustHigh	1.3.6.1.4.1.1588.2.1.1.1.10.2.1.11	Page 5-55
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swFwDefaultInBetweenActs	1.3.6.1.4.1.1588.2.1.1.1.10.2.1.19	Page 5-58
swFwCustChangedActs	1.3.6.1.4.1.1588.2.1.1.1.10.2.1.20	Page 5-58
swFwCustExceededActs	1.3.6.1.4.1.1588.2.1.1.1.10.2.1.21	Page 5-58
swFwCustBelowActs	1.3.6.1.4.1.1588.2.1.1.1.10.2.1.22	Page 5-58
swFwCustAboveActs	1.3.6.1.4.1.1588.2.1.1.1.10.2.1.23	Page 5-58
swFwCustInBetweenActs	1.3.6.1.4.1.1588.2.1.1.1.10.2.1.24	Page 5-59
swFwValidActs	1.3.6.1.4.1.1588.2.1.1.1.10.2.1.25	Page 5-59
swFwActLevel	1.3.6.1.4.1.1588.2.1.1.1.10.2.1.26	Page 5-59
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swFwThresholdEntry	1.3.6.1.4.1.1588.2.1.1.1.10.3.1	Page 5-60
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swFwName	1.3.6.1.4.1.1588.2.1.1.1.10.3.1.3	Page 5-61
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swFwLastEventVal	1.3.6.1.4.1.1588.2.1.1.1.10.3.1.7	Page 5-64
swFwLastEventTime	1.3.6.1.4.1.1588.2.1.1.1.10.3.1.8	Page 5-64
swFwLastState	1.3.6.1.4.1.1588.2.1.1.1.10.3.1.9	Page 5-64
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swFwBehaviorInt	1.3.6.1.4.1.1588.2.1.1.1.10.3.1.11	Page 5-65
swEndDevice	1.3.6.1.4.1.1588.2.1.1.1.21	Page 5-66
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swEndDeviceSigLoss	1.3.6.1.4.1.1588.2.1.1.1.21.1.1.6	Page 5-67
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swEndDeviceInvalidCRC	1.3.6.1.4.1.1588.2.1.1.1.21.1.1.9	Page 5-68
swBlmPerfMnt	1.3.6.1.4.1.1588.2.1.1.1.23	Page 5-69
swBlmPerfALPAMntTable	1.3.6.1.4.1.1588.2.1.1.1.23.1	Page 5-69
swBlmPerfALPAMntEntry	1.3.6.1.4.1.1588.2.1.1.1.23.1.1	Page 5-69
swBlmPerfAlpaPort	1.3.6.1.4.1.1588.2.1.1.1.23.1.1.1	Page 5-69
swBlmPerfAlpaIndx	1.3.6.1.4.1.1588.2.1.1.1.23.1.1.2	Page 5-69
swBlmPerfAlpa	1.3.6.1.4.1.1588.2.1.1.1.23.1.1.3	Page 5-69
swBlmPerfAlpaCRCCnt	1.3.6.1.4.1.1588.2.1.1.1.23.1.1.4	Page 5-70

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swBlmPerfEEMntEntry	1.3.6.1.4.1.1588.2.1.1.1.23.2.1	Page 5-71
swBlmPerfEEPort	1.3.6.1.4.1.1588.2.1.1.1.23.2.1.1	Page 5-71
swBlmPerfEERefKey	1.3.6.1.4.1.1588.2.1.1.1.23.2.1.2	Page 5-71
swBlmPerfEECRC	1.3.6.1.4.1.1588.2.1.1.1.23.2.1.3	Page 5-71
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swBlmPerfEEFCWTx	1.3.6.1.4.1.1588.2.1.1.1.23.2.1.5	Page 5-72
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swBlmPerfFltMntTable	1.3.6.1.4.1.1588.2.1.1.1.23.3	Page 5-73
swBlmPerfFltMntEntry	1.3.6.1.4.1.1588.2.1.1.1.23.3.1	Page 5-73
swBlmPerfFltPort	1.3.6.1.4.1.1588.2.1.1.1.23.3.1.1	Page 5-73
swBlmPerfFltRefkey	1.3.6.1.4.1.1588.2.1.1.1.23.3.1.2	Page 5-73
swBlmPerfFltCnt	1.3.6.1.4.1.1588.2.1.1.1.23.3.1.3	Page 5-73
swBlmPerfFltAlias	1.3.6.1.4.1.1588.2.1.1.1.23.3.1.4	Page 5-74
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swTrunkTable	1.3.6.1.4.1.1588.2.1.1.1.24.2	Page 5-75
swTrunkEntry	1.3.6.1.4.1.1588.2.1.1.1.24.2.1	Page 5-75
swTrunkPortIndex	1.3.6.1.4.1.1588.2.1.1.1.24.2.1.1	Page 5-75
swTrunkGroupNumber	1.3.6.1.4.1.1588.2.1.1.1.24.2.1.2	Page 5-76
swTrunkMaster	1.3.6.1.4.1.1588.2.1.1.1.24.2.1.3	Page 5-76
swPortTrunked	1.3.6.1.4.1.1588.2.1.1.1.24.2.1.4	Page 5-76
swTrunkGrpTable	1.3.6.1.4.1.1588.2.1.1.1.24.3	Page 5-77
swTrunkGrpEntry	1.3.6.1.4.1.1588.2.1.1.1.24.3.1	Page 5-77
swTrunkGrpNumber	1.3.6.1.4.1.1588.2.1.1.1.24.3.1.1	Page 5-77

MIB Object Name	OID	Reference Page
swTrunkGrpMaster	1.3.6.1.4.1.1588.2.1.1.1.24.3.1.2	Page 5-77
swTrunkGrpTx	1.3.6.1.4.1.1588.2.1.1.1.24.3.1.3	Page 5-77
swTrunkGrpRx	1.3.6.1.4.1.1588.2.1.1.1.24.3.1.4	Page 5-78
sw28k	1.3.6.1.4.1.1588.2.1.1.2	Page 5-2
sw21kN24k	1.3.6.1.4.1.1588.2.1.1.3	Page 5-2
sw20x0	1.3.6.1.4.1.1588.2.1.1.4	Page 5-2
haMIB	1.3.6.1.4.1.1588.2.1.2	Page 7-3
haStatus	1.3.6.1.4.1.1588.2.1.2.1.1	Page 7-3
fruTable	1.3.6.1.4.1.1588.2.1.2.1.5	Page 7-4
fruEntry	1.3.6.1.4.1.1588.2.1.2.1.5.1	Page 7-4
fruClass	1.3.6.1.4.1.1588.2.1.2.1.5.1.1	Page 7-4
fruStatus	1.3.6.1.4.1.1588.2.1.2.1.5.1.2	Page 7-5
fruObjectNum	1.3.6.1.4.1.1588.2.1.2.1.5.1.3	Page 7-5
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fruHistoryObjectNum	1.3.6.1.4.1.1588.2.1.2.1.6.1.3	Page 7-7
fruHistoryEvent	1.3.6.1.4.1.1588.2.1.2.1.6.1.4	Page 7-7
fruHistoryTime	1.3.6.1.4.1.1588.2.1.2.1.6.1.5	Page 7-7
fruHistoryPartNum	1.3.6.1.4.1.1588.2.1.2.1.6.1.6	Page 7-7
fruHistorySerialNum	1.3.6.1.4.1.1588.2.1.2.1.6.1.7	Page 7-7
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cpEntry	1.3.6.1.4.1.1588.2.1.2.1.7.1	Page 7-8
cpStatus	1.3.6.1.4.1.1588.2.1.2.1.7.1.1	Page 7-8
cpIpAddress	1.3.6.1.4.1.1588.2.1.2.1.7.1.2	Page 7-8

MIB Object Name	OID	Reference Page
cpIpMask	1.3.6.1.4.1.1588.2.1.2.1.7.1.3	Page 7-8
cpIpGateway	1.3.6.1.4.1.1588.2.1.2.1.7.1.4	Page 7-9
cpLastEvent	1.3.6.1.4.1.1588.2.1.2.1.7.1.5	Page 7-9
fruStatusChanged	1.3.6.1.4.1.1588.2.1.2.2.0.1	Page 7-10
cpStatusChanged	1.3.6.1.4.1.1588.2.1.2.2.0.2	Page 7-10
fruHistoryTrap	1.3.6.1.4.1.1588.2.1.2.2.0.3	Page 7-10

C

FA-MIB

This appendix contains the FA-MIB v.4.

FA-MIB

```
Title: Fibre Alliance Fibre Channel Management Framework Integration
   MIB
--   Rev 1.5, June 1, 1999.
--
-- Note: This is released for Brocade FOS 2.3
--
-- added FA MIB Version 3.0 last edited on Dec. 18, 2000.

FCMGMT-MIB
-- Last edit date: Nov 10th, 1999
DEFINITIONS ::= BEGIN
  IMPORTS
    IpAddress,  TimeTicks, experimental
        FROM RFC1155-SMI
    OBJECT-TYPE
        FROM RFC-1212
    DisplayString
        FROM RFC1213-MIB
    TRAP-TYPE
        FROM RFC-1215;

    --Textual conventions for this MIB

    FcNameId ::= OCTET STRING (SIZE(8))

    FcGlobalId ::= OCTET STRING (SIZE(16))

    FcAddressId ::= OCTET STRING (SIZE(3))

    FcEventSeverity  ::= INTEGER {
                unknown     (1),
            emergency(2),
            alert  (3),
            critical(4),
            error  (5),
            warning     (6),
            notify      (7),
            info   (8),
            debug  (9),
            mark   (10)-- All messages logged
           }

    FcUnitType ::= INTEGER {
                unknown(1),
                other(2), -- none of the following
                hub(3), -- passive connectivity unit
                        -- supporting loop protocol.
                switch(4), -- active connectivity unit
                        -- supporting multiple protocols.
```

```
                gateway(5), -- unit that converts not only
                        -- the interface but also encapsulates
                        -- the frame into another protocol. The
                        -- assumption is that there is always
                        -- two gateways connected together. For
                        -- example, FC <-> ATM.
                converter(6), -- unit that converts from one
                        -- interface to another. For
                        -- example, FC <-> SCSI.
                hba(7), -- host bus adapter
                proxy-agent(8), -- software proxy-agent
                storage-device(9), -- disk,cd,tape,etc
                host(10), -- host computer
                storage-subsystem(11), -- raid, library, etc
                module(12), -- subcomponent of a system
                swdriver(13), -- software driver
            storage-access-device(14), -- Provides storage management
                                    -- and access for hetergeneous
                                -- hosts and heterogeneous devices.
                wdm(15), -- waveform division mutiplexer
                ups(16) -- uninterruptable power supply
            }



-----------------------------------------------------------------------
   --
    fcmgmt    OBJECT IDENTIFIER ::= { experimental 94 }

    -- groups in fcmgmt

    connSet         OBJECT IDENTIFIER ::= { fcmgmt 1 }
    trapReg         OBJECT IDENTIFIER ::= { fcmgmt 2 }
    statSet         OBJECT IDENTIFIER ::= { fcmgmt 4 }
    connUnitServiceSet    OBJECT IDENTIFIER ::= { fcmgmt 5 }
    connUnitServiceScalars     OBJECT IDENTIFIER ::= {
  connUnitServiceSet 1 }
    connUnitServiceTables      OBJECT IDENTIFIER ::= {
  connUnitServiceSet 2 }

    revisionNumber OBJECT-TYPE
        SYNTAX DisplayString (SIZE (4))
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "This is the revision number for this MIB. The
            format of the revision value is as follows
                (0) = high order major revision number
                (1) = low order major revision number
```

```
                (2) = high order minor revision number
                (3) = low order minor revision number
            The value will be stored as an ASCII value. The
            following is the current value of this object.
                (0) = '0'
                (1) = '2'
                (2) = '2'
                (3) = '0'
            This defines a revision of 02.20
            "
        ::= { fcmgmt 3 }

    -- the connectivity unit group

    -- Implementation of the group is mandatory for all systems.

    uNumber OBJECT-TYPE
        SYNTAX INTEGER
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The number of connectivity units present on this
            system (represented by this agent). May be a count
            of the boards in a chassis or the number of full boxes
            in a rack."
        DEFVAL { 1 }
        ::= { connSet 1 }

    systemURL OBJECT-TYPE
        SYNTAX DisplayString
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The top-level URL of the system. If it does not exist
            the value is empty string. The URL format is
            implementation dependant and can have keywords embedded
            that are preceeded by a percent sign (eg, %USER).
            The following are the defined keywords that will
            be recognized and replaced with data during a launch.
                USER        - replace with username
                PASSWORD    - replace with password
                GLOBALID    - replace with globalid
                SERIALNO    - replace with serial number
            "
        DEFVAL { "" }
        ::= { connSet 2 }

    statusChangeTime OBJECT-TYPE
        SYNTAX TimeTicks
        ACCESS read-only
        STATUS obsolete
        DESCRIPTION
```

```
            "The sysuptime timestamp in centiseconds at which
            the last status change occurred for any members of
            the set."
        ::= { connSet 3 }

    configurationChangeTime OBJECT-TYPE
        SYNTAX TimeTicks
        ACCESS read-only
        STATUS obsolete
        DESCRIPTION
            "The sysuptime timestamp in centiseconds at which
            the last configuration change occurred for any
            members of the set. This represents a union of change
            information for connUnitConfigurationChangeTime."
        ::= { connSet 4 }

    connUnitTableChangeTime OBJECT-TYPE
        SYNTAX TimeTicks
        ACCESS read-only
        STATUS obsolete
        DESCRIPTION
            "The sysuptime timestamp in centiseconds at which
            the connUnitTable was updated (an entry was either
            added or deleted."
        ::= { connSet 5 }

    -- The Connectivity table contains general information on the
    -- system's units.
    connUnitTable OBJECT-TYPE
        SYNTAX SEQUENCE OF ConnUnitEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            "A list of units under a single SNMP agent. The number
            of entries is given by the value of uNumber. It is 1
            for stand-alone system."
        ::= { connSet 6 }

    connUnitEntry OBJECT-TYPE
        SYNTAX ConnUnitEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            "A connectivity unit entry containing objects for a
             particular unit."
        INDEX { connUnitId }
        ::= { connUnitTable 1 }

        ConnUnitEntry ::=
            SEQUENCE {
                connUnitId
                    OCTET STRING,
```

```
connUnitGlobalId
    FcGlobalId,
connUnitType
    FcUnitType,
connUnitNumports
    INTEGER,
connUnitState
    INTEGER,
connUnitStatus
    INTEGER,
connUnitProduct
    DisplayString,
connUnitSn
    DisplayString,
connUnitUpTime
    TimeTicks,
connUnitUrl
    DisplayString,
connUnitDomainId
    OCTET STRING,
connUnitProxyMaster
    INTEGER,
connUnitPrincipal
    INTEGER,
connUnitNumSensors
    INTEGER,
connUnitStatusChangeTime
    TimeTicks,
connUnitConfigurationChangeTime
    TimeTicks,
connUnitNumRevs
    INTEGER,
connUnitNumZones
    INTEGER,
connUnitModuleId
    OCTET STRING,
connUnitName
    DisplayString,
connUnitInfo
    DisplayString,
connUnitControl
    INTEGER,
connUnitContact
    DisplayString,
connUnitLocation
    DisplayString,
connUnitEventFilter
    FcEventSeverity,
connUnitNumEvents
    INTEGER,
connUnitMaxEvents
    INTEGER,
```

```
                connUnitEventCurrID
                    INTEGER
            }

        connUnitId OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (16))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
             "The unique identification for this connectivity unit
             among those within this proxy domain.
             The value MUST be unique within the proxy domain
             because it is the index variable for connUnitTable.
             The value assigned to a given conectivity unit
             SHOULD be persistent across agent and unit resets.
             It SHOULD be the same as connUnitGlobalId
             if connUnitGlobalId is known and stable."
                ::= { connUnitEntry 1 }

        connUnitGlobalId OBJECT-TYPE
            SYNTAX FcGlobalId
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
             "An optional global-scope identifier for this connectivity
unit.
             It MUST be a WWN for this connectivity unit
             or 16 octets of value zero.
             WWN formats requiring fewer than 16 octets
             MUST be extended to 16 octets with trailing zero octets,
             If a WWN is used for connUnitId,
             the same WWN MUST be used for connUnitGlobalId.
             When a non-zero value is provided,
             it SHOULD be persistent across agent and unit resets.
             It SHOULD be globally unique.
             It SHOULD be one of these FC-PH/PH3 formats:
                IEEE (NAA=1)
                IEEE Extended (NAA=2)
                IEEE Registered (NAA=5).
                IEEE Registered extended (NAA=6).

             Use of the IEEE formats allows any IEEE-registered vendor
             to assure global uniqueness independently.
             The following are some references on IEEE WWN formats:

http://standards.ieee.org/regauth/oui/tutorials/fibreformat.html

http://standards.ieee.org/regauth/oui/tutorials/fibrecomp_id.html

             If one or more WWNs are associated with the connUnit
             via other management methods,
```

```
    one of them SHOULD be used for connUnitGlobalId.
    If there is not a WWN assigned specifically to the connUnit,
    there is some merit, though not a requirement,
    to using a WWN assigned to (one of)
    its permanently attached FC/LAN interface(s).
    This can not risk uniqueness, though.
    As a counterexample, if your
    agent runs in a host and the host has an HBA,
    it is quite possible that agent, host, and HBA
    will all be distinct connUnits, so the host
    and agent can not use the WWN of the HBA.
    Another example:
    If your hub has a built-in Ethernet port, it
    might be reasonable for the hub to use its LAN
    address (prefixed with the appropriate
    NAA) as its connUnitId. But if the
    Ethernet were a replaceable PCCard, the hub
    should have an independent ID."
       ::= { connUnitEntry 2 }

connUnitType OBJECT-TYPE
    SYNTAX FcUnitType
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The type of this connectivity unit."
    ::= { connUnitEntry 3 }


connUnitNumports OBJECT-TYPE
    SYNTAX INTEGER
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "Number of physical ports in the connectivity unit
        (internal/embedded, external)."
    ::= { connUnitEntry 4 }

connUnitState OBJECT-TYPE
    SYNTAX INTEGER {
        unknown(1),
        online(2),
        offline(3)
    }
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "Overall state of the connectivity unit."
    ::= { connUnitEntry 5 }

connUnitStatus OBJECT-TYPE
    SYNTAX INTEGER {
```

```
            unknown(1),
            unused(2),
            ok(3),
            warning(4), -- needs attention
            failed(5)
        }
        ACCESS read-only
        STATUS mandatory

        DESCRIPTION
            "Overall status of the connectivity unit."
        ::= { connUnitEntry 6 }

    connUnitProduct OBJECT-TYPE
        SYNTAX DisplayString (SIZE (0..79))
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The connectivity unit vendor's product
            model name."
        ::= { connUnitEntry 7 }

    connUnitSn OBJECT-TYPE
        SYNTAX DisplayString (SIZE (0..79))
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The serial number for this connectivity unit."
        ::= { connUnitEntry 8 }

    connUnitUpTime OBJECT-TYPE
        SYNTAX TimeTicks
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The number of centiseconds since the
            last unit initialization."
        ::= { connUnitEntry 9 }

    connUnitUrl OBJECT-TYPE
        SYNTAX DisplayString
        ACCESS read-write
        STATUS mandatory
        DESCRIPTION
            "URL to launch a management application,
            if applicable. Otherwise empty string.
            In a standalone unit, this would be the
            same as the top-level URL. This has the same
      definition as systemURL for keywords."
        ::= { connUnitEntry 10 }

    connUnitDomainId OBJECT-TYPE
```

```
        SYNTAX OCTET STRING (SIZE(3))
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "24 bit Fibre Channel address ID of this
            connectivity unit, right justified with leading
            zero's if required. This should be set to the
            Fibre Channel address ID or if it is a switch
            it would be set to the Domain Controller address.
            If this value is not applicable,
            return all bits set to one."
        ::= { connUnitEntry 11 }

    connUnitProxyMaster OBJECT-TYPE
        SYNTAX INTEGER {
            unknown(1),
            no(2),
            yes(3)
        }
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "A value of 'yes' means this is the proxy master
            unit for a set of managed units. For example,
            this could be the only unit with a management
            card in it for a set of units. A standalone unit
            should return 'yes' for this object."
        ::= { connUnitEntry 12 }

    connUnitPrincipal OBJECT-TYPE
        SYNTAX INTEGER {
            unknown(1),
            no(2),
            yes(3)
        }
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "Whether this connectivity unit is the principal unit
            within the group of fabric elements. If this value
            is not applicable, return unknown."
        ::= { connUnitEntry 13 }

    connUnitNumSensors OBJECT-TYPE
        SYNTAX INTEGER
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "Number of sensors in the connUnitSensorTable."
        ::= { connUnitEntry 14 }

    connUnitStatusChangeTime OBJECT-TYPE
```

```
        SYNTAX TimeTicks
        ACCESS read-only
        STATUS obsolete
        DESCRIPTION
            "The sysuptime timestamp in centiseconds
            at which the last status change occurred."
        ::= { connUnitEntry 15 }

    connUnitConfigurationChangeTime OBJECT-TYPE
        SYNTAX TimeTicks
        ACCESS read-only
        STATUS obsolete
        DESCRIPTION
            "The sysuptime timestamp in centiseconds
            at which the last configuration change
            occurred."
        ::= { connUnitEntry 16 }

    connUnitNumRevs OBJECT-TYPE
        SYNTAX INTEGER
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The number of revisions in the connUnitRevsTable."
        DEFVAL { 1 }
        ::= { connUnitEntry 17 }

    connUnitNumZones OBJECT-TYPE
        SYNTAX INTEGER
        ACCESS read-only
        STATUS obsolete
        DESCRIPTION
            "Number of zones defined in connUnitZoneTable."
        ::= { connUnitEntry 18 }

    connUnitModuleId OBJECT-TYPE
        SYNTAX OCTET STRING (SIZE(16))
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "This is a unique id, persistent between boots,
            that can be used to group a set of connUnits
            together into a module. The intended use would
            be to create a connUnit with a connUnitType of
            'module' to represent a physical or logical
      group of connectivity units. Then the value
      of the group would be set to the value of
            connUnitId for this 'container' connUnit.
            connUnitModuleId should be zeros if this
            connUnit is not part of a module."
        ::= { connUnitEntry 19 }
```

```
connUnitName OBJECT-TYPE
    SYNTAX DisplayString (SIZE(0..79))
    ACCESS read-write
    STATUS mandatory
    DESCRIPTION
        "A display string containing a name for this
        connectivity unit.  This object value should be
        persistent between boots."
    ::= { connUnitEntry 20 }

connUnitInfo OBJECT-TYPE
    SYNTAX DisplayString
    ACCESS read-write
    STATUS mandatory
    DESCRIPTION
        "A display string containing information
        about this connectivity unit. This object value
        should be persistent between boots."
    ::= { connUnitEntry 21 }

connUnitControl OBJECT-TYPE
    SYNTAX INTEGER {
        unknown(1),
        invalid(2),
        resetConnUnitColdStart(3),
        resetConnUnitWarmStart(4),
        offlineConnUnit(5),
        onlineConnUnit(6)
    }
    ACCESS read-write
    STATUS mandatory
    DESCRIPTION
        "This object is used to control the addressed
        connUnit.

        NOTE: 'Cold Start' and 'Warm Start'
        are as defined in MIB II and are not meant
        to be a factory reset.

        resetConnUnitColdStart:
            the addressed unit performs
            a 'Cold Start' reset.

        resetConnUnitWarmStart:
            the addressed unit performs
            a 'Warm Start' reset.

        offlineConnUnit:
            the addressed unit puts itself into
            an implementation dependant 'offline' state.
            In general,if a unit is in an offline state,
```

```
                it cannot be used to perform meaningful
                Fibre Channel work.

            onlineConnUnit:
                the addressed unit puts itself into an
                implementation dependant 'online' state.
                In general, if a unit is in an online state,
                it is capable of performing meaningful
                Fibre Channel work.

            NOTE: Each implementation may chose not to allow
            any or all of these values on a SET. "

        ::= { connUnitEntry 22 }

    connUnitContact OBJECT-TYPE
        SYNTAX DisplayString (SIZE (0..79))
        ACCESS read-write
        STATUS mandatory
        DESCRIPTION
            "Contact information for this connectivity
            unit."
        ::= { connUnitEntry 23 }

    connUnitLocation OBJECT-TYPE
        SYNTAX DisplayString (SIZE (0..79))
        ACCESS read-write
        STATUS mandatory
        DESCRIPTION
            "Location information for this connectivity
            unit."
        ::= { connUnitEntry 24 }

    connUnitEventFilter OBJECT-TYPE
        SYNTAX FcEventSeverity
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "This value defines the event severity
            that will be logged by this connectivity unit.
            All events of severity less than or equal to
          connUnitEventFilter are logged in connUnitEventTable."
        ::= { connUnitEntry 25 }

    connUnitNumEvents OBJECT-TYPE
        SYNTAX INTEGER
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "Number of events currently in the
            connUnitEventTable."
        ::= { connUnitEntry 26 }
```

```
        connUnitMaxEvents OBJECT-TYPE
            SYNTAX INTEGER
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "Max number of events that can be defined
                in connUnitEventTable."
            ::= { connUnitEntry 27 }

        connUnitEventCurrID OBJECT-TYPE
            SYNTAX INTEGER
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The last used event id (connUnitEventId)."
            ::= { connUnitEntry 28 }


-- ------------------------------------------------------------------
-- The Table of revisions for hardware and software elements.

    connUnitRevsTable OBJECT-TYPE
        SYNTAX SEQUENCE OF ConnUnitRevsEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            "Table of the revisions supported by
            connectivity units managed by this agent."
        ::= { connSet 7 }

    connUnitRevsEntry OBJECT-TYPE
        SYNTAX ConnUnitRevsEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            ""
        INDEX { connUnitRevsUnitId,
            connUnitRevsIndex }
            ::= { connUnitRevsTable 1 }

        ConnUnitRevsEntry ::=
            SEQUENCE {
                connUnitRevsUnitId
                    OCTET STRING,
                connUnitRevsIndex
                    INTEGER,
                connUnitRevsRevId
                    DisplayString,
                connUnitRevsDescription
                    DisplayString           }
```

```
        connUnitRevsUnitId OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (16))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The connUnitId of the connectivity unit
                that contains this revision table."
            ::= { connUnitRevsEntry 1 }

        connUnitRevsIndex OBJECT-TYPE
            SYNTAX INTEGER (1..2147483647)
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "A unique value among all connUnitRevsEntrys
                with the same value of connUnitRevsUnitId,
                in the range between 1 and
                connUnitNumRevs[connUnitRevsUnitId]."
            ::= { connUnitRevsEntry 2 }

        connUnitRevsRevId OBJECT-TYPE
            SYNTAX DisplayString
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "A vendor-specific string identifying a
                revision of a component of the connUnit
                indexed by connUnitRevsUnitId."
            ::= { connUnitRevsEntry 3 }

        connUnitRevsDescription OBJECT-TYPE
            SYNTAX DisplayString
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "Description of a component to which the revision
                corresponds."
            ::= { connUnitRevsEntry 4 }

-- ---------------------------------------------------------------------
   ---
--     The Sensor table

    connUnitSensorTable OBJECT-TYPE
        SYNTAX SEQUENCE OF ConnUnitSensorEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            "Table of the sensors supported by each
            connectivity unit managed by this agent."
        ::= { connSet 8 }
```

```
connUnitSensorEntry OBJECT-TYPE
    SYNTAX ConnUnitSensorEntry
    ACCESS not-accessible
    STATUS mandatory
    DESCRIPTION
        "Each entry contains the information for a
        specific sensor."
    INDEX { connUnitSensorUnitId,
        connUnitSensorIndex }
        ::= { connUnitSensorTable 1 }

    ConnUnitSensorEntry ::=
        SEQUENCE {
            connUnitSensorUnitId
               OCTET STRING,
            connUnitSensorIndex
                INTEGER (1..2147483647),
            connUnitSensorName
                DisplayString,
            connUnitSensorStatus
                INTEGER,
            connUnitSensorInfo
                DisplayString,
            connUnitSensorMessage
                DisplayString,
            connUnitSensorType
                INTEGER,
            connUnitSensorCharacteristic
                INTEGER
        }

    connUnitSensorUnitId OBJECT-TYPE
        SYNTAX OCTET STRING (SIZE (16))
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The connUnitId of the connectivity unit
            that contains this sensor table."
        ::= { connUnitSensorEntry 1 }

    connUnitSensorIndex OBJECT-TYPE
        SYNTAX INTEGER (1..2147483647)
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "A unique value among all connUnitSensorEntrys
            with the same value of connUnitSensorUnitId,
            in the range between 1 and
            connUnitNumSensor[connUnitSensorUnitId]."
        ::= { connUnitSensorEntry 2}

    connUnitSensorName OBJECT-TYPE
```

```
        SYNTAX DisplayString
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "A textual identification of the sensor
      intended primarily for operator use."
        ::= { connUnitSensorEntry 3 }

    connUnitSensorStatus OBJECT-TYPE
        SYNTAX INTEGER {
            unknown(1),
      other(2),
            ok(3),       -- the sensor indicates ok
            warning(4),  -- the sensor indicates a warning
            failed(5)    -- the sensor indicates failure
        }
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The status indicated by the sensor."
        ::= { connUnitSensorEntry 4 }

    connUnitSensorInfo OBJECT-TYPE
        SYNTAX DisplayString
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "Miscellaneous static info about the sensor
            such as its serial number."
        ::= { connUnitSensorEntry 5 }

    connUnitSensorMessage OBJECT-TYPE
        SYNTAX DisplayString
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "This describes the status of the sensor
            as a message. It may also provide more
            resolution on the sensor indication, for
            example 'Cover temperature 1503K, above
            nominal operating range'"
        ::= { connUnitSensorEntry 6 }

    connUnitSensorType OBJECT-TYPE
        SYNTAX INTEGER {
            unknown(1),
            other(2),
            battery(3),
            fan(4),
            power-supply(5),
            transmitter(6),
            enclosure(7),
```

```
                    board(8),
                    receiver(9)
                }
                ACCESS read-only
                STATUS mandatory
                DESCRIPTION
                    "The type of component being monitored by this
                    sensor."
                ::= { connUnitSensorEntry 7 }

            connUnitSensorCharacteristic OBJECT-TYPE
                SYNTAX INTEGER {
                    unknown(1),
                    other(2),
                    temperature(3),
                    pressure(4),
                    emf(5),
                    currentValue(6), -- current is a keyword
                    airflow(7),
                    frequency(8),
                    power(9),
                    door(10)
                }
                ACCESS read-only
                STATUS mandatory
                DESCRIPTION
                    "The characteristics being monitored by this
                    sensor."
                ::= { connUnitSensorEntry 8 }

-----------------------------------------------------------------------
   ---
--    The port table

    connUnitPortTable OBJECT-TYPE
        SYNTAX SEQUENCE OF ConnUnitPortEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            "Generic information on ports for a specific
            connUnit."
        ::= { connSet 10 }

    connUnitPortEntry OBJECT-TYPE
        SYNTAX ConnUnitPortEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            "Each entry contains the information for
            a specific port."
        INDEX { connUnitPortUnitId,
            connUnitPortIndex }
```

```
        ::= { connUnitPortTable 1 }

    ConnUnitPortEntry ::=
        SEQUENCE {
            connUnitPortUnitId
                OCTET STRING,
            connUnitPortIndex
                INTEGER,
            connUnitPortType
                INTEGER,
            connUnitPortFCClassCap
                OCTET STRING,
            connUnitPortFCClassOp
                OCTET STRING,
            connUnitPortState
                INTEGER,
            connUnitPortStatus
                INTEGER,
            connUnitPortTransmitterType
                INTEGER,
            connUnitPortModuleType
                INTEGER,
            connUnitPortWwn
                FcNameId,
            connUnitPortFCId
                OCTET STRING,
            connUnitPortSn
                DisplayString,
            connUnitPortRevision
                DisplayString,
            connUnitPortVendor
                DisplayString,
            connUnitPortSpeed
                INTEGER,
            connUnitPortControl
                INTEGER,
            connUnitPortName
                DisplayString,
            connUnitPortPhysicalNumber
                INTEGER,
            connUnitPortStatObject
                OBJECT IDENTIFIER,
            connUnitPortProtocolCap
                OCTET STRING,
            connUnitPortProtocolOp
                OCTET STRING,
            connUnitPortNodeWwn
                FcNameId,
            connUnitPortHWState
                INTEGER
        }
```

```
connUnitPortUnitId OBJECT-TYPE
    SYNTAX OCTET STRING (SIZE (16))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The connUnitId of the connectivity unit
        that contains this port."
    ::= { connUnitPortEntry 1 }

connUnitPortIndex OBJECT-TYPE
    SYNTAX INTEGER (1..2147483647)
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "A unique value among all connUnitPortEntrys
        on this connectivity unit, between 0 and
        connUnitNumPort[connUnitPortUnitId]."
    ::= { connUnitPortEntry 2 }

connUnitPortType OBJECT-TYPE
    SYNTAX INTEGER {
        unknown       (1),
        other         (2),
        not-present   (3),
        hub-port      (4),
        n-port        (5),  -- end port for fabric
        l-port        (6),  -- end port for loop
        fl-port       (7),  -- public loop
        f-port        (8),  -- fabric port
        e-port        (9),  -- fabric expansion port
        g-port        (10), -- generic fabric port
        domain-ctl    (11), -- domain controller
        hub-controller(12),
        scsi          (13), -- parallel SCSI port
        escon         (14),
        lan           (15),
        wan           (16),
        ac            (17), -- AC power line
        dc            (18), -- DC power line
        ssa           (19) -- serial storage architecture
    }
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The port type."
    ::= { connUnitPortEntry 3 }

connUnitPortFCClassCap OBJECT-TYPE
    SYNTAX OCTET STRING (SIZE (2))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
```

```
                "Bit mask that specifies the classes
                of service capability of this port. If this is not
                applicable, return all bits set to zero.

                The bits have
                the following definition:
                    unknown      - 0
                    class-f      - 1
                    class-one    - 2
                    class-two    - 4
                    class-three  - 8
                    class-four   - 16
                    class-five   - 32
                    class-six    - 64"
            ::= { connUnitPortEntry 4 }

        connUnitPortFCClassOp OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (2))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "Bit mask that specifies the classes
                of service that are currently operational.
                If this is not applicable, return all bits
                set to zero.  This object has the same
                definition as connUnitPortFCClassCap"
            ::= { connUnitPortEntry 5 }

        connUnitPortState OBJECT-TYPE
            SYNTAX INTEGER {
                unknown(1),
                online(2), -- available for meaningful work
                offline(3), -- not available for meaningful work
                bypassed(4), -- no longer used (4/12/00)
                diagnostics(5)
            }
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The user selected state of the port hardware."
            ::= { connUnitPortEntry 6 }

        connUnitPortStatus OBJECT-TYPE
            SYNTAX INTEGER {
                unknown           (1),
              unused            (2), -- device cannot report this status
                ready             (3), -- FCAL Loop or FCPH Link reset
protocol
                                       -- initialization has completed
                warning           (4), -- do not use (4/12/00)
                failure           (5), -- do not use (4/12/00)
```

```
                notparticipating  (6), -- loop notparticipating and
does not
                                       -- have a loop address
                initializing      (7), -- protocol is proceeding
                bypass            (8), -- do not use (4/12/00)
                ols               (9)  -- FCP offline status
            }
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "An overall protocol status for the
                port. This value of connUnitPortState is not
                online, then this is reported Unknown."
            ::= { connUnitPortEntry 7 }

        connUnitPortTransmitterType OBJECT-TYPE
            SYNTAX INTEGER {
                unknown(1),
                other(2),
                unused(3),
                shortwave(4),
                longwave(5),
                copper(6),
                scsi(7),
                longwaveNoOFC(8),
                shortwaveNoOFC(9),
                longwaveLED(10),
                ssa(11)
             }
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The technology of the port transceiver."
            ::= { connUnitPortEntry 8 }

        connUnitPortModuleType OBJECT-TYPE
            SYNTAX INTEGER {
                unknown(1),
                other(2),
                gbic(3),
                embedded(4), -- fixed, ie, oneXnine
                glm(5),
                gbicSerialId(6),
                gbicNoSerialId(7),
                gbicNotInstalled(8),
                smallFormFactor(9)
            }
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The module type of the port connector."
            ::= { connUnitPortEntry 9 }
```


```
connUnitPortWwn OBJECT-TYPE
    SYNTAX FcNameId
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The World Wide Name of the port
        if applicable, otherwise empty string."
     ::= { connUnitPortEntry 10 }

connUnitPortFCId OBJECT-TYPE
    SYNTAX OCTET STRING (SIZE(3))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "This is the assigned Fibre Channel ID of
        this port.  This value is expected to be
        a Big Endian value of 24 bits. If this is
        loop, then it is the ALPA that is connected.
        If this is an eport, then it will only
        contain the domain ID left justified, zero
        filled. If this port does not have a Fibre
        Channel address, return all bits set to 1."
    ::= { connUnitPortEntry 11 }

connUnitPortSn OBJECT-TYPE
    SYNTAX DisplayString (SIZE(0..79))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The serial number of the unit (e.g., for
        a GBIC). If this is not applicable, return
        empty string."
    ::= { connUnitPortEntry 12 }

connUnitPortRevision OBJECT-TYPE
    SYNTAX DisplayString (SIZE(0..79))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The port revision (e.g., for a GBIC)."
    ::= { connUnitPortEntry 13 }

connUnitPortVendor OBJECT-TYPE
    SYNTAX DisplayString (SIZE(0..79))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The port vendor (e.g., for a GBIC)."
    ::= { connUnitPortEntry 14 }

connUnitPortSpeed OBJECT-TYPE
```

```
        SYNTAX INTEGER
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "The speed of the port in kilobytes per
            second."
        ::= { connUnitPortEntry 15 }

    connUnitPortControl OBJECT-TYPE
        SYNTAX INTEGER {
            unknown(1),
            invalid(2),
            resetConnUnitPort(3),
            bypassConnUnitPort(4),
            unbypassConnUnitPort(5),
            offlineConnUnitPort(6),
            onlineConnUnitPort(7),
            resetConnUnitPortCounters(8)
        }
        ACCESS read-write -- (or maybe write-only)
        STATUS mandatory
        DESCRIPTION
            "This object is used to control the addressed
            connUnit's port. Valid commands are:

            resetConnUnitPort: If the addressed connUnit
                allows this operation to be performed to this
                port, the addressed port performs a
                vendor-specific 'reset' operation. Examples of
                these operations are: the Link Reset protocol,
                the Loop Initialization protocol, or a
                resynchronization occurring between the
                transceiver in the addressed port to the
                transceiver that the port is connected to.

            bypassConnUnitPort: If the addressed connUnit
                allows this operation to be performed to this
                port, the addressed port performs a
                vendor-specific 'bypass' operation. Examples of
                these operations are:
                transitioning from online to offline, a
                request(NON-PARTICIPATING) command to the
                Loop Port state machine, or removal of the
                port from an arbitrated loop by a hub.

            unbypassConnUnitPort: If the addressed connUnit
                allows this operation to be performed to this
                port, the addressed port performs a
                vendor-specific 'unbypass' operation. Examples
                of these operations are:
                the Link Failure protocol, a
```

```
            request(PARTICIPATING) command to the
            Loop Port state machine, or addition of the
            port to an arbitrated loop by a hub.

        offlineConnUnitPort: If the addressed connUnit
            allows this operation to be performed to this
            port, the addressed port performs a
            vendor-specific 'offline' operation. Examples
            of these operations are:
            disabling a port's transceiver, the Link
            Failure protocol, request(NON-PARTICIPATING)
            command to the Loop Port state machine, or
            removal of the port from an arbitrated loop
            by a hub.

        onlineConnUnitPort: If the addressed connUnit
            allows this operation to be performed to this
            port, the addressed port performs a
            vendor-specific 'online' operation. Examples
            of these operations are:
            enabling a port's transceiver, the Link
            Failure protocol, request(PARTICIPATING)
            command to the Loop Port state machine, or
            addition of the port from an arbitrated loop
            by a hub.

        NOTE: Each implementation may chose not to allow
        any or all of these values on a SET. "

    ::= { connUnitPortEntry 16 }

connUnitPortName OBJECT-TYPE
    SYNTAX DisplayString
    ACCESS read-write
    STATUS mandatory
    DESCRIPTION
        "A string describing the addressed port."
    ::= { connUnitPortEntry 17 }

connUnitPortPhysicalNumber OBJECT-TYPE
    SYNTAX INTEGER
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "This is the internal port number this
        port is known by. In many implementations,
        this should be the same as connUnitPortIndex.
        Some implementations may have an internal port
        representation not compatible with the rules
        for table indeces.  In that case, provide the
        internal representation of this port in this
```

```
                object.  This value may also be used in the
                connUnitLinkPortNumberX or connUnitLinkPortNumberY
                objects of the connUnitLinkTable."
            ::= { connUnitPortEntry 18 }

        connUnitPortStatObject OBJECT-TYPE
            SYNTAX OBJECT IDENTIFIER
            ACCESS read-only
            STATUS deprecated
            DESCRIPTION
                "This contains the OID of the first object of the
                table that contains the statistics for this particular
                port. If this has a value of zero, then there are no
                statistics available for this port. The port type
                information will help identify the statistics objects
                that will be found in the table. From this point, one
                would do a getnext to get the next statistics object.
                When the first part of the OID changes, the end of
                table is reached."
            ::= { connUnitPortEntry 19 }

    connUnitPortProtocolCap OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (2))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "Bit mask that specifies the driver level
                protocol capability of this port. If this is not
                applicable, return all bits set to zero.

                The bits have
                the following definition:
                    unknown      - 0
                    Loop         - 1
                    Fabric       - 2
                    SCSI         - 4
                    TCP/IP       - 8
                    VI           - 16
                    FICON        - 32"
            ::= { connUnitPortEntry 20 }

    connUnitPortProtocolOp OBJECT-TYPE
            SYNTAX OCTET STRING (SIZE (2))
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "Bit mask that specifies the driver level
                protocol(s) that are currently operational.
                If this is not applicable, return all bits
                set to zero.  This object has the same
                definition as connUnitPortProtocolCap"
            ::= { connUnitPortEntry 21 }
```

```
        connUnitPortNodeWwn OBJECT-TYPE
            SYNTAX FcNameId
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The Node World Wide Name of the port
                if applicable, otherwise all zeros.
                This should have the same value for a
                group of related ports. The container is
                defined as the largest physical entity.
                For example, all ports on HBAs on a host
                will have the same Node WWN. All ports on
                the same storage subsystem will have the
                same Node WWN."
             ::= { connUnitPortEntry 22 }

        connUnitPortHWState OBJECT-TYPE
            SYNTAX INTEGER {
                unknown     (1),
                failed      (2), -- port failed diagnostics
                bypassed    (3),  -- FCAL bypass, loop only
                active      (4), -- connected to a device
                loopback    (5), -- Port in ext loopback
                txfault     (6), -- Transmitter fault
                noMedia     (7), -- media not installed
                linkDown    (8)  -- waiting for activity (rx sync)
            }
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The hardware detected state of the port."
           ::= { connUnitPortEntry 23 }


-----------------------------------------------------------------------
   ---
-- event group

    connUnitEventTable OBJECT-TYPE
        SYNTAX SEQUENCE OF ConnUnitEventEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            "The table of connectivity unit events. Errors,
            warnings, and information should be reported
            in this table."
        ::= { connSet 11 }

    connUnitEventEntry OBJECT-TYPE
        SYNTAX ConnUnitEventEntry
        ACCESS not-accessible
```

```
STATUS mandatory
DESCRIPTION
    "Each entry contains information on
    a specific event for the given
    connectivity unit."
INDEX { connUnitEventUnitId, connUnitEventIndex }
::= { connUnitEventTable 1 }

ConnUnitEventEntry ::=
    SEQUENCE {
        connUnitEventUnitId
            OCTET STRING,
        connUnitEventIndex
            INTEGER (1..2147483647),
        connUnitEventId
            INTEGER,
        connUnitREventTime
            DisplayString,
        connUnitSEventTime
            TimeTicks,
        connUnitEventSeverity
            FcEventSeverity,
        connUnitEventType
            INTEGER,
        connUnitEventObject
            OBJECT IDENTIFIER,
        connUnitEventDescr
            DisplayString
    }

connUnitEventUnitId OBJECT-TYPE
    SYNTAX OCTET STRING (SIZE (16))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The connUnitId of the connectivity unit
        that contains this event table."
    ::= { connUnitEventEntry 1 }

connUnitEventIndex OBJECT-TYPE
    SYNTAX INTEGER (1..2147483647)
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "Each connectivity unit has its own event buffer.
        As it wraps, it may write over previous events.
        This object is an index into the buffer.
        It is recommended that this table be read using
        'getNext's to retrieve the initial table.
        The management application should read the
        event table at periodic intervals and then
```

```
            determine if any new entries were added by
            comparing the last known index value with the
            current highest index value. The management
            application should then update its copy of
            the event table. If the read interval
            is too long, it is possible that there may
            be events that may not be contained in the
            agent's internal event buffer.
            For example, an agent may read events 50-75.
            At the next read interval, connUnitEventCurrID
            is 189.  If the management app tries to read
            event index 76, and the agent's internal buffer
            is 100 entries max, event index 76 will no longer
            be available.
            The index value is an incrementing integer starting
            from one every time there is a table reset.
            On table reset, all contents are emptied and
            all indeces are set to zero. When an
            event is added to the table, the event is
            assigned the next higher integer value than
            the last item entered into the table. If the
            index value reaches its maximum value, the next
            item entered will cause the index value to
            roll over and start at one again."
        ::= { connUnitEventEntry 2 }

    connUnitEventId OBJECT-TYPE
        SYNTAX INTEGER
        ACCESS read-only
        STATUS obsolete
        DESCRIPTION
            "The internal event Id. Incremented for each
            event, ranging between 0 and connUnitMaxEvents.
            Not used as table index to simplify
            the agent implementation. When this
            reaches the end of the range specified by
            connUnitMaxEvents, the Id will roll over to start
            at zero. This value will be set back to zero at
            reset. The relationship of this value to the index
            is that internal event id may represent a smaller
            number than a 32 bit integer (eg max 100 entries)
            and would only have a value range up to
            connUnitMaxEvents."
        ::= { connUnitEventEntry 3 }

    connUnitREventTime OBJECT-TYPE
        SYNTAX DisplayString (SIZE (15))
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
            "This is the real time when the event occurred.
            It has the following format.
```

```
                    DDMMYYYY HHMMSS
                    DD=day number
                    MM=month number
                    YYYY=year number
                    HH=hour number
                    MM=minute number
                    SS=seconds number
                If not applicable, return a NULL string."
            ::= { connUnitEventEntry 4 }

        connUnitSEventTime OBJECT-TYPE
            SYNTAX TimeTicks
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "This is the sysuptime timestamp when the
                event occurred."
            ::= { connUnitEventEntry 5 }

        connUnitEventSeverity OBJECT-TYPE
            SYNTAX FcEventSeverity
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The event severity level."
            ::= { connUnitEventEntry 6 }

        connUnitEventType OBJECT-TYPE
            SYNTAX INTEGER {
                unknown(1),
                other(2),
                status(3),
                configuration(4),
                topology(5)
            }
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The type of this event."
            ::= { connUnitEventEntry 7 }

        connUnitEventObject OBJECT-TYPE
            SYNTAX OBJECT IDENTIFIER
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "This is used with the connUnitEventType
                to identify which object the event refers to.
                It can be the OID of a connectivity unit or of
                another object like connUnitPortStatus[...]"
            ::= { connUnitEventEntry 8 }
```

```
        connUnitEventDescr OBJECT-TYPE
            SYNTAX DisplayString
            ACCESS read-only
            STATUS mandatory
            DESCRIPTION
                "The description of the event."
            ::= { connUnitEventEntry 9 }

    -- The link table
    -- is intended to organize and communicate
    -- any information the agent possesses
    -- which would assist a management application
    -- to discover the CONNECTIVITY UNITS in the
    -- framework and the TOPOLOGY of their interconnect.
    -- That is, the goal is to assist the management
    -- application not only to LIST the elements of the framework,
    -- but to MAP them.

    -- With this goal, the agent SHOULD include
    -- as much as it possesses about any links
    -- from its own connectivity units to others,
    -- including links among its own units.

    -- An agent SHOULD include partial information
    -- about links if it is not able to fully
    -- define them in accord with the following structure;
    -- however, the information MUST include either
    -- a nonzero connUnitNodeId- or a nonzero connUnitPortWwn-
    -- for each end of the link.

    -- If the agent is able to discover links
    -- which do not directly attach to members of its agency
    -- and its discovery algorithm gives some assurance
    -- the links are recently valid, it MAY include these links.

    -- Link information entered by administrative action
    -- MAY be included even if not validated directly
    -- if the link has at least one endpoint in this agency,
    -- but SHOULD NOT be included otherwise.

    -- A connectivity unit should fill the table in as best it can.
    -- One of the methods to fill this in would be to use the RNID
    -- ELS (ANSI document 99-422v0). This allows one to query a
    -- port for the information needed for the link table.

    -- This table is accessed either directly if the management
    -- software has an index value or via GetNexts. The value of
    -- the indexes are not required to be contiguous. Each entry
    -- created in this table will be assigned an index. This
    -- relationship is kept persistent until the entry is removed
    -- from the table or the system is reset. The total number of
    -- entries are defined by the size of the table
```

```
-- For an entry to be considered to be valid, both the X (local)
-- and the Y (remote) need to have one valid value.

    connUnitLinkTable OBJECT-TYPE
        SYNTAX SEQUENCE OF ConnUnitLinkEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            "A list of links know to this agent from this
            connectivity unit to other connectivity units."
        ::= { connSet 12 }

    connUnitLinkEntry OBJECT-TYPE
        SYNTAX ConnUnitLinkEntry
        ACCESS not-accessible
        STATUS mandatory
        DESCRIPTION
            "An entry describing a particular link to another."
        INDEX { connUnitLinkUnitId,
            connUnitLinkIndex }
            ::= { connUnitLinkTable 1 }

        ConnUnitLinkEntry ::=
            SEQUENCE {
                connUnitLinkUnitId
                    OCTET STRING,
                connUnitLinkIndex
                    INTEGER,
                connUnitLinkNodeIdX
                    OCTET STRING,
                connUnitLinkPortNumberX
                    INTEGER,
                connUnitLinkPortWwnX
                    OCTET STRING,
                connUnitLinkNodeIdY
                    OCTET STRING,
                connUnitLinkPortNumberY
                    INTEGER,
                connUnitLinkPortWwnY
                    OCTET STRING,
                connUnitLinkAgentAddressY
                    OCTET STRING,
                connUnitLinkAgentAddressTypeY
                    INTEGER,
                connUnitLinkAgentPortY
                    INTEGER,
                connUnitLinkUnitTypeY
                    FcUnitType,
                connUnitLinkConnIdY
                    OCTET STRING,
                connUnitLinkCurrIndex
```