



Cisco Data Center Interoperability Support Matrix

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Cisco MDS 9000 NX-OS Release 5.2(2d), Release 5.0(8), Release 4.2(9), and Cisco MDS SAN-OS Release 3.3(5b); Cisco Nexus 7000 NX-OS Release 6.0(3); and Cisco Nexus 5000 NX-OS Release 5.1(3)N2(1).

Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

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CONTENTS

Preface vii

Cisco MDS 9000 Family and Cisco Nexus 7000 Series Interoperability Support Matrix

CHAPTER 1

Disk Storage Interoperability Matrix 1-1

Additional Information 1-2

Qualified Storage Systems 1-3

EMC 1-5

Hitachi Data Systems 1-11

IBM 1-17

HP 1-24

Oracle 1-31

NEC 1-32

Fujitsu 1-34

ADTX 1-45

Infotrend 1-46

3PAR 1-47

XIOtech 1-48

NetApp 1-50

Pillar Data Systems 1-52

Apple Computer 1-53

ATTO 1-54

Compellent 1-55

Nexsan 1-56

CHAPTER 2

Tape Storage Interoperability Matrix 2-1

IBM 2-2

Oracle 2-4

Quantum 2-6

HP 2-8

Overland Storage 2-8

SONY 2-9

ATTO 2-9
 Crossroad Systems 2-10
 Tape Acceleration 2-11
 IOA 2-12

CHAPTER 3

Fabric Services Interoperability Matrix 3-1

Data Mobility Manager (DMM) 3-2
 EMC 3-4
 IBM 3-12
 HP 3-16
 HDS 3-18
 NetApp 3-20
 SUN 3-21
 Compellent 3-22
 Storage Media Encryption for Tape (SME-Tape) 3-23
 Symantec 3-24
 EMC 3-26
 HP 3-28
 BakBone Software 3-29
 IBM 3-30
 Storage Media Encryption for Disk (SME-Disk) 3-30
 EMC 3-30
 FC-IP SAN Extension 3-32

CHAPTER 4

SAN Interconnect Device Matrix 4-1

Cisco and Partners Devices 4-2

CHAPTER 5

Device Interoperability 5-1

Switch Interoperability Matrix 5-2
 IBM eServer BladeCenter Interoperability Matrix 5-8
 NPV Interoperability Matrix 5-10

CHAPTER 6

iSCSI Interoperability 6-1

EMC 6-2
 IBM 6-3
 HDS 6-5
 HP 6-6

ADTX 6-7

Cisco Nexus 5000 Family Interoperability Support Matrix

CHAPTER 7

Disk Storage Interoperability Matrix 7-1

EMC 7-2

HP 7-3

HDS 7-4

IBM 7-5

NetApp 7-6

Compellent 7-7

Fujitsu 7-8

3PAR 7-9

Switch Interoperability Matrix 7-10

Cisco Unified Computing System Interoperability Support Matrix

CHAPTER 8

UCS Storage Interoperability Matrix 8-1

Supported Storage Arrays 8-2

Fabric Connectivity Matrix 8-4

UCS-C Storage Support Matrix 8-5



Preface

This document provides a reference to matrices of Cisco MDS SAN-OS and Cisco NX-OS components and configurations tested and validated by Cisco's Data Center Interoperability Lab and/or qualified by Cisco's Partners for supporting seamless deployment of fabrics using the Cisco MDS 9000 family of Fibre Channel Switch and Director class products.

Audience

This reference document is designed for use by Cisco TAC, sales, support engineers, professional service partners, and systems administrators responsible for the design and deployment of Storage Area Networks in the data center environment.

The content of this document is constantly being updated.

Related Documentation

The documentation set for the Cisco MDS 9000 Family includes the following documents. To find a document online, use the Cisco Fabric Manager and MDS NX-OS Documentation Locator at:

http://www.cisco.com/en/US/docs/storage/san_switches/mds9000/roadmaps/doclocator.htm

Release Notes

- *Cisco MDS 9000 Family Release Notes for Cisco MDS NX-OS Releases*
- *Cisco MDS 9000 Family Release Notes for MDS SAN-OS Releases*
- *Cisco MDS 9000 Family Release Notes for Storage Services Interface Images*
- *Cisco MDS 9000 Family Release Notes for Cisco MDS 9000 EPLD Images*
- *Release Notes for Cisco MDS 9000 Family Fabric Manager*

Regulatory Compliance and Safety Information

- *Regulatory Compliance and Safety Information for the Cisco MDS 9000 Family*

Compatibility Information

- *Cisco Data Center Interoperability Support Matrix*
- *Cisco MDS 9000 NX-OS Hardware and Software Compatibility Information and Feature Lists*
- *Cisco MDS NX-OS Release Compatibility Matrix for Storage Service Interface Images*
- *Cisco MDS 9000 Family Switch-to-Switch Interoperability Configuration Guide*
- *Cisco MDS NX-OS Release Compatibility Matrix for IBM SAN Volume Controller Software for Cisco MDS 9000*
- *Cisco MDS SAN-OS Release Compatibility Matrix for VERITAS Storage Foundation for Networks Software*

Hardware Installation

- *Cisco MDS 9500 Series Hardware Installation Guide*
- *Cisco MDS 9500 Series Supervisor-2A Module Tech Note*
- *Cisco MDS 9200 Series Hardware Installation Guide*
- *Cisco MDS 9100 Series Hardware Installation Guide*
- *Cisco MDS 9124 and Cisco MDS 9134 Multilayer Fabric Switch Quick Start Guide*

Software Installation and Upgrade

- *Cisco MDS 9000 NX-OS Release 4.1(x) and SAN-OS 3(x) Software Upgrade and Downgrade Guide*
- *Cisco MDS 9000 Family Storage Services Interface Image Install and Upgrade Guide*
- *Cisco MDS 9000 Family Storage Services Module Software Installation and Upgrade Guide*

Cisco NX-OS

- *Cisco MDS 9000 Family NX-OS Licensing Guide*
- *Cisco MDS 9000 Family NX-OS Fundamentals Configuration Guide*
- *Cisco MDS 9000 Family NX-OS System Management Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Interfaces Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Fabric Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Quality of Service Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Security Configuration Guide*
- *Cisco MDS 9000 Family NX-OS IP Services Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Intelligent Storage Services Configuration Guide*
- *Cisco MDS 9000 Family NX-OS High Availability and Redundancy Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Inter-VSAN Routing Configuration Guide*

Cisco Fabric Manager

- *Cisco Fabric Manager Fundamentals Configuration Guide*
- *Cisco Fabric Manager System Management Configuration Guide*
- *Cisco Fabric Manager Interfaces Configuration Guide*
- *Cisco Fabric Manager Fabric Configuration Guide*
- *Cisco Fabric Manager Quality of Service Configuration Guide*
- *Cisco Fabric Manager Security Configuration Guide*
- *Cisco Fabric Manager IP Services Configuration Guide*
- *Cisco Fabric Manager Intelligent Storage Services Configuration Guide*
- *Cisco Fabric Manager High Availability and Redundancy Configuration Guide*
- *Cisco Fabric Manager Inter-VSAN Routing Configuration Guide*
- *Cisco Fabric Manager Online Help*
- *Cisco Fabric Manager Web Services Online Help*

Command-Line Interface

- *Cisco MDS 9000 Family Command Reference*

Intelligent Storage Networking Services Configuration Guides

- *Cisco MDS 9000 I/O Acceleration Configuration Guide*
- *Cisco MDS 9000 Family SANTap Deployment Guide*
- *Cisco MDS 9000 Family Data Mobility Manager Configuration Guide*
- *Cisco MDS 9000 Family Storage Media Encryption Configuration Guide*
- *Cisco MDS 9000 Family Secure Erase Configuration Guide*
- *Cisco MDS 9000 Family Cookbook for Cisco MDS SAN-OS*

Troubleshooting and Reference

- *Cisco NX-OS System Messages Reference*
- *Cisco MDS 9000 Family NX-OS Troubleshooting Guide*
- *Cisco MDS 9000 Family NX-OS MIB Quick Reference*
- *Cisco MDS 9000 Family NX-OS SMI-S Programming Reference*
- *Cisco MDS 9000 Family Fabric Manager Server Database Schema*

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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Cisco MDS 9000 Family and Cisco Nexus 7000 Series Interoperability Support Matrix

- [Disk Storage Interoperability Matrix](#)
- [Tape Storage Interoperability Matrix](#)
- [Fabric Services Interoperability Matrix](#)
- [SAN Interconnect Device Matrix](#)
- [Device Interoperability](#)

- iSCSI Interoperability



CHAPTER 1

Disk Storage Interoperability Matrix

This chapter lists storage systems qualified by the Original Storage Vendors (OSMs), Cisco Partners, and Cisco's Data Center Interoperability Engineering for supporting seamless deployment of Storage Area Networks using the Cisco MDS 9000 family of Fibre Channel Switches and Director class products, Cisco Nexus 7000 Series devices, and Cisco Nexus 5000 Series devices.

Table 1-1 lists Cisco MDS 9000 switches, Cisco Nexus 7000 Series switches, and Cisco Nexus 5000 Series switches, and the NX-OS and SAN-OS software releases that each switch supports. The switches listed in this table support the disk storage products listed in this chapter.

Table 1-1 Supported NX-OS and SAN-OS Releases on Cisco MDS 9000 Switches

Cisco MDS 9000 Switch	Cisco NX-OS or SAN-OS Release
Cisco MDS 9500 Series	5.2(2d), 5.2(2a), 5.2(2), 5.2(1)
	5.0(8), 5.0(7), 5.0(4d), 5.0(4c), 5.0(4b), 5.0(4), 5.0(1a)
	4.2(9), 4.2(7e), 4.2(7d), 4.2(7b), 4.2(7a), 4.2(5), 4.2(3a), 4.2(3), 4.2(1b), 4.2(1a) 4.1(3a), 4.1(1c), 4.1(1b)
	3.3(5b), 3.3(5a), 3.3(5), 3.3(4a), 3.3(4), 3.3(3), 3.3(2), 3.3(1c), 3.3(1a), 3.2(3a), 3.2(3), 3.2(2c), 3.2(1)
	3.1(4), 3.1(3a), 3.1(3), 3.1(2b), 3.1(2a), 3.1(2), 3.1(1)
	3.0(3b), 3.0(3), 3.0(2b), 3.0(2a), 3.0(2), 3.0(1)
Cisco MDS 9222i switch	5.2(2d), 5.2(2a), 5.2(2), 5.2(1)
	5.0(8), 5.0(7), 5.0(4d), 5.0(4c), 5.0(4b), 5.0(4), 5.0(1a)
	4.2(9), 4.2(7e), 4.2(7d), 4.2(7b), 4.2(7a), 4.2(5), 4.2(3a), 4.2(3), 4.2(1b), 4.2(1a), 4.1(3a), 4.1(1c), 4.1(1b)
	3.3(5b), 3.3(5a), 3.3(5), 3.3(4a), 3.3(4), 3.3(3), 3.3(2), 3.3(1c), 3.3(1a), 3.2(3a), 3.2(3), 3.2(2c), 3.2(1a)
Cisco MDS 9134 and 9124 switches	5.2(2d), 5.2(2a), 5.2(2)
	5.0(8), 5.0(7), 5.0(4d), 5.0(4c), 5.0(4b), 5.0(4), 5.0(1a)
	4.2(9), 4.2(7e), 4.2(7d), 4.2(7b), 4.2(7a), 4.2(5), 4.2(3a), 4.2(3), 4.2(1b), 4.2(1a) 4.1(3a), 4.1(1c), 4.1(1b)
	3.3(5b), 3.3(5a), 3.3(5), 3.3(4a), 3.3(4), 3.3(3), 3.3(2), 3.3(1c), 3.3(1a), 3.2(3a), 3.2(3), 3.2(2c), 3.2(1)
	3.1(4), 3.1(3a), 3.1(3), 3.1(2b), 3.1(2a), 3.1(2), 3.1(1)

Table 1-1 Supported NX-OS and SAN-OS Releases on Cisco MDS 9000 Switches (continued)

Cisco MDS 9000 Switch	Cisco NX-OS or SAN-OS Release
Cisco MDS 9148 switch	5.2(2d), 5.2(2a), 5.2(2), 5.2(1)
	5.0(8), 5.0(7), 5.0(4d), 5.0(4c), 5.0(4b), 5.0(4), 5.0(1a)
Cisco Nexus 7000 Series	6.0(3), 6.0(2), 6.0(1)
	5.2(4), 5.2(3a), 5.2(1)
Cisco Nexus 5000 switch	5.1(3)N2(1), 5.1(3)N1(1a), 5.1(3)N1(1)
	5.0(3)N2(2b), 5.0(3)N2(2a), 5.0(3)N2(2), 5.0(3)N2(1), 5.0(3)N1(1c), 5.0(2)N2(1a), 5.0(2)N2(1), 5.0(2)N1(1)
	4.2(1)N2(1a), 4.2(1)N2(1), 4.2(1)N1(1)
	4.1(3)N2(1a), 4.1(3)N2(1), 4.1(3)N1(1a), 4.1(3)N1(1)
	4.0(1a)N2(1a), 4.0(1a)N2(1), 4.0(1a)N1(1a), 4.0(1a)N1(1), 4.0(0)N1(2a), 4.0(0)N1(2), 4.0(0)N1(1a)
Cisco Nexus 5500 switch	5.1(3)N2(1), 5.1(3)N1(1a), 5.1(3)N1(1)
	5.0(3)N2(2b), 5.0(3)N2(2a), 5.0(3)N2(2), 5.0(3)N2(1), 5.0(3)N1(1c)

Additional Information

Refer to the following OSM websites to obtain the latest support matrix:

- EMC—visit: EMC Interoperability support Matrices. **Refer to this matrix for comprehensive list of latest supported EMC storage arrays including Sym V-max and newer CLARiiON disk arrays.** <http://www.emc.com/interoperability>
- HP—visit: HP StorageWorks SAN design reference guide
http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00403562/c00403562.pdf?jumpid=reg_R1002_USEN
and Refer to the EBS compatibility matrix
<http://h18006.www1.hp.com/products/storageworks/san/documentation.html>
- IBM—visit <ftp://service.boulder.ibm.com/storage/san/cisco/mds9216.pdf>
<http://www14.software.ibm.com/webapp/set2/sas/f/vios/documentation/datasheet.html#san>
- IBM Bladecenter compatibility matrix:
<http://www-947.ibm.com/systems/support/supportsite.wss/supportresources?categoryind=5035083&brandind=5000020&familyind=5108750&typeind=0&modelind=0&osind=0&taskind=2&news=N&parts=N&pubs=N&matrix=N&selectedButton.x=20&selectedButton.y=14>
- IBM SAN Volume Controller—visit:
<http://www-1.ibm.com/support/docview.wss?rs=591&uid=ssg1S1002472>
http://www-1.ibm.com/support/docview.wss?rs=591&uid=ssg1S1003091#_MDS
- HDS—visit <http://www.hds.com/corporate/resources.html>
- NetApp—visit NOW service & support page (login required) for Replicator-X
http://now.netapp.com/NOW/knowledge/docs/olio/guides/tdps/tdps_interoperability_guide.xls

Qualified Storage Systems

Table 1-2 lists the storage systems that are qualified with the Cisco MDS 9000 switches and NX-OS software that is listed in Table 1-1.

Table 1-2 Qualified Storage Systems

Vendor	Disk Storage Model	Page
EMC	EMC Symmetrix 8000 Series	5
	EMC Symmetrix VMAX, DMX-3, DMX-4	6
	CLARiiON CX200	9
	CLARiiON CX600/400/300/500/700, CX-4 series, VNX series,3	9
	CLARiiON CX600/400/300/500/700, CX-4 series, VNX series,3	9
Hitachi Data Systems	Distance Extension	10
	Virtual and Universal Storage Platform (VSP, USP, USPV) Series	11
	Lightning 9900V Series	12
	Adaptable Modular Storage AMS 2100, 2500, and 2300; 200, 500, and 1000	13
	Thunder 9500V Series	14
	HDS High Performance NAS (HNAS)	15
IBM	Distance Extension	16
	ESS 2105 model 800	17
	DS 8000 Series	18
	DS 6000 Series	19
	DS 3000, 4000, 5000 series	20
	DS4200 (FAStT 700), DS4500 (FAStT 900)	20
	DS4300 (FAStT 600 Single and Dual Controller), DS4300 Turbo	21
	DS4100 (FAStT 100)	22
	IBM FAStT 200, 500	22
	IBM DS 8000, 6000 Series Distance Extension	23
	IBM ESS 2105 Series Distance Extension	23
HP	HP XP 10000, 12000, 20000, 24000	24
	HP XP128, XP1024	25
	HP EVA GL -- 3000 (HSV100), 5000 (HSV110)	26
	HP EVA XL -- 4000, 6000, 8000	28
	HP MSA1000, MSA1500 (Active/Active)	29
	Distance Extension	30

Table 1-2 Qualified Storage Systems (continued)

Vendor	Disk Storage Model	Page
Oracles	StorageTek 9990V, 9985V, 9970V	31
	StorageTek 6540, 6140, 2540, 2530, 2510	31
	StorEdge 3000	31
NEC	S2300	32
	S1300	32
	S2800	32
	D1-10, D3-10	33
	S2800 Distance Extension	33
	D8-30	33
Fujitsu	ETERNUS 2000	34
	ETERNUS 3000	36
	ETERNUS 6000	36
	ETERNUS 4000	37
	ETERNUS 8000	41
	ETERNUS DX60 S2, ETERNUS DX80 S2, ETERNUS DX90 S2, ETERNUS DX400 S2 Series, ETERNUS DX8000 S2 Series, ETERNUS DX60, ETERNUS DX80, ETERNUS DX90, ETERNUS DX400 Series, ETERNUS DX8000 Series	44
ADTX	ArrayMasStor L	45
Infortrend	EonStor F16F-R2A2	46
	EonStor 2510FS	46
3PAR	3Par InServ Storage Server	47
	3Par InServ Storage Server	48
XIOtech	Magnitude (Rel. 10.01/11.01), Magnitude 3D (Rel. 2.5/3.13), Magnitude 3D 3000 (Rel 4.1)	48
NetApp	FAS and V-series Product Families	50
Pillar Data Systems	Axiom Storage System 300, 500	52
Apple Computer	Xserve RAID	53
ATTO	ATTO Diamond V Class Array	54
	HP EVA 4x00, 6x00, 8x00	54
Compellent	Storage Center	55
Nexsan	ATAbey-2X	56
	ATAbey	56
	SATAbey	56

EMC

Table 1-3 EMC Symmetrix 8000 Series

Operating System		Host Bus Adapter
Type	Version	
EMC NAS7	5.0.9/11, 5.1.15/18, 5.1.9	EMC: 201-712-900, 250-734-902, 250-735-900, 250-736-900
HP-UX	11.0, 11i (11.11)	HP: A5158A, A6795A
	11.0	HP: A6684, A6685A
Tru64 Unix	5.1	HP: KGPSA-DA
	5.1, 5.1A, 5.1B	HP: KGPSA-CA, KGPSA-DA, KGPSA-BC, FCA 2384, FCA2354
OpenVMS	7.2-2, 7.3, 7.3-1	HP: KGPSA-CA, KGPSA-DA, KGPSA-BC, FCA2354
AIX	5.1, 5.2, 5.3	IBM: 6227, 6228, 6239, 5716
Windows 2000	Advanced Server SP4, Datacenter SP4, Powered Server Appliance Kit SP4 (SAK),	<p>Emulex: LP10000-E, LP10000DC-E, LP1050-E, LP1050DC-E, LP11000-E, LP11002-E, LP1150-E, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP10000ExDC-E, LP1050Ex-E LP982-E; LPe11000-E, LPe11000-E-G, LPe11002-E, LPe11002-E-G, LPe1150-E, LPe1150-E-G;</p> <p>HP: A7298A (LP982), A7387A (LP1050DC), A7388A (LP1050), AD167A/FC2143 (LP1150), AD168A/FC2243 (LP11002), AD300A (QLE2462), AE311A/FC1142SR (QLE2460), AE312A/FC1242SR (QLE2462), FCA2101 (LP952), FCA2210 (QLA2340), FCA2214/281541-B21 (QLA2340), FCA2214DC/321835-B21 (QLA2342), FCA2354 (LP9002), FCA2355 (LP9002DC), FCA2384 (LP9802), FCA2404 (LP9802), FCA2404DC (LP9802DC), FCA2408 (LP982);, A7560A (LP1050Ex), A8002A/FC2142SR (LPe1150), A8003A/FC2242SR (LPe11002), LPe1105-HP 4Gb FC, LPe1205, QMH2562, QMH2462, AB429A/FC1143 (QLA2460), AE369A/FC1243 (QLA2462)</p> <p>IBM: 24P0960 (QLA2340), 39M5894 (QLA2460), 39M5895 (QLA2462), 39R6525 (QLE2460), 39R6527 (QLE2462), 42D0405 (LP11000), 42D0407 (LP11002); 42C2069 (LPe11000), 42C2071(LPe11002), 19K1246 (QLA2310)</p> <p>QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP, QLA2460-E-SP, QLA2462-E-SP, QLE2460-E-SP, QLE2462-E-SP, QLE2360-E-SP</p> <p>Sun: SG-XPCI1FC-EM2 (LP10000), SG-XPCI1FC-EM4 (LP11000), SG-XPCI1FC-EM4-Z (LP11000), SG-XPCI1FC-QF4 (QLA2460), SG-XPCI2FC-EM2 (LP10000DC), SG-XPCI2FC-EM4 (LP11002), SG-XPCI2FC-EM4-Z (LP11002), SG-XPCI2FC-QF4 (QLA2462), SG-XPCIE1FC-EM4 (LPe11000), SG-XPCIE1FC-EM8-Z (LPe12000), SG-XPCIE1FC-QF4 (QLE2460), SG-XPCIE1FC-QF8-Z (QLE2560), SG-XPCIE2FC-EB4-Z (LPem11002), SG-XPCIE2FC-EM4 (LPe11002), SG-XPCIE2FC-EM8-Z (LPe12002), SG-XPCIE2FC-QB4-Z (QEM2462), SG-XPCIE2FC-QF4 (QLE2462), SG-XPCIE2FC-QF8-Z (QLE2562);</p> <p>Unisys: FCH732213-P64 (LP9002L-F2), FCH752313-PCX (LP1050), FCH752323-PCX (LP10000DC)</p> <p>NEC: N8190-120 (LP1050), N8190-105 (LP952), N8190-127 (LPe1150)31, N8190-131 (LPe11002), N8403-008 (LP952), N8403-015 (LP1050DC), N8403-018 (LPe1105), N8803-031 (QLA2310F), NQ2014A-A001 (QLA2342), NQ2015A-A001 (QLA2460), NQ2016A-A001 (QLA2462), NT2010A-A001 (QLA2340)</p> <p>Dell: 2362M;</p>
Windows 2003	AS Enterprise Edition	<p>Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E, LP9002DC-E, LP1105, LPe12000-E, LPe11000-E</p> <p>HP: 336070-001, FCA2354, FCA2355, FCA2404</p>
	AS Standard Edition	<p>IBM: 19K1246 (QLA2310), 24P0960 (QLA2340)</p> <p>NEC: N8803-031</p> <p>Qlogic: QLA2310F-E, QLA2340-E, QLA2342-E, QLE2562, QLE2460</p>
	Data Center	<p>Unisys: FCH20111-P64, FCH20113-P64, FCH732213-P64</p>
Windows 2008		<p>Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E, LP9002DC-E, LP1105, LPe11000-E, LPe12000-E</p> <p>Qlogic: QLA2310F-E, QLA2340-E, QLA2342-E, QLE2562, QLE2460</p>

Table 1-3 EMC Symmetrix 8000 Series (continued)

Operating System		Host Bus Adapter
Type	Version	
Linux	RedHat 2.0 and higher	HP: Mezzanine QLogic: QLA220F, QLA2310F, QLA2340-E, QLE2562, QLE2460 Emulex: LP982-E, LP9002-E, LP9802-E, LP9802DC-E, LP1050DC-E, LP10000-E, LP10000DC-E, LP11000-E, LPe12000-E
Solaris	8	Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002DC-E, LP9002S-E, LP9002C-E Qlogic: QLA2202FS-E, QLA2340-E, QLA2342-E, QLE2460, QLE2560 JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E
	9, 10	Emulex: LP8000-EMC, LP9002DC-E, LP9002S-E, LP9002C-E, LP12002-M8 Qlogic: QLA2202FS-E, QLA2340-E, QLA2342-E JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E
VMWare ESX	1.5.2, 2.0.1, 3.0, 4.0	QLogic: QLA2340-E, QLA2342-E, QLE2460, QLE2560

Table 1-4 EMC Symmetrix VMAX, DMX-3, DMX-4

Operating System		Host Bus Adapter/Converged Network Adapter
Type	Version	
EMC NAS7	5.0.9/11, 5.1.15/18, 5.1.9	EMC: 201-712-900, 250-734-902, 250-735-900, 250-736-900
HP-UX	11iv1, 11iv2, 11iv3	HP: A6826A, A9782A, A9784A, AB378A, AB378B, AB379A(QLA2462), AB379B (QLA2462), A6795A, A9782A, AB465A, AD193A, AD194A, AD299A, AD300A(QLE2462), AD355A
Tru64 Unix	V5.1B-1, V5.1B-24, V5.1B-3, V5.1B-42, V5.1B-5	HP: FCA2354(LP9002), FCA2384(LP9802), FCA2684, FCA2684DC, KGPSA-DA(261329-B21), KGPSA-BC (380574-001), KGPSA-CA (168794-B21)
OpenVMS	V7.3-2, V8.2, V8.3, V8.2-1, V8.3-1H1	HP: DS-A5132-AA, DS-A5134-AA, FCA2354 (LP9002), FCA2384 (LP9802), FCA2684, FCA2684DC, KGPSA-DA (261329-B21), KGPSA-EA (302784-B21), KGPSA-BC (380574-001), KGPSA-CA (168794-B21), A6826A, AB378A, AB379A (QLA2462), AD299A, AD300A (QLE2462), AD355A
AIX	5.1, 5.2, 5.3, 6.1	IBM: 6227, 6228, 6239, 1905, 1910, 1977, 5716, 5758, 5759, 5773, 5774, 5735 Bull: DCCG202-0000, DCCG203-0000
IBM i5/OS [System i]	V5R3M0, V5R3M5, V5R4M0, V5R4M5	IBM: 2787, 5760

Table 1-4 EMC Symmetrix VMAX, DMX-3, DMX-4 (continued)

Operating System		
Type	Version	Host Bus Adapter/Converged Network Adapter
Windows 2000	Advanced Server SP4, Datacenter SP4, Powered Server Appliance Kit SP4 (SAK),	<p>Emulex: LP10000-E, LP10000DC-E, LP1050-E, LP1050DC-E, LP11000-E, LP11002-E, LP1150-E, LP9002-E (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP10000ExDC-E, LP1050Ex-E LP982-E; LPe11000-E, LPe11000-E-G, LPe11002-E, LPe11002-E-G, LPe1150-E, LPe1150-E-G;</p> <p>HP: A7298A (LP982), A7387A (LP1050DC), A7388A (LP1050), AD167A/FC2143 (LP1150), AD168A/FC2243 (LP11002), AD300A (QLE2462), AE311A/FC1142SR (QLE2460), AE312A/FC1242SR (QLE2462), FCA2101 (LP952), FCA2210 (QLA2340), FCA2214/281541-B21 (QLA2340), FCA2214DC/321835-B21 (QLA2342), FCA2354 (LP9002), FCA2355 (LP9002DC), FCA2384 (LP9802), FCA2404 (LP9802), FCA2404DC (LP9802DC), FCA2408 (LP982);, A7560A (LP1050Ex), A8002A/FC2142SR (LPe1150), A8003A/FC2242SR (LPe11002), LPe1105-HP 4Gb FC, LPe1205, QMH2562, QMH2462, AB429A/FC1143 (QLA2460), AE369A/FC1243 (QLA2462)</p> <p>IBM: 24P0960 (QLA2340), 39M5894 (QLA2460), 39M5895 (QLA2462), 39R6525 (QLE2460), 39R6527 (QLE2462), 42D0405 (LP11000), 42D0407 (LP11002); 42C2069 (LPe11000), 42C2071 (LPe11002), 19K1246 (QLA2310)</p> <p>QLogic: QLA2200F-EMC, QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP, QLA2460-E-SP, QLA2462-E-SP, QLE2460-E-SP, QLE2462-E-SP, QLE2360-E-SP</p> <p>Sun: SG-XPCI1FC-EM2 (LP10000), SG-XPCI1FC-EM4 (LP11000), SG-XPCI1FC-EM4-Z (LP11000), SG-XPCI1FC-QF4 (QLA2460), SG-XPCI2FC-EM2 (LP10000DC), SG-XPCI2FC-EM4 (LP11002), SG-XPCI2FC-EM4-Z (LP11002), SG-XPCI2FC-QF4 (QLA2462), SG-XPCIE1FC-EM4 (LPe11000), SG-XPCIE1FC-EM8-Z (LPe12000), SG-XPCIE1FC-QF4 (QLE2460), SG-XPCIE1FC-QF8-Z (QLE2560), SG-XPCIE2FC-EB4-Z (LPem11002), SG-XPCIE2FC-EM4 (LPe11002), SG-XPCIE2FC-EM8-Z (LPe12002), SG-XPCIE2FC-QB4-Z (QEM2462), SG-XPCIE2FC-QF4 (QLE2462), SG-XPCIE2FC-QF8-Z (QLE2562);</p> <p>Unisys: FCH732213-P64 (LP9002L-F2), FCH752313-PCX (LP1050), FCH752323-PCX (LP10000DC)</p> <p>NEC: N8190-120 (LP1050), N8190-105 (LP952), N8190-127 (LPe1150)31, N8190-131 (LPe11002), N8403-008 (LP952), N8403-015 (LP1050DC), N8403-018 (LPe1105), N8803-031 (QLA2310F), NQ2014A-A001 (QLA2342), NQ2015A-A001 (QLA2460), NQ2016A-A001 (QLA2462), NT2010A-A001 (QLA2340)</p> <p>Dell: 2362M;</p>

Table 1-4 EMC Symmetrix VMAX, DMX-3, DMX-4 (continued)

Operating System		
Type	Version	Host Bus Adapter/Converged Network Adapter
Windows 2003	Enterprise Edition Standard Edition	Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E, LP9002DC-E, OCe10102-F HP: 336070-001, FCA2354, FCA2355, FCA2404 IBM: 19K1246 (QLA2310), 24P0960 (QLA2340) NEC: N8803-031 QLogic: QLA2310F-E, QLA2340-E, QLA2342-E, QLE2562, QLE2460, QLE8152 Unisys: FCH20111-P64, FCH20113-P64, FCH732213-P64
Windows 2008		Cisco: P81E VIC Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E, LP9002DC-E, OCe10102-F QLogic: QLA2310F-E, QLA2340-E, QLA2342-E, QLE2562, QLE2460, QLE8152
Linux	RedHat 2.0 and higher SLES 11	Cisco: P81E VIC HP: Mezzanine QLogic: QLA2200F, QLA2310F, QLA2340-E, QLE2562, QLE8152 Emulex: LP982-E, LP9002-E, LP9802-E, LP9802DC-E, LP1050DC-E, LP10000-E, LP10000DC-E, OCe10102-F Cisco: P81E VIC QLogic: QLE8152 Emulex: OCe10102-F
Solaris	8	Emulex: LP8000-EMC, LP9002DC-E, LP9002S-E, LP9002C-E, LP9002-E QLogic: QCP2202F-E, QLA2200F-E, QLA2342-E, QLE2562 JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E
Siemens Computers Solaris	10	Emulex: LP11000-E, LP11002-E, LPe11000-E, LPe11000-E-G, LPe11002-E, LPe11002-E-G; QLogic: QLA2460-E-SP, QLA2462-E-SP, QLE2460-E-SP, QLE2462-E-SP; Sun: SG-XPCI1FC-EM4 (LP11000), SG-XPCI1FC-QF4 (QLA2460), SG-XPCI2FC-EM4 (LP11002), SG-XPCI2FC-QF4 (QLA2462), SG-XPCIE1FC-EM4 (LPe11000), SG-XPCIE1FC-QF4 (QLE2460), SG-XPCIE2FC-EM4 (LPe11002), SG-XPCIE2FC-QF4 (QLE2462)
Asianux AX	2.0 SP3, EN64T, IA64, x86_64	Emulex: LP10000-E, LP10000DC-E, LP1050-E, LP1050DC-E, LP9002-E, (LP9002L-E), LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E; NEC: N8190-120 (LP1050); QLogic: QLA2310F-E-SP, QLA2340-E-SP, QLA2342-E-SP
VMWare ESX	3.0, 4.0, 4.0 u2	Cisco: P81E VIC QLogic: QLA2340-E, QLA2342-E, QLE2460, QLE2560, QLE8152 Emulex: OCe10102-F
Fujitsu Siemens Computers OSD/XC	V1.0, V1.1, V1.2, V2.0, V2.1, V2.2, V3.0, V4.0	Fujitsu Siemens Computers: LP10000-M2 (SX70F-CF33), LP10000DC-M2 (SX70F-CF34), LP9802-F2 (SX70F-CF31), LP11000-M4 (SX70F-CF36)
EMC DART	5.5.19.4	EMC: 250-744-902A, 201-712-900, 250-734-902, 250-735-900, 250-736-900, 250-743-900A, Integrated
Egenera Blade Frame	SW: 4.0.1, 5.0, 5.1	QLogic: QLA2342-E-SP
Apple MAC OSX ¹	10.5, 10.6	ATTO: FC-41ES, FC-42ES, FC-44ES

1. Supported with Cisco SAN-OS 3.3.2 or later

Table 1-5 CLARiiON CX200

Operating System		Host Bus Adapter
Type	Version	
Windows 2000	Advanced Server (SP3, SP4) Data Center (SP3, SP4)	Emulex: LP8000-EMC, LP9002L-E, LP9002DC-E, LP9802-E, LP9802DC-E, LP982-E, LP10000-E, LP10000DC-E Qlogic: QLA2200F-EMC, QLA2310-E, QLA2342-E, QLA2340-E Unisys: FCH732213-P64, FCH2113-P4, FCH732213-P64 HP: FCA2404, 336070-001 IBM: 00N6881
Windows 2003	Enterprise Edition Standard Edition	Emulex: LP10000-E, LP10000DC-E, LP9002-E, LP982-E LP9802-E, LP9802DC HP: 336070-001, FCA2404 Qlogic: QLA2310F-E, QLA2340-E, QLA2342-E, QLE2460, QLE2560
Windows 2008		Emulex: LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E Qlogic: QLA2310-E, QLA2342-E, QLA2340-E, QLE2460, QLE2560
Linux	RedHat 2.0 and higher	HP: Mezzanine QLogic: QLA220F, QLA2310F, QLA2340-E Emulex: LP982-E, LP9002-E, LP9802-E, LP9002DC-E, LP9802DC-E, LP1050DC-E, LP10000-E, LP10000DC-E

Table 1-6 CLARiiON CX600/400/300/500/700, CX-4 series, VNX series^{1,3}

Operating System		HBA/CNA
Type	Version	
EMC NAS7	5.0.9, 5.0.11, 5.1.15, 5.1.18, 5.1.9	EMC: 201-712-900, 250-734-902, 250-735-900, 250-736-900
HP-UX	11.0, 11i	HP: A5158A, A6795A, A6684, A6685A
Tru64 Unix	5.1, 5.1A, 5.1B	HP: KGPSA-DA, FCA2354, FC2384, KGPSA-CA, KGPSA-BC
AIX	5.1, 5.2, 5.3	IBM: 6227, 6228, 6239, 5716
Windows 2000	Advanced Server (SP3, SP4) Data Center (SP3, SP4)	Emulex: LP8000-EMC, LP9002L-E, LP9802-E, LP9802DC-E, LP982-E, LP10000-E, LP10000DC-E Qlogic: QLA2200F-EMC, QLA2310-E, QLA2342-E, QLA2340-E Unisys: FCH732213-P64, FCH2113-P4, FCH732213-P64 HP: FCA2404, 336070-001 IBM: 00N6881
Windows 2003	Enterprise Edition Standard Edition	Emulex: LP10000-E, LP10000DC-E, LP9002-E, LP982-E, LP9802-E, LP9802DC, OCe10102-F HP: 336070-001, FCA2404 Qlogic: QLA2310F-E, QLA2340-E, QLA2342-E, QLE2562, QLE8152
Windows 2008	SP2	Cisco: P81E VIC Emulex: OCe10102-F Qlogic: QLE8152
Windows NT	4.0 (SP6a)	Cisco: P81E VIC Emulex: LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E, OCe10102-F HP: 336070-001, FCA2404 Qlogic: QLA2310-E, QLA2342-E, QLA2340-E, QLE8152

Table 1-6 CLARiiON CX600/400/300/500/700, CX-4 series, VNX series^{1,3}

Operating System		HBA/CNA
Type	Version	
Linux	RedHat AS 2.1, ES 2.1, 8.0, 7.3, 5, 5.5	Cisco: P81E VIC HP: Mezzanine QLogic: QLA220F, QLA2310F, QLA2340-E, QLE2562, QLE8152 Emulex: LP982-E, LP9002-E, LP9002DC-E, LP9802-E, LP9802DC-E, LP1050DC-E, LP10000-E, LP10000DC-E, OCe10102-F
	SLES 11	Cisco: P81E VIC Emulex: OCe10102-F Qlogic: QLE8152
Solaris	8	Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002S-E, LP9002-E, LP9002C, LP9002DC, LP9802-E Qlogic: QLA2340-E, QLA2342-E, QCP2202F-E
	9, 10	Emulex: LP10000-E, LP10000DC-E, LP9002DC-E, LP9002C-E, LP9802-E Qlogic: QCP2202F-E, QLE2562
VMWare ESX	4.0 u2	Cisco: P81E VIC QLogic: QLE8152 Emulex: OCe10102-F

1. Refer to EMC for the complete support matrix: http://www.cisco.com/en/US/products/ps5989/products_device_support_tables_list.html

Table 1-7 Distance Extension

Distance System	Maximum Distance ¹	Network	Protocol	Storage System
Cisco Metro 1500	200km	DWDM	Block I/O	EMC CLARiiON CX Series
			Block I/O SRDF/S	EMC Symmetrix 8000 Series
			Block I/O SRDF/S SRDF-A	EMC Symmetrix DMX Series, Vmax
ONS 15252 ONS 15530 ONS 15540	200km	DWDM	Block I/O Mirror Virew ²	EMC CX Series
			Block I/O SRDF/S	EMC Symmetrix 8000 Series
			Block I/O SRDF/S SRDF/A	EMC Symmetrix DMX Series, Vmax
MDS IPS-8 MDS IPS-4 MDS9216i MPS-14/2 MDS 9222i MSM 18/4	See note after this table.	FCIP	Block I/O Mirror Virew	EMC CLARiiON CX Series
			Block I/O SRDF/S	EMC Symmetrix 8000 Series
			Block I/O SRDF/S SRDF/A	EMC Symmetrix DMX Series, Vmax

- Supported distance is determined by EMC field personnel and professional services based on customer's application requirements.
- The MDS Fibre Channel Write Acceleration (FC-WA, FCIP-WA) feature with MirrorView and SRDF is supported with SSI version 2.1(1g) and later. Refer to the following link for latest EMC Support Matrix: <http://www.emc.com/interoperability>

Hitachi Data Systems

Table 1-8 Virtual and Universal Storage Platform (VSP, USP, USPV) Series¹

Operating System		HBA/CNA	Multipath Support
Type	Version		
Windows 2000	Advanced Server (SP4)	Emulex: LP11000-M4, LP10000, LPe11000, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 Qlogic: QLE2460, QLA2462, QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card	HDLM
Windows 2003	Enterprise Edition (SP2/R2)	Emulex: LP11000-M4, LP10000, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850, LP1100, LPe110000, OCe10102-F Qlogic: QLAE2460, QLA2462, QLA2340, QLA2342, QLA2344, QLE8152, HP Fibre card, IBM Fibre card	HDLM
Windows 2008 ²	SP2, R2	Cisco: P81E VIC Qlogic: QLA2340 QLA2460 QLE2460 QLE2562, QLE8152 Emulex: LP10000 LP11000 LPe11000 LPe12000, OCe10102-F	HDLM
AIX	5.1, 5.2, 5.3, 6.1, 7.1	IBM: 6227, 6228, 6239, 5716, 5735, 5758	HDLM
HPUX	11.0, 11i	HP: A5158A, A6795A	HDLM
Solaris	7, 8, 9, 10 ³	Emulex: LP10000, LP9802, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LPE12000 Qlogic: QLA2340, QLE2562 JNI: FCE-1473, FCE-6410, FCE2-6410, FCE2-6412, FCE-6460N SUN: SG-XPCI1FC-JF2, SG-XPCI2FC-JF2, X6727A, X6799A	HDLM DMP
Linux	RHEL 2.1, 3.0, 4.5, 4.8, 5.1, 5.4, 5.5 SLES10	Cisco: P81E VIC Emulex: LPe11000, LP9000, LP952L, LP9002, LP9002L, LP9002DC, LP9402DC, LP9802, OCe10102-F QLogic: QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fiber card, QLE8152	HDLM DMP
	SLES11	QLogic: QLE8152 Emulex: OCe10102-F, OCe11102	
VMware ⁴	ESX 3.01, 4.0, 4.0 u2, 4.1	Cisco: P81E VIC QLogic: QLA2340, QLE8152 Emulex: LP10000, LP11000, OCe10102-F	Bundled
	ESX 4.0 UP2, 4.1	Hitachi: HFCE0802 Hitachi: HFC0401/0402	
Netware	6.0 SP2, 6.5 SP4a	QLogic: QLA2300F, QLA2310F, QLA2340, QLA2342, QLA2344	Bundled

1. For **VSP** support matrix, refer to HDS website: <http://www.hds.com/products/interoperability/>
2. Windows 2008 is supported on Nexus-OS 4.1(1b) and higher versions.
3. The Emulex LPE12000 and Qlogic 2562 8G HBAs are supported on Solaris 10 Update 5 and higher.
4. Guest servers Windows 2000 SP4, Windows 2003 SP1/R2, Linux AS 3.0 UP7 or latest.

Table 1-9 Lightning 9900V Series

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
Windows 2000	Advanced Server (SP4)	Emulex: LPe11000, LP11000-M4, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 QLogic: QLE2460, QLA2462, QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card	HDLM
Windows 2003	Enterprise Edition	Emulex: LPe11000, LP11000-M4, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850, LP11000 QLogic: QLE2460, QLA2462, QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card	
Windows 2008 ¹	SP2	QLogic: QLA2340 QLA2460 QLE2460 QLE2560 Emulex: LP10000 LP11000 LPe11000 LPe12000	
AIX	5.1, 5.2, 5.3, 6.1	IBM: 6227, 6228, 6239, 5716	
HPUX	11.0, 11i	HP: A5158A, A6795A	
Solaris	7, 8, 9, 10	Emulex: LP10000, LP9802, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LPE12000 QLogic: QLA2340, QLE2562 JNI: FCE-1473, FCE-6410, FCE2-6410, FCE2-6412, FCE-6460N SUN: SG-XPCI1FC-JF2, SG-XPCI2FC-JF2, X6727A, X6799A	HDLM DMP
Linux	RHEL 2.1, 3.0, 4.5, 5.1, 5.4 SLES10	Emulex: LPe11000, LP9000, LP952L, LP9002, LP9002L, LP9002DC, LP9402DC, LP9802 QLogic: QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fiber card Hitachi: GVX-CC64G1, GVX-CC64G2, GVX-CC91OCOMB	HDLM DMP
VMware ²	ESX 3.01, 4.0	QLogic: QLA2340 Emulex: LP10000, LP11000	Bundled
Netware	6.0 SP2, 6.5 SP4a	QLogic: QLA2300F, QLA2310F, QLA2340, QLA2342, QLA2344	Bundled

1. Windows 2008 is supported on Nexus-OS 4.1(1b) and higher versions.
2. Guest servers Windows 2000 SP4, Windows 2003 SP1/R2, Linux AS 3.0 UP7 or latest.

Table 1-10 Adaptable Modular Storage AMS 2100, 2500, and 2300¹; 200, 500, and 1000

Operating System		HBA/CNA	Multipath Support
Type	Version		
Windows 2000	Advanced Server (SP4)	Emulex: LPe11000, LP11000-M4, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 QLogic: QLE2460, QLA2462, QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card	HDLM
Windows 2003	Enterprise Edition (SP2)	Emulex: LPe11000, LP11000-M4, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850, LP11000, OCe10102-F QLogic: QLE2460, QLA2462, QLA2340, QLA2342, QLA2344, QLE8152, HP Fibre card, IBM Fibre card Hitachi ² :GVX-CC64G1, GVX-CC64G2, GVX-CC9IOCOMB	
Windows 2008 ³	SP2, R2	Cisco: P81E VIC QLogic: QLA2340 QLA2460 QLE2460 QLE2560, QLE8152 Emulex: LP10000 LP11000 LPe11000 LPe12000, OCe10102-F	
AIX	5.1, 5.2, 5.3, 6.1, 7.1	IBM: 6227, 6228, 6239, 5716	
HPUX	11.0, 11i	HP: A5158A, A6795A	
Solaris	7, 8, 9, 10	Emulex: LP10000, LP9802, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000 QLogic: QLA2340, QLE2562 JNI: FCE-1473, FCE-6410, FCE2-6410, FCE2-6412, FCE-6460N SUN: SG-XPCI1FC-JF2, SG-XPCI2FC-JF2, X6727A, X6799A	HDLM DMP
Linux	RHEL 2.1, 3.0, 4.5, 5.1, 5.4, 5.5 SLES10	Cisco: P81E VIC Emulex: LPe11000, LP9000, LP952L, LP9002, LP9002L, LP9002DC, LP9402DC, LP9802, OCe10102-F QLogic: QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fiber card, QLE8152	HDLM DMP
	SLES11	QLogic: QLE8152 Emulex: OCe10102-F	
	RHEL 4.5, 5.1 (x86, x64)	Hitachi ² :GVX-CC64G1, GVX-CC64G2, GVX-CC9IOCOMB	HDLM Device Mapping
VMware ⁴	ESX 3.01, 4.0, 4.0 u2, 4.1	Cisco: P81E VIC QLogic: QLA2340, QLE8152 Emulex: LP10000, LP11000, OCe10102-F	Bundled
	ESX 4.0 UP2, 4.1	Hitachi: HFCE0802 Hitachi: HFC0401/0402	
Netware	6.0 SP2, 6.5 SP4a	QLogic: QLA2300F, QLA2310F, QLA2340, QLA2342, QLA2344	Bundled

1. AMS2300 is supported on 4.1(1b) and higher.
2. The Hitachi mezzanine adapters are supported on SAN-OS 3.1(3a) and higher.
3. Windows 2008 is supported on Nexus-OS 4.1(1b) and higher versions.
4. Guest servers Windows 2000 SP4, Windows 2003 SP1/R2, Linux AS 3.0 UP7 or latest.

Table 1-11 Thunder 9500V Series

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
Windows 2000	Advanced Server (SP4)	Emulex: LPe11000, LP11000-M4, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 Qlogic: QLE2460, QLA2462, QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card	HDLM
Windows 2003	Enterprise Edition	Emulex: LP11000-M4, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850, LP11000 Qlogic: QLA2462, QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card	
Windows 2008 ¹	SP2	Qlogic: QLA2340 QLA2460 QLE2460 QLE2560 Emulex: LP10000 LP11000 LPe11000 LPe12000	
AIX	5.1, 5.2, 5.3, 6.1	IBM: 6227, 6228, 6239, 5716	
HPUX	11.0, 11i	HP: A5158A, A6795A	
Solaris	7, 8, 9, 10	Emulex: LP10000, LP9802, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LPE12000 QLogic: QLA2340, QLE2562 JNI: FCE-1473, FCE-6410, FCE2-6410, FCE2-6412, FCE-6460N SUN: SG-XPCI1FC-JF2, SG-XPCI2FC-JF2, X6727A, X6799A	HDLM DMP
Linux	RHEL 2.1, 3.0, 4.5, 5.1, 5.4 SLES 10	Emulex: LPe11000, LP9000, LP952L, LP9002, LP9002L, LP9002DC, LP9402DC, LP9802 QLogic: QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fiber card	HDLM DMP
Netware	6.0 SP2, 6.5 SP4a	QLogic: QLA2300F, QLA2310F, QLA2340, QLA2342, QLA2344	Bundled

1. Windows 2008 is supported on Nexus-OS 4.1(1b) and higher versions.

Table 1-12 HDS High Performance NAS (HNAS)

HDS Storage	OS version	Host Bus Adapter	Driver	server model
AMS 2100, 2300, 2500	BOS 5.2.1220.09 (64 bit)	BlueArc:Integrated FC (4G)	Bundled	HiPerf NAS 3100/3200
	BOS 5.2.1220.18 (64 bit)			BOS 6.5.1847.17 (64 bit)
	BOS 5.2.1220.36 (64 bit)			HNAS 3090
	BOS 5.2.1220.39 (64 bit)			NNAS 3080
	BOS 6.0.1533.13 (64 bit)			HiPerf NAS
	BOS 6.0.1533.24 (64 bit)			2000/2100/2200 ¹
	BOS 6.0.1533.33k (64 bit)			
	BOS 6.0 (64 bit)			
AMS500/AMS1000/W MS100/AMS200	BOS 5.1.1156.10 (64 bit)			
	BOS 5.1.1156.18 (64 bit)			
	BOS 5.2.1220.09 (64 bit)			
	BOS 5.2.1220.18 (64 bit)			
	BOS 5.2.1220.36 (64 bit)			
	BOS 5.2.1220.39 (64 bit)			
	BOS 6.0.1533.13 (64 bit)			
	BOS 6.0.1533.24 (64 bit)			
SMS 100	BOS 6.0.1533.33k (64 bit)			
	BOS 5.2.1220.09 (64 bit)			
	BOS 5.2.1220.18 (64 bit)			
	BOS 5.2.1220.36 (64 bit)			
	BOS 5.2.1220.39 (64 bit)			
	BOS 6.0.1533.13 (64 bit)			
USP and NSC Models	BOS 6.0.1533.24 (64 bit)			HiPerf NAS
	BOS 6.0.1533.33k (64 bit)			2000/2100/2200
	BOS 6.5.1847.17 (64 bit)			HiPerf NAS 3100/3200
	BOS 6.5.1847.17 (64 bit)			HNAS 3090, HNAS 3080
	BOS 6.5.1847.17 (64 bit)			HiPerf NAS 3100/3200
USP V and USP VM Models	BOS 5.1.1156.10 (64 bit)			
	BOS 5.2.1220.09 (64 bit)			
	BOS 5.2.1220.18 (64 bit)			
	BOS 5.2.1220.36 (64 bit)			
	BOS 5.2.1220.39 (64 bit)			
	BOS 6.0.1533.13 (64 bit)			
	BOS 6.0.1533.24 (64 bit)			
	BOS 6.5.1847.17 (64 bit)			
BOS 6.0.1533.33k (64 bit)				
	BOS 6.5.1847.17 (64 bit)			HiPerf NAS
				2000/2100/2200
				HiPerf NAS 3100/3200
				HNAS 3090, HNAS 3080

1. Certified with MDS9140 SAN-OS 3.3(1c)

Table 1-13 Distance Extension

Distance System	Maximum Distance ¹	Network (TrueCopy)	Protocol	Storage System
MDS IPS-8 MDS IPS-4 MDS9216i MPS-14/2 MDS 9222i MSM 18/4	See note 1	FC-IP	Block I/O True Copy (Sync and Async) FC-IP WA feature is supported	TagmaStore (USP, USPV) Lightning 9900v, 9900 Thunder 9500v (Sync. only)
Cisco ONS 15530 Cisco ONS 15454 Cisco CWDM	100 km 25 km	DWDM CWDM	Block I/O True Copy (Sync and Async) FC-WA feature supported	TagmaStore (USP, USPV) Lightning 9900v, Thunder 9500v (Sync. only)

- Supported distance is determined by HDS field personnel and professional services based on customer's application requirements. Fibre Channel write acceleration is supported with Cisco SAN-OS Release 3.0(2a) and higher.
Hitachi Universal Replicator (HUR) for TagmaStore has been qualified on Cisco MDS SAN-OS Release 3.0(2a) and higher.

IBM

Table 1-14 ESS 2105 model 800

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
AIX	5.1, 5.2, 5.3, 6.1	IBM: 6227, 6228, 6239, 5716, 5759, 577D	SDD
Windows NT	4.0 (SP6a)	Emulex: LP9002L, LP9002DC QLogic: QLA2200F, QLA2340L, QLA2342L	
Windows 2000	Advanced Server (SP2 or later) Data Center	Emulex: LP9002L, LP9002DC, LP8000, LP9802, LP10000, LP11000, LPe12000 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2310F, QLA2310FL, QLA2462, QLE2562	
Windows 2003	Standard Enterprise	IBM: FC2104 (FC2/133-24P0960), eServer BladeCenter HS20 (8678 and 8832)	
Netware	6.0	Emulex: LP9002L, LP9002DC QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2310F, QLA2310FL IBM: FC2104 (FC2/133-24P0960)	No
	6.5	IBM: eServer BladeCenter HS20 (8678 and 8832)	
Linux	RedHat 7.2, AS 2.1, AS 3.0, ES 5.3, ES 5.4	Emulex: LP9002L, LP9002DC, LP8000, LP9802 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2310F, QLA2310FL, QLA2462, QLE2562 IBM: FC2104 (FC2/133-24P0960)	SDD
	RedHat 7.3, 8, 9, 2.1	IBM: IBM eServer BladeCenter HS20 (8678)	
	RedHat AS 2.1	IBM: IBM eServer BladeCenter HS20 (8832)	
	SLES 7, 9, 10, 11	Emulex: LP9002L, LP9002DC QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2310F, QLA2310FL IBM: FC2104 (FC2/133-24P0960)	No
	United Linux 1.0 (SLES 8.0)	IBM: IBM eServer BladeCenter HS20 (8678 and 8832) IBM: zSeries models z800, z890, z900, z990	
Solaris	2.6, 7, 8, 9, 10	Emulex: LP8000, LP9002L, LP9002DC, LP9002S, LP9002C QLogic: QLA2310FL, QLA2340/2342 JNI: FCE-6460, FCC-6562, FCX2-6562, FCC2-6562, FCE1473	SDD MPXIO
HP-UX	11.0, 11i	HP: A5158A, A6795A	
VMware ESX	2.0	IBM: eServer BladeCenter HS20 (8678 and 8832)	
OS/400 (iSeries)	V5R2, V5R3	IBM: 2766, 2787	

Table 1-15 DS 8000 Series

Operating System		HBA/CNA	Multipath Support
Type	Version		
AIX	5.1, 5.2, 5.3, 6.1	IBM: FC 0612, FC 0625, FC 0626, FC 0646, FC 2766, FC 2787, FC 1977, FC 5716, FC 6228, FC 6239, 577D, 5759	SDD
NAS Gateway 500	5198 model 001	NA	
Windows 2000	Advanced Server Data Center	Emulex: LP9002L, LP9002DC, LP9402DC, LP9802, LP10000, LP11000, LPe12000 LP10000, LP10000DC QLogic: QLA2310F, QLA2310FL, QLA2340F, QLA2342FL, QLA2462, QLA2562 IBM: 19K1246, 24P0960, eServer BladeCenter HS20, HS40, LS20	
Windows 2003	Standard Edition Enterprise Edition	Cisco: P81E VIC Emulex: LP9002L, LP9002DC, LP9402DC, LP9802, LP10000, LP11000, LPe12000, OCe10102-F LP10000, LP10000DC QLogic: QLA2310F, QLA2310FL, QLA2340F, QLA2342FL, QLA2462, QLA2562, QLE8152 IBM: 19K1246, 24P0960, eServer BladeCenter HS20, HS40, LS20	No
Netware	5.1, 6.0, 6.5	Emulex: LP9002L, LP9002DC, LP9402DC, LP9802, LP10000, LP11000, LPe12000 LP10000, LP10000DC QLogic: QLA2310F, QLA2310FL, QLA2340F, QLA2342FL, QLA2462, QLA2562 IBM: 19K1246, 24P0960, eServer BladeCenter HS20, HS40, LS20	
Linux	RedHat 2.1, 3.0 ES 5.3, ES 5.4, 5.5 SLES 8, 9, 10, 11	Cisco: P81E VIC Emulex: LP9002L, LP9002DC, LP9802, LP9402DC, LP10000, LP10000DC, OCe10102-F QLogic: QLA2340F, QLA2342FL, QLA2310F, QLA2310FL, QLE8152 IBM: FC 0612, FC 0625, FC 0626, FC 0646, FC 2766, FC 2787, FC 1977, FC 5716, FC 6228, FC 6239, 19K1246, 24P0960	
IBM Virtual Server (VIOS)	1.1	IBM: FC 1977, FC 5716, FC 6228, FC 6239	SDD
Solaris	8, 9, 10	Emulex: LP9002L, LP9002DC, LP9402DC, LP9002S, LP10000, LP11000, LPe12000 LP9802, LP10000, LP10000DC QLogic: QLA2310FL, QLA2310F, QLA2340F, QLA2342FL, QLA2462, QLE2562 AMCC/JNI: FCE-6460, FCX2-6562, FCX-6562, FCE-1473 Sun: 6727A, 6757A, 6767A (SG-XPCI1FC-QF2), 6768A (SG-XPCI2FC-QF2)	
HP-UX	11.i, 11v2 (11.23)	HP: A5158A, A6795A, A6684A, A6826A, A6685A, A9782A; AB465A	
VMware ESX	2.5.0, 2.5.1, 4.0 u2	Cisco: P81E VIC IBM: Blade Center HS20, HS40, 19K1246, 24P0960 Emulex: LP9402DC, LP9802, OCe10102-F QLogic: QLA2310F, QLA2310FL, QLA2340F, QLA2342FL, QLE8152	

Table 1-15 DS 8000 Series (continued)

Operating System		HBA/CNA	Multipath Support
Type	Version		
OS/400 i5/OS	V5R3	IBM: FC 0612, FC 0625, FC 0626, FC 0646, FC 2766, FC 2787	NA
IBM z/OS (FCP, FICON) z/OS.e (FICON) z/VM (FCP, FICON) z/VSE (FCP, FICON) VSE/ESA (FICON) Linux RH (FICON) SUSE (FCP, FICON)	ver. 1 R4, R5, R6 ver. 1 R4, R5, R6 ver. 4 R4, Ver 5 R1 ver. 3 R1 ver 2 R7 3.0 & higher 8, 9 & higher	IBM: zSeries models z900, z990, IBM 9672 G5 and G6, z800, z890, z9-109: FC 2315, FC 2318, FC 2319, FC2320, FC 3319, FC 3320 IBM: S/390: FC 2314, FC 2316	NA

Table 1-16 DS 6000 Series

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
AIX	5.1, 5.2, 5.3	IBM: FC 5716, FC 6228, FC 6239	SDD
NAS Gateway 500	5198 model 001	NA	
Windows 2000	Advanced Server (SP2 or later) Data Center	Emulex: LP9002L, LP9002DC, LP9402DC, LP9802 LP10000, LP10000DC QLogic: QLA2310F, QLA2310FL, QLA2340L, QLA2342L, QLA2310F, QLA2310FL	
Windows 2003	Std, Enterprise Edition	IBM: 19K1246, 24P0960, eServer BladeCenter HS20 (8678 and 8832)	No
Netware	6.0	IBM: eServer BladeCenter HS20 (8678 and 8832)	
Linux	RedHat 2.1, 3.0	Emulex: LP9002L, LP9002DC, LP9802, LP9402DC, LP10000, LP10000DC QLogic: QLA2340L, QLA2342FL, QLA2310F, QLA2310FL IBM: FC2104 (FC2/133-24P0960)	SDD
	SLES 8		No
Solaris	8, 9	Emulex: LP9002L, LP9002DC, LP9402DC, LP9002S LP9802 QLogic: QLA2310FL, QLA2310F, QLA2340L, QLA2342L JNI: FCE-6460, FCX2-6562, FCX-6562, FCE-1473	SDD
HP-UX	11.i, 11v2 (11.23)	HP: A5158A, A6795A, A6684A, A6826A, A6685A, A9782A	
VMware ESX	2.0	IBM: Blade Center HS20 (8678, 8832) Emulex: LP9402DC, LP9802 QLogic: QLA2310F, QLA2310FL, QLA2340L, QLA2342L	
OS/400 (iSeries)	V5R2, V5R3	IBM: FC2766, FC 2787, FC 0646, FC 0612, FC 0626	NA
IBM z/OS (FICON or FICON Express Channels)	1.4.1 or later	IBM: zSeries models z900, z990, G5/G6 Longwave: FC2315, FC2319 Shortwave: FC2318, FC2320	

Table 1-17 DS 3000, 4000, 5000 series

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
AIX	5.1, 5.2, 5.3	IBM: 6227, 6228, 6239, 5716, JS20 blade	RDAC
Windows 2000	Server, Adv. Server	IBM: FC2103, FC2104, FC2102	
Windows 2003	Standard, Enterprise, Web Edition	QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F IBM: eServer BladeCenter HS20, HS40 (8678 and 8832) Emulex: LP9002, LP9402, LP9802, LP10000	
Netware	6.0	IBM: FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F, QLA2310FL	No
	6.5	IBM: eServer BladeCenter HS20, HS40 (8678 and 8832)	
Linux	RedHat AS 2.1	IBM: FC2103, FC2104	RDAC
	United Linux 1.0 (SLES 8)	QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F Emulex: LP9002, LP9402, LP9802, LP10000	No
	RedHat 7.3, 8, 9	IBM: eServer Blade Center HS20, HS40	RDAC
	RedHat 3.0		
	United Linux 1.0 (SLES 8)		
Solaris	2.6, 7, 8, 9, 10	JNI: FCE-1473, FCE-6460 QLogic: QLA2200F, QLA2300F, QLA2310F	RDAC
HP-UX	11.0, 11i	HP: A5158A, A6795A, A3591B, A3740	RDAC
VMware ESX	2.5.2 & higher	IBM: eServer Blade Center HS20, HS40 (8678 and 8832) QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F Emulex: LP9002, LP9402, LP9802, LP10000	Native

Table 1-18 DS4200 (FAStT 700), DS4500 (FAStT 900¹)

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
AIX	5.1, 5.2, 5.3, 6.1	IBM: 6227, 6228, 6239, 5716, JS20	RDAC
Windows NT	4.0 (SP6a)	IBM: FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F Emulex: LP9002, LP9402, LP9802, LP10000	
Windows 2000	Server Advanced Server	IBM: FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F	
Windows 2003	Standard, Enterprise, Web Edition	IBM: eServer BladeCenter HS20, HS40	
Netware	6.0	IBM: FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F Emulex: LP9002, LP9402, LP9802, LP10000	No
	6.5	IBM: eServer BladeCenter HS20, HS40	

Table 1-18 DS4200 (FAStT 700), DS4500 (FAStT 900¹) (continued)

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
Linux	RedHat AS 2.1 & later	IBM: FC2103, FC2104	RDAC
	United Linux 1.0 (SLES 8)		No
	RedHat 7.3, 8& later	IBM: eServer BladeCenter HS20, HS40	RDAC
	RedHat AS 2.1		
	United Linux 1.0 (SLES 8) & later		
Solaris	2.6, 7, 8, 9, 10	JNI: FCE-1473, FCE-6460 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F	RDAC MPXIO
HP-UX	11.0, 11i	HP: A5158A, A6795A, A6826A, A3591B	RDAC
VMware ESX	2.0, 2.5.2 & later	IBM: eServer Blade Center HS20, HS40 Emulex: LP9002, LP9402, LP9802, LP10000 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F	

1. Refer to the following links for latest IBM Interoperability support matrix:
<http://www-03.ibm.com/systems/storage/disk/ds4000/pdf/interop-matrix.pdf>
<ftp://service.boulder.ibm.com/storage/san/cisco/mds9216.pdf>

Table 1-19 DS4300 (FAStT 600 Single and Dual Controller), DS4300 Turbo

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
AIX	5.1, 5.2, 5.3, 6.1	IBM: 6227, 6228, 6239, 5716	No
Windows NT	4.0 (SP6a)	IBM: FC2102, FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F, QLA2310FL Emulex: LP9002, LP9402, LP9802	RDAC
Windows 2000	Server, Adv.Server (SP3 & later)		
Windows 2003	Standard, Enterprise, Web Edition		
Netware	6.0 & later	IBM: FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F, QLA2310FL	No
Linux	RedHat AS 2.1, 3.0 RedHat 3.0 (xSeries) & later	IBM: FC2103, FC2104 QLogic: QLA2340L, QLA2342L, QLA2300F, QLA2310F, QLA2310FL	RDAC
	United Linux 1.0 (SLES 8) & later SLES 9 (pSeries)		No
Solaris	2.6, 7, 8, 9 & later	JNI: FCE-1473, FCE-6460 QLogic: QLA2300F, QLA2340, QLA2342	RDAC MPXIO
HP-UX	11.0, 11i	HP: A5158A, A6795A	RDAC

Table 1-20 DS4100 (FAStT 100)¹

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
AIX	5.1, 5.2, 5.3	IBM: 6227, 6228, 6239, 5716	No
Windows 2000	Server Advanced Server (SP3)	IBM: FC2102, FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F, QLA2310FL	RDAC
Windows 2003	Standard, Enterprise, Web Edition	Emulex: LP9002, LP9402, LP9802	No
Linux	RedHat 3.0	IBM: FC2103, FC2104 QLogic: QLA2340L, QLA2342L, QLA2300F, QLA2310F, QLA2310FL	RDAC
	SLES 9 (pSeries) SLES 8 (xSeries)		No

1. Refer to the following URL for complete IBM SAN Volume Controller Compatibility information with Cisco MDS 9000 Family switches:
<http://www-1.ibm.com/support/docview.wss?rs=591&uid=ssg1S1002472>

Table 1-21 IBM FAStT 200, 500

Operating System		Host Bus Adapter	RDAC Multipath Support
Type	Version	Model	
AIX	5.1, 5.2, 5.3	IBM: 6227, 6228, 6239, 5716, JS20	No
Windows NT	4.0 (SP6a)	IBM: FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F	Yes
Windows 2000	Server Advanced Server	QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F IBM: eServer Blade Center HS20, HS40	
Windows 2003	Standard, Enterprise, Web Edition		
Linux	RedHat 7.3, 8, 9	IBM: eServer Blade Center HS20 (8678)	
	RedHat 3.0 (pSeries) RedHat 8.0 (xSeries)	IBM: eServer Blade Center HS20 (8832, 8678) QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F, FC2103, FC2104	No
	SLES 9 (pSeries) SLE 8.0 (xSeries)	IBM: eServer Blade Center HS20 (8832) QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F, FC2103, FC2104	
Solaris	2.6, 7, 8, 9	JNI: FCE-1473, FCE-6460 QLogic: QLA2200F, QLA2340L, QLA2300F	Yes
HP-UX	11.0, 11i	HP: A5158A, A6795A	Yes
VMware ESX	2.0, 2.5.2	IBM: eServer Blade Center HS20, HS40	

Table 1-22 IBM DS 8000, 6000 Series Distance Extension

Cisco Product	Protocol	Enhanced Remote Mirror			Global Mirror FICON
		Metro Mirroring	Global Copy	Global Mirroring	
IP Service Module (IPS 4, IPS 8), MDS 9216i, MDS 9222i, MPS-14/2, MSM 18/4	FC-IP	Ver. 5.0.0 & later	Ver. 5.0.0 & later	Ver. 5.0.0 & later	Ver. 5.0.0 & later
Cisco ONS Cisco CWDM	FC				

Table 1-23 IBM DS 4000 Series Distance Extension

Cisco Product	Protocol	Volume Copy	RVM
Cisco CWDM	FC	ver. 8.3, 8.41 & later	ver. 8.3, 8.41 & later

Table 1-24 IBM ESS 2105 Series Distance Extension

Cisco Product	Protocol	PPRC Sync	PPRC Long Distance	Async Cascade	
				PPRC-XD	Async PPRC
IP Service Module (IPS 8, IPS 4), MPS-14/2, MSM 18/4, MDS 9216i, MDS 9222i	FC-IP	ver. 2.3.0 & later	ver. 2.3.0 & later	ver. 2.3.0 & later	ver 2.4.0 & later
Cisco CWDM Cisco ONS	FC				

Table 1-25 IBM SAN Volume Controller¹

SVC version	Protocol		
	FC	FC-IP	iSCSI
V2.1.0 & later	2.1(2b), 3.0(2), 3.2(1a), 3.2(2c), 3.2(3), 3.2.(3a), 3.3(1c), 3.3(2), 3.3(3), 3.3(4a), 3.3(5b), 4.1(1c), 4.1(3a), 4.2(1b), 4.2(3), 4.2(5), 4.2(7a), 4.2(7d), 4.2(7e), 5.0(1a), 5.0(4)	2.1(2b), 3.0(2), 3.2(1a), 3.2(2c), 3.2(3), 3.2.(3a), 3.3(1c), 3.3(2), 3.3(3), 3.3(4a), 3.3(5b), 4.1(1c), 4.1(3a), 4.2(1b), 4.2(3), 4.2(5), 4.2(7a), 4.2(7e), 5.0(1a), 5.0(4)	Windows 2000 (1.06 driver and higher) Windows 2003 (1.06 driver and higher) Red Hat AD 2.4, 2.6 kernels

1. Refer to the following URL for the complete IBM SAN Volume Controller Compatibility Matrix under Supported Hardware with Cisco MDS product family:
<http://www-304.ibm.com/jct01004c/systems/support/supportsite.wss/supportresources?taskind=4&brandind=5000033&familyind=5329743>

HP

Table 1-26 HP XP 10000, 12000, 20000, 24000¹

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
OpenVMS Alpha	7.3-2, 8.2, 8.3	HP: FCA2354, FCA2384, FCA2684, FCA2684DC Emulex: LP8000, LP9002, LP9802, LP10000, LP10000DC	Native
OpenVMS IA64 ²	8.2-1, 8.3, 8.3-1H1	HP: AD299A, AD355A, A6826A, A9782A, A9784A AB465A, AB378A, AB378B, AB379A AB379B, AD300A, AD193A, AD194A, QMH2462	
HP-UX ³	11iv1, 11iv2	HP: A5158, A6795A, AB465A, A9782A, A9784A, A6826A, AB378A, AB379A, AD193A, AD194A, AB378B, AB379A, AD300A, AD299A, AD355A, QMH2462, Mezzanine	SecurePath
	11iv3		Native
Tru64 Unix	5.1B-3, 5.1B-4	Emulex: LP8000, LP9002, LP9802, LP10000, LP10000DC	
AIX	4.3.3, 5.1, 5.2, 5.3	IBM: 5716, 6227, 6228, 6239	MPIO/ODM
Windows 2000	Advanced Server (SP3+)	HP: DS-KGPSA-CB, FCA2355, FCA2101, LP9802DC, LP1050DC, FCA2214, FCA2214-DC, Mezzanine, Balcony QLogic: QLA2462, QLA234x, QMH2462 Emulex: LP1050DC, LP1050EX, LP11002-M4, LP9802DC, LP8000, LPe1105	SecurePath Microsoft MPIO/DSM
Windows 2003	Enterprise Edition	HP: DS-KGPSA-CB, FCA2355, FCA2101, FCA2214, FCA2214-DC, Mezzanine, Balcony Qlogic: QLA2462, QLA234x, CLE8152 Emulex: LP11002-M4, LP1050DC, LP9802DC, LP8000, OCe10102-F	
Windows 2008 ⁴	IA32 & x64	Cisco: P81E VIC Emulex: LP1050 (FC2143), LP11002 (FC2243), LPe1150 (FC2142SR), LPe11002 (FC2242SR), LPe1105 (HP c-Class Mezz Card), LP9802DC (FCA2404DC), LP982 (FCA2408), OCe10102-F Qlogic: QLA2460 (FC1143), QLA2462 (FC1243), QLE2460 (FC1142), QLE2462 (FC1242), QLA2340 (FCA2214), QLA2342 (FCA2214DC), QMH2462 (HP c-Class Mezz Card), QLE8152 HP: FC Mezz Card (p-Class BL20p G2), FC Adapter Card (p-Class BL20p G3, BL45p G2), Mezzanine FCA (p-Class BL20p G4), HPBALCF 105 (p-Class BL25p, BL45p), FC Balcony Card (p-Class BL30p, BL35p), E-FC Adapter Card (p-Class BL20p G3), E-FC Balcony Card (p-Class BL25p, BL45p, BL45p G2, BL30p, BL35p, BL45p)	HP MPIO FF DSM 3.00.00
Windows NT	Enterprise 4.0 (SP6a)	HP: FCA2355, FCA2101, DS-KGPSA-CB	EOL
Solaris	8, 9, 10	Emulex: LP9802, LP10000DC QLogic: QLA2202, QLA2310, QLA234x, QLA2462 JNI: FCE-6410, FCX-6562, FCE-6460, FCE-1473 Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2	MPXIO Veritas DMP SecurePath
Linux (32bit or 64bit)	Red Hat EL 3 U6+ Red Hat EL 4 U1+ Red Hat 5.5 SuSE 8 SP4+ SuSE 9 SP2+	Cisco: P81E VIC HP: Mezzanine, Balcony Qlogic: QLA234x, QLA 2462, QLE 2462, QMH2462, QLE8152 Emulex: LP11002, LPe1105, OCe10102-F	Emulex Multipulse QLogic Path Failover
	SLES 11	Qlogic: QLE8152 Emulex: OCe10102-F	

Table 1-26 HP XP 10000, 12000, 20000, 24000¹ (continued)

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
Netware	5.1 SP8 & higher	HP: Mezzanine QLogic: QLA234x	Native
VMware ESX Server, (XP 12000 not supported)	3.0, 4.0 u2	Cisco: P81E VIC HP: FCA2214, FCA2210, FCA2214DC, Mezzanine, Balcony QLogic: QLE8152 Emulex: OCe10102-F	Native

1. Boot From SAN is supported
2. Open VMS is not supported on the MSA 1500 active/passive configuration.
3. HP-UX 11iv1 is not supported on AD194A, AB378B, AB379B, Mezzanine cards. QMH2462 is supported on HP-UX 11iv2, 3 only. AD299A and AD355A is supported on HP-UX 11iv2 only.
4. Cisco MDS SAN-OS 3.2(3) is the minimum version required for Windows 2008 support.

Table 1-27 HP XP128, XP1024¹

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
OpenVMS Alpha	7.3-2, 8.2, 8.3	HP: FCA2354, FCA2384, FCA2684, FCA2684DC Emulex: LP8000, LP9002, LP9802, LP10000, LP10000DC	Native
OpenVMS IA64 ²	8.2-1, 8.3, 8.3-1H1	HP: AD299A, AD355A, A6826A, A9782A, A9784A AB465A, AB378A, AB378B, AB379A AB379B, AD300A, AD193A, AD194A, QMH2462	
HP-UX ³	11iv1, 11iv2	HHP: A5158, A6795A, AB465A, A9782A, A9784A, A6826A, AB378A, AB379A, AD193A, AD194A, AB378B, AB379A, AD300A, AD299A, AD355A, QMH2462, Mezzanine	SecurePath
	11iv3		Native
Tru64 Unix	5.1B-3, 5.1B-4	Emulex: LP8000, LP9002, LP9802, LP10000, LP10000DC	
AIX	4.3.3, 5.1, 5.2, 5.3	IBM: 5716, 6227, 6228, 6239	MPIO/ODM
Windows 2000	Advanced Server (SP3+)	HP: DS-KGPSA-CB, FCA2355, FCA2101, LP9802DC, LP1050DC, FCA2214, FCA2214-DC, Mezzanine, Balcony QLogic: QLA2462, QLA234x, QMH2462 Emulex: LP1050DC, LP1050EX, LP11002-M4, LP9802DC, LP8000, LPe1105	SecurePath Microsoft MPIO/DSM
Windows 2003	Enterprise Edition	HP: DS-KGPSA-CB, FCA2355, FCA2101, FCA2214, FCA2214-DC, Mezzanine, Balcony QLogic: QLA2462, QLA234x, CLE8152 Emulex: LP11002-M4, LP1050DC, LP9802DC, LP8000, OCe10102-F	
Windows 2008	SP2	Cisco: P81E VIC Emulex: OCe10102-F QLogic: QLE8152	
Windows NT	Enterprise 4.0 (SP6a)	HP: FCA2355, FCA2101, DS-KGPSA-CB	EOL
Solaris	8, 9, 10	Emulex: LP9802, LP10000DC QLogic: QLA2202, QLA2310, QLA234x, QLA2462 JNI: FCE-6410, FCX-6562, FCE-6460, FCE-1473 Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2	MPXIO
			Veritas DMP
			SecurePath

Table 1-27 HP XP128, XP1024¹ (continued)

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
Linux (32bit or 64bit)	Red Hat EL 3 U6+ Red Hat EL 4 U1+ Red Hat 5.5 SuSE 8 SP4+ SuSE 9 SP2+	Cisco: P81E VIC HP: Mezzanine, Balcony QLogic: QLA234x, QLA 2462, QLE 2462, QMH2462, QLE8152 Emulex: LP11002, LPe1105, OCe10102-F	Emulex Multipulse QLogic Path Failover
	SLES 11	QLogic: QLE8152 Emulex: OCe10102-F	
Netware	5.1 SP8 & higher	HP: Mezzanine QLogic: QLA234x	Native
VMware ESX Server (XP 12000 not supported)	3.0, 4.0 u2	Cisco: P81E VIC HP: FCA2214, FCA2210, FCA2214DC, Mezzanine, Balcony QLogic: QLE8152 Emulex: OCe10102-F	Native

1. Boot From SAN is supported
2. OpenVMS is not supported on the MSA 1500 active/passive configuration.
3. HPUX 11iv1 is not supported on AD194A, AB378B, AB379B, Mezzanine cards. QMH2462 is supported on HPUX 11iv2, 3 only. AD299A and AD355A is supported on HPUX 11iv2 only.

Table 1-28 HP EVA GL -- 3000 (HSV100), 5000 (HSV110)¹

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
OpenVMS Alpha	7.3-2, 8.2, 8.3	HP: FCA2354, FCA2384, FCA2684, FCA2684DC Emulex: LP8000, LP9002, LP9802, LP10000, LP10000DC	Native
OpenVMS IA64 ²	8.2-1, 8.3, 8.3-1H1	HP: AD299A, AD355A, A6826A, A9782A, A9784A AB465A, AB378A, AB378B, AB379A AB379B, AD300A, AD193A, AD194A, QMH2462	
HP-UX ³	11iv1, 11iv2	HP: A5158, A6795A, AB465A, A9782A, A9784A, A6826A, AB378A, AB379A, AD193A, AD194A, AB378B, AB379A, AD300A, AD299A, AD355A, QMH2462, Mezzanine	SecurePath
	11iv3		native
Tru64 Unix	5.1B-3, 5.1B-4	Emulex: LP8000, LP9002, LP9802, LP10000, LP10000DC	
AIX	4.3.3, 5.1, 5.2, 5.3	IBM: 5716, 6227, 6228, 6239	MPIO/ODM
Windows 2000	Advanced Server (SP3+)	HP: DS-KGPSA-CB, FCA2355, FCA2101, LP9802DC, LP1050DC, FCA2214, FCA2214-DC, Mezzanine, Balcony Emulex: LP1050DC, LP1050EX, LP11002-M4, LP8000 QLogic: QLA2462, QLA234x	SecurePath Microsoft MPIO/DSM
Windows 2003	Enterprise Edition	HP: DS-KGPSA-CB, FCA2355, FCA2101, FCA2214, FCA2214-DC, Mezzanine, Balcony QLogic: QLA2462, QLA234x Emulex: LP11002-M4, LP1050DC, LP9802DC, LP8000	

Table 1-28 HP EVA GL -- 3000 (HSV100), 5000 (HSV110)¹ (continued)

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
Windows 2008 ⁴	IA32 & x64	Emulex: LP1050 (FC2143), LP11002 (FC2243), LPe1150 (FC2142SR), LPe11002 (FC2242SR), LPe1105 (HP c-Class Mezz Card), LP9802DC (FCA2404DC), LP982 (FCA2408) QLogic: QLA2460 (FC1143), QLA2462 (FC1243), QLE2460 (FC1142), QLE2462 (FC1242), QLA2340 (FCA2214), QLA2342 (FCA2214DC), QMH2462 (HP c-Class Mezz Card) HP: FC Mezz Card (p-Class BL20p G2), FC Adapter Card (p-Class BL20p G3, BL45p G2), Mezzanine FCA (p-Class BL20p G4), HPBALCF 105 (p-Class BL25p, BL45p), FC Balcony Card (p-Class BL30p, BL35p), E-FC Adapter Card (p-Class BL20p G3), E-FC Balcony Card (p-Class BL25p, BL45p, BL45p G2, BL30p, BL35p, BL45p)	HP MPIO FF DSM 3.00.00
Windows NT	Enterprise Edition 4.0 (SP6a)	HP: FCA2355, FCA2101, DS-KGPSA-CB	EOL
Linux (32bit or 64bit)	RedHat AS 2.1 Red Hat EL 3 U6+ Red Hat EL 4 U1+ SuSE 7 SuSE 8 SP4+ SuSE 9 SP2+	HP: FCA2214, Mezzanine, Balcony QLogic: QLA234x	Emulex Multipulse QLogic Path Failover
Solaris	8, 9, 10	JNI: FCE-1473, FCE-6410, FCX-6562, FCE-6460 Emulex: LP9802, LP10000DC QLogic: QLA2310, QLA234x Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2	MPXIO Veritas DMP SecurePath
Netware	5.1 SP8 6.1 SP4	HP: Mezzanine QLogic: QLA234x	Native
VMware ESX Server	3.0	HP: FCA2214, FCA2210, FCA2214DC, Mezzanine	Native

1. Boot From SAN is supported
2. OpenVMS is not supported on the MSA 1500 active/passive configuration.
3. HP-UX 11iv1 is not supported on AD194A, AB378B, AB379B, Mezzanine cards. HP-UX 11iv3 supports EVA 3000/5000 active/active configuration. QMH2462 is supported on HP-UX 11iv2, 3 only. AD299A and AD355A is supported on HP-UX 11iv2 only.
4. Cisco MDS SAN-OS 3.2(3) is the minimum version required for Windows 2008 support. Only active/active EVA firmware versions are supported.

Table 1-29 HP EVA XL -- 4000, 6000, 8000¹

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
OpenVMS Alpha	7.3-2, 8.2, 8.3 & later	HP: FCA2354, FCA2384, FCA2684, FCA2684DC Emulex: LP8000, LP9002, LP9802, LP10000, LP10000DC	Native
OpenVMS IA64 ²	8.2-1, 8.3, 8.3-1H1 & later	HP: AD299A, AD355A, A6826A, A9782A, A9784A AB465A, AB378A, AB378B, AB379A AB379B, AD300A, AD193A, AD194A, QMH2462	
HP-UX ³	11iv1, 11iv2	HP: A5158, A6795A, AB465A, A9782A, A9784A, A6826A, AB378A, AB379A, AD193A, AD194A, AB378B, AB379A, AD300A, AD299A, AD355A, QMH2462, Mezzanine	SecurePath
	11iv3		Native
Tru64 Unix ⁴	5.1B-3, 5.1B-4	Emulex: LP8000, LP9002, LP9802, LP10000, LP10000DC	
AIX	4.3.3, 5.1, 5.2, 5.3	IBM: 5716, 6227, 6228, 6239	MPIO/ODM
Windows 2000	Advanced Server (SP3+)	HP: DS-KGPSA-CB, FCA2355, FCA2101, LP9802DC, LP1050DC, FCA2214, FCA2214-DC, Mezzanine, Balcony Emulex: LP1050DC, LP1050EX, LP11002-M4, LP8000 QLogic: QLA2462, QLA234x	SecurePath Microsoft MPIO/DSM
Windows 2003	Enterprise Edition	Emulex: OCe10102-F QLogic: QLE8152	
Windows 2008 ⁵	IA32 & x64	Cisco: P81E VIC Emulex: LP1050 (FC2143), LP11002 (FC2243), LPe1150 (FC2142SR), LPe11002 (FC2242SR), LPe1105 (HP c-Class Mezz Card), LP9802DC (FCA2404DC), LP982 (FCA2408), OCe10102-F QLogic: QLA2460 (FC1143), QLA2462 (FC1243), QLE2460 (FC1142), QLE2462 (FC1242), QLA2340 (FCA2214), QLA2342 (FCA2214DC), QMH2462 (HP c-Class Mezz Card), QLE8152 HP: HPBALCF 105 (p-Class BL25p, BL45p), FC Balcony Card (p-Class BL30p, BL35p), E-FC Adapter Card (p-Class BL20p G3), E-FC Balcony Card (p-Class BL25p, BL45p, BL45p G2, BL30p, BL35p, BL45p)	HP MPIO FF DSM 3.00.00
Linux (32bit or 64bit)	RedHat AS 2.1 & later SuSE 7 & later	Cisco: P81E VIC Emulex: OCe10102-F HP: FCA2214, Mezzanine, Balcony QLogic: QLA234x, QLE8152	Multipulse Path Failover
	SLES 11	Emulex: OCe10102-F QLogic: QLE8152	
Solaris	8, 9, 10	JNI: FCE-1473, FCE-6410, FCX-6562, FCE-6460 Emulex: LP9802, LP10000DC QLogic: QLA2310, QLA234x Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2	MPXIO Veritas DMP SecurePath
Netware	5.1 SP8, 6.1 SP4	HP: Mezzanine & QLogic: QLA234x	Native
VMware ESX Server	3.0, 4.0 u2	Cisco: P81E VIC HP: FCA2214, FCA2210, FCA2214DC, Mezzanine, Balcony QLogic: QLE8152 Emulex: OCe10102-F	Native
MAC-OS ⁶	10.4.11 & later	ATTO: Celerity FC-41XS, FC-41ES, FC-42ES, Celerity FC-44ES	No

1. Boot From SAN is supported. The 4000, 6000, and 8000 EVA family includes the 4100, 6100, and 8100

2. OpenVMS is not supported on the MSA 1500 active/passive configuration.

3. HPUX 11iv1 is not supported on AD194A, AB378B, AB379B, Mezzanine cards. QMH2462 is supported on HPUX 11iv2, 3 only. AD299A and AD355A is supported on HPUX 11iv2 only.
4. True64 is not supported on EVA4400 and MSA1500 (active/passive) arrays.
5. Cisco MDS SAN-OS 3.2(3) is the minimum version required for Windows 2008 support. Only active/active EVA firmware versions are supported.
6. Certified bundled solution by HP/ATTO

Table 1-30 HP MSA1000, MSA1500 (Active/Active)¹

Operating System		Host Bus Adapter	Multipath Support
Type	Version		
HP-UX ²	11iv1, 11iv2	HP: A5158, A6795A, AB465A, A9782A, A9784A, A6826A, AB378A, AB379A, AD193A, AD194A, AB378B, AB379A, AD300A, AD299A, AD355A, QMH2462, Mezzanine	Single Path
	11iv3		Native
OpenVMS Alpha	7.3-2, 8.2, 8.3	HP: FCA2354, FCA2384, FCA2684, FCA2684DC Emulex: LP8000, LP9002, LP9802, LP10000, LP10000DC	Native
	OpenVMS IA64 ³	8.2-1, 8.3, 8.3-1H1 HP: AD299A, AD355A, A6826A, A9782A, A9784A, AB465A, AB378A, AB378B, AB379A, AB379B, AD300A, AD193A, AD194A, QMH2462	
Tru64 Unix	5.1B-3, 5.1B-4	Emulex: LP8000, LP9002, LP9802, LP10000, LP10000DC	
Windows 2000	Advanced Server (SP3+)	HP: DS-KGPSA-CB, FCA2355, FCA2101, LP9802DC, LP1050DC, FCA2214, FCA2214-DC, Mezzanine, Balcony Emulex: LP8000 QLogic: QLA234x	SecurePath (Active/Passive)
Windows 2003	Enterprise Edition	HP: FCA2355, FCA2101, FCA2214, FCA2214-DC, DS-KGPSA-CB, Mezzanine, Balcony Emulex: LP8000, LP9002, LP9802, OCe10102-F QLogic: QLA234x, QLE8152	Microsoft MPIO/DM (Active/Active)
Windows 2008 ⁴	IA32 & x64	Cisco: P81E VIC Emulex: LP1050 (FC2143), LP11002 (FC2243), LPe1150 (FC2142SR), LPe11002 (FC2242SR), LPe1105 (HP c-Class Mezz Card), LP9802DC (FCA2404DC), LP982 (FCA2408), OCe10102-F QLogic: QLA2460 (FC1143), QLA2462 (FC1243), QLE2460 (FC1142), QLE2462 (FC1242), QLA2340 (FCA2214), QLA2342 (FCA2214DC), QMH2462 (HP c-Class Mezz Card), QLE8152 HP: FC Balcony Card (p-Class BL30p, BL35p), E-FC Adapter Card (p-Class BL20p G3), E-FC Balcony Card (p-Class BL25p, BL45p, BL45p G2, BL30p, BL35p, BL45p)	HP MPIO FF DSM 3.00.00
Linux (32bit or 64bit)	RedHat AS 2.1 & later SuSE 7 & later	Emulex: OCe10102-F HP: FCA2214, Mezzanine, Balcony QLogic: QLA234x, QLE8152	Multipulse QL Failover
	SLES 11	Emulex: OCe10102-F QLogic: QLE8152	
VMware ESX Server (MSA1000 only)	3.0, 4.0 u2	Cisco: P81E VIC Emulex: OCe10102-F HP: FCA2214, FCA2210, FCA2214DC, Mezzanine QLogic: QLA234x, QLE8152	Native

1. Boot From SAN is supported

- HPUX 11iv1 is not supported on AD194A, AB378B, AB379B, Mezzanine cards. MSA 1000 active/active supports HPUX 11iv3 only. MSA 1000/1500 single control support HPUX 11iv1, v2 only. MSA1500 active/active configurations supports HPUX 11iv1, 2, 3 versions. QMH2462 is supported on HPUX 11iv2, 3 only. AD299A and AD355A is supported on HPUX 11iv2 only.
- Open VMS is not supported on the MSA 1500 active/passive configuration.
- Cisco MDS SAN-OS 3.2(3) is the minimum version required for Windows 2008 support. Only active/active EVA firmware versions are supported.

Table 1-31 Distance Extension

Distance System	Maximum Distance	Network	Protocol	Storage System
Cisco 1000Base-CWDM HP StorageWorks - CWDM 2-Slot MUX - CWDM 8-port MUX - CWDM Slot A 4-port Add/Drop Multiplexer - CWDM Slot B 4-port Add/Drop Multiplexer	50km	CWDM	Block I/O	HP EVA GL (3.028)
			CA (Sync)	HP XL (5.031, 5.110, 6.0)
			Block I/O	HP XP128/1024, XP48/512, XP12000
			CA (Sync, Async)	
Cisco 15530	100km	DWDM	Block I/O	HP EVA GL (3.028)
			CA (Sync)	HP XL (5.031, 5.110, 6.0)
			Block I/O	HP XP128/1024, XP48/512, XP12000
			CA (Sync, Async)	
Cisco 15540	100km	DWDM	Block I/O	HP EVA GL (3.028)
			CA (Sync)	HP XL (5.031, 5.110, 6.0)
			Block I/O	HP XP128/1024, XP48/512, XP12000
			CA (Sync, Async)	
Cisco 15252	100km	DWDM	Block I/O	HP EVA GL (3.028)
			CA (Sync)	HP XL (5.031, 5.110, 6.0)
			Block I/O	HP XP128/1024, XP48/512, XP12000
			CA (Sync, Async)	
Cisco MDS IPS-8 Cisco MPS-14/2 Cisco MDS 9216i Cisco MDS 9222i Cisco MDS 18/2	See note ¹ after this table.	FC-IP (IPSec/IKE)	Block I/O	HP EVA GL (3.028)
			CA (Sync)	HP XL (5.031, 5.110, 6.0)
HP MPX200, MPX 110			Block I/O	XP128/1024, XP48/512, XP12000, XP 24000
			CA (Sync, Async)	

- Supported distance is determined by HP field personnel and professional services based on customer's application requirements.

Oracle

Table 1-32 StorageTek 9990V, 9985V, 9970V

Operating System		Host Bus Adapter
Type	Version	
Solaris	8, 9 & later	Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2, SG-XPCIE1FC-QF8-Z, SG-XPCIE2FC-QF8-Z, SG-XPCIE1FC-EM8-Z, SG-XPCIE2FC-EM8-Z

Table 1-33 StorageTek 6540, 6140, 2540, 2530, 2510

Operating System		Host Bus Adapter
Type	Version	
Solaris	8, 9 & later	Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2, SG-XPCIE1FC-QF8-Z, SG-XPCIE2FC-QF8-Z, SG-XPCIE1FC-EM8-Z, SG-XPCIE2FC-EM8-Z

Table 1-34 StorEdge 3000

Operating System		Host Bus Adapter
Type	Version	
Solaris	8, 9 & later	Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2, SG-XPCIE1FC-QF8-Z, SG-XPCIE2FC-QF8-Z, SG-XPCIE1FC-EM8-Z, SG-XPCIE2FC-EM8-Z

NEC

Table 1-35 S2300

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2000	Advanced Server (SP3 or higher)	Emulex: LP952L	NEC SPS
Windows 2003	Enterprise Server		
HPUX	11.0	HP: A6795A, A6826A	PvLinks
	11i		
Linux	RedHat AS2.1	Emulex: LP952L	No
Solaris	8, 9	QLogic: QLA2310F	Veritas DMP
AIX	5.1, 5.2	IBM: 6228, 6239	No

Table 1-36 S1300

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2000	Advanced Server (SP3 or higher)	Emulex: LP952L	NEC SPS
Windows 2003	Enterprise Server		
HPUX	11.0	HP: A6795A, A6826A	PvLinks
	11i		
Linux	RedHat AS2.1	Emulex: LP952L	No
Solaris	8, 9	QLogic: QLA2310F	Veritas DMP
AIX	5.1, 5.2	IBM: 6228, 6239	No

Table 1-37 S2800

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2000	Advanced Server (SP3 or higher)	Emulex: LP952L	NEC SPS
Windows 2003	Enterprise Server		
HPUX	11.0	HP: A6795A, A6826A	PvLinks
	11i		
Linux	RedHat AS2.1	Emulex: LP952L	No
Solaris	8, 9	QLogic: QLA2310F	Veritas DMP
AIX	5.1, 5.2	IBM: 6228, 6239	No

Table 1-38 D1-10, D3-10

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2003	Enterprise Server	Emulex: LP1150, LPe1150 QLogic: QLE2460, QLA2460	NEC SPS 3.4
Windows 2008 (x64 bit)	Enterprise Edition SP1	Emulex: LP1150-F, LPe1150-F4 QLogic: QLA2460, QLE2460	NEC SPS 4
Windows 2008 (x32 bit)			
Linux RedHat 5 (x64)	RedHat Enterprise kernel 2.6.18-53.e15	Emulex: LP1150, LPe1150, LP1150-F, LPe1150-F4 QLogic: QLA2460, QLE2460, QLA2460, QLE2460	

Table 1-39 S2800 Distance Extension

Cisco Product	Protocol	RDR Sync.	RDR Async
IP Service Module (IPS 8, IPS 4)	FC-IP	ver. 2.3.0	ver. 2.3.0
Cisco CWDM	FC		
Cisco ONS			

Table 1-40 D8-30

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2008 (x32 bit)	Enterprise Edition SP1	Emulex: LP1150-F, LPe1150-F4 QLogic: QLA2460, QLE2460	NEC SPS 4.0
Windows 2008 (x64bit)			
Linux RedHat 5 (x64)	kernel 2.6.18-53.e15		

Fujitsu

Table 1-41 ETERNUS 2000

Operating System		Host Bus Adapter	Multipath
Type	Version		
Solaris	8, 9	Emulex: LP10000, LP10000DC, LP11000, LP11002, LPe11000, LPe11002 QLogic: QLA2340, QLA2342, QLA2460, QLA2462 Fujitsu: PW008FC2, PW008FC3, XSPFC211A, XSPFC212A, SE0X7F12F Sun: SG-XPCI1FC-QF4, SG-XPCI2FC-QF4, SG-XPCI1FC-QF, SG-XPCI1FC-QL2, SG-XPCI1FC-EM4, SG-XPCI2FC-EM4, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2, SG-XPCIE1FC-EM4, SG-XPCIE1FC-QF4	MPxIO Solaris9:SFS4.4.14 Solaris8:SFS4.4.13 +Patch:119913-13 VERITAS5.0 MP1 (DMP) EMPD V2.0.3
	10	Fujitsu: PW008FC2, PW008FC3, XSPFC211A, XSPFC212A, XSPFC401A, XSPFC402A, SE0X7F11F, SE0X7F12F Emulex: LP10000, LP10000DC, LP11000, LP11002, LPe11000, LPe11002 QLogic: QLA2340, QLA2342, QLA2460, QLA2462 Sun: SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCI1FC-EM4, SG-XPCI2FC-EM4, SG-XPCI1FC-QF4, SG-XPCI2FC-QF4, SG-XPCI1FC-QF2, SG-XPCI1FC-QL2	MPxIO VERITAS5.0 MP1 (DMP) EMPD V2.0.3
	x86 Solaris 10	Sun: SG-XPCI1FC-EM4, SG-XPCI2FC-EM4, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCI1FC-QF4, SG-XPCI2FC-QF4 Emulex: LP11000, LP11002, LPe11000, LPe11002 QLogic: QLA2460, QLA2462	MPxIO
HPUX	11iv2	HP: AB378A, AB379A, A6826A, A6795A	PvLinks VERITAS5.0 MP1 (DMP)
	11iv3	HP: AB378A, AB379A, A6826A, A6795A AB378B,AD193A,AD300A	PvLinks
AIX	5.2, 5.3	IBM: 1905, 1910	VERITAS5.0 MP1 (DMP) MPIO2.0.0
Windows 2003	Standard Edition, Standard Edition SP1, Standard, Edition SP2, R2 Standard Edition, R2 Standard, Edition SP2 Enterprise Edition, Enterprise Edition SP1, Enterprise Edition SP2, R2 Enterprise Edition SP1, R2 Enterprise Edition SP2, (IA-32) Standard x64 Edition, Enterprise x64 Edition	Fujitsu: PG-FC107, PG-FCD101, PG-FCD102 PG-FCD201, PG-FC201, PG-FC202 Emulex: LP10000, LP10000DC, LP1050,LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 Qlogic: QLA2460, QLA2462, QLE2460, QLE2462, QLE2464	EMPD V2.0L11

Table 1-41 ETERNUS 2000 (continued)

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2003	Enterprise Edition for Itanium-based Systems	Fujitsu: MC-08FC11, MC-08FC71, MC-08FC31, MC-08FC41, MC-08FC51, MC-08FC61,	EMPD V2.0L14
Windows 2000	Server, Advanced Server SP4	Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150, Qlogic: QLA2460, QLA2462, QLE2460, QLE2462, QLE2464	
Linux	Red Hat Enterprise Linux AS, v.3 for x86 Red Hat Enterprise Linux ES, v.3 for x86	Fujitsu: PG-FC107, PG-FC201, PG-FCD101, PG-FCD102 Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC	GRMPD V1.0L04
	Red Hat Enterprise Linux AS, v.4 for x86 Red Hat Enterprise Linux ES, v.4 for x86	Fujitsu: PG-FC107, PG-FCD101, PG-FCD102, PG-FC201, PG-FC202, PG-FCD201, Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 Qlogic: QLA2340, QLA2342, QLA2344, QLE2360, QLE2362, QLA2460, QLA2462, QLE2460, QLE2462	EMPD V2.0L11
	Red Hat Enterprise Linux AS v.4 for EM64T Red Hat Enterprise Linux ES v.4 for EM64T	Fujitsu: PG-FC107, PG-FCD101, PG-FCD102, PG-FC201, PG-FC202, PG-FCD201 Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 Qlogic: QLA2340, QLA2342, QLA2344, QLE2360, QLE2362	EMPD V2.0L11 VERITAS5.0 MP1 (DMP)
	Red Hat Enterprise Linux AS v.4 for Itanium Red Hat Enterprise Linux ES v.4 for Itanium	Fujitsu: MC-08FC11, MC-08FC31, MC-08FC41, MC-08FC51, MC-08FC61, MC-08FC71	EMPD V2.0L11
	Red Hat Enterprise Linux 5 for x86	Fujitsu: PG-FC107, PG-FCD101, PG-FCD102, PG-FC201, PG-FC202, PG-FCD201 Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 Qlogic: QLA2340, QLA2342, QLA2344, QLE2360, QLE2362	EMPD V2.0L11 DeviceMapper
	Red Hat Enterprise Linux 5 for Intel64	Fujitsu: PG-FC107, PG-FCD101, PG-FCD102, PG-FC201, PG-FC202, PG-FCD201, Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 Qlogic: QLA2340, QLA2342, QLA2344, QLE2360, QLE2362	EMPD V2.0L11 DeviceMapper
	Red Hat Enterprise Linux 5 for Itanium	Fujitsu: MC-08FC11, MC-08FC31, MC-08FC41, MC-08FC51, MC-08FC61, MC-08FC71	EMPD V2.0L11
	SuSE Linux Enterprise Server 9 EM64T	Emulex LP11000/LP11002/LP1150/LPe11000/, LPe11002/LPe1150 Qlogic QLA2460/QLA2462/QLE2460/, QLE2462/QLE2464	VERITAS5.0 MP1 (DMP)

Table 1-41 ETERNUS 2000 (continued)

Operating System		Host Bus Adapter	Multipath
Type	Version		
Linux	SuSE Linux Enterprise Server 10 x86	Emulex LP11000/LP11002/LP1150/LPe11000/, LPe11002/LPe1150 QLogic QLA2460/QLA2462/QLE2460/, QLE2462/QLE2464	EMPD V2.0L12 DeviceMapper
	SuSE Linux Enterprise Server 10 EM64T	Emulex LP11000/LP11002/LP1150/LPe11000/, LPe11002/LPe1150 QLogic QLA2460/QLA2462/QLE2460/ QLE2462/QLE2464	EMPD V2.0L12 DeviceMapper
	SuSE Linux Enterprise Server 10Itanium	Emulex LP11000/LP11002/LP1150/LPe11000/, LPe11002/LPe1150	EMPD V2.0L12
Vmware Infrastructure	3.0.1, 3.0.2, 3.5	Fujitsu: PG-FC107, PG-FCD101, PG-FCD102, PG-FC201, PG-FC202, PG-FCD201 Emulex: LP10000, LP1050, LP1050Ex, LP11000, LP1150, LPe1150 QLogic: QLA2340, QLA2342, QLA2460, QLE2462	Vmware

Table 1-42 ETERNUS 3000

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2000	Advanced Server (SP4)	Emulex: LP9802, LP10000	GRMPD
Windows 2003	Enterprise Server	QLogic: QLA2342	
HPUX	11.0	HP: A6795A, A6826A	PvLinks
	11i		
Linux	RedHat AS2.1, 3.0	QLogic: QLA2342 Emulex: LP9002	No
Solaris	8, 9	Emulex: LP9802, LP10000	Veritas DMP
AIX	5.3, 5.2	IBM: 6228, 6239	No
		Cambex: P2000LC	DPF

Table 1-43 ETERNUS 6000

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2000	Advanced Server (SP4)	Emulex: LP9802, LP10000	GRMPD
Windows 2003	Enterprise Server	QLogic: QLA2342	
HPUX	11.0	HP: A6795A, A6826A	PvLinks
	11i		
Linux	RedHat AS2.1, 3.0	QLogic: QLA2342 Emulex: LP9002	No
Solaris	8, 9	Emulex: LP9802, LP10000	Veritas DMP
AIX	5.3, 5.2	IBM: 6228, 6239	No
		Cambex: P2000LC	DPF

Table 1-44 ETERNUS 4000

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2000	Advanced Server (SP4)	<p>Fujitsu: PG-FC105, PG-FC106, PG-FC107, PG-FCD101, PG-FCD102, PG-FCD201, PG-FC201, PG-FC202</p> <p>Emulex: LP9002L, LP9002DC, LP952L, LP9802, LP9802DC, LP982, LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150</p> <p>QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464</p>	EMPD V2.0L12
Windows 2003	Standard Edition, SP1, SP2 R2 Standard Edition, SP2 Enterprise Edition, SP1, SP2 R2 Enterprise Edition SP1, SP2 R2 Enterprise Edition SP2 (IA-32)	<p>Fujitsu: PG-FC105, PG-FC106, PG-FC107, PG-FCD101, PG-FCD102, PG-FCD201, PG-FC201, PG-FC202</p> <p>Emulex: LP9002L, LP9002DC, LP952L, LP9802, LP9802DC, LP982, LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150</p> <p>QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464</p>	EMPD V2.0L12
	Standard x64 Edition Enterprise x64 Edition	<p>Fujitsu: PG-FC106, PG-FC107, PG-FCD101, PG-FCD102, PG-FCD201, PG-FC201, PG-FC202</p> <p>Emulex: LP9002L, LP9002DC, LP952L, LP9802, LP9802DC, LP982, LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150</p> <p>QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464</p>	
	Enterprise Edition Datacenter Edition for Itanium-based Systems	<p>Fujitsu: MC-08FC11, MC-08FC31, MC-08FC41, MC-08FC51, MC-08FC61, MC-08FC71</p> <p>Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150</p>	
Linux	Red Hat Enterprise Linux AS v.3 for x86 Red Hat Enterprise Linux ES v.3 or x86 Red Hat Enterprise Linux AS v.4 for x86 Red Hat Enterprise Linux ES v.4 for x86	<p>Fujitsu: PG-FC106, PG-FC107, PG-FC201, PG-FC202, PG-FCD101, PG-FCD102, PG-FCD201</p> <p>Emulex: LP9802, LP9802DC, LP982, LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150</p> <p>QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464</p>	EMPD V2.0L03

Table 1-44 ETERNUS 4000 (continued)

Operating System		Host Bus Adapter	Multipath
Type	Version		
Linux	Red Hat Enterprise Linux AS v4 for EM64T	Fujitsu: PG-FC106, PG-FC107, PG-FC201, PG-FC202, PG-FCD101, PG-FCD102, PG-FCD201	EMPD V2.0L03
	Red Hat Enterprise Linux ES v4 for EM64T	Emulex: LP9802, LP9802DC, LP982LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464	
	Red Hat Enterprise Linux AS v4 for Itanium	Fujitsu: MC-08FC11, MC-08FC31, MC-08FC41, MC-08FC51, MC-08FC61, MC-08FC71	
	Red Hat Enterprise Linux ES v4 for Itanium		
	Red Hat Enterprise Linux 5 for x86	Fujitsu: PG-FC107, PG-FCD101, PG-FCD102, PG-FCD201, PG-FC201, PG-FC202	EMPD V2.0L11
	Red Hat Enterprise Linux 5, for Intel64	Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464	
	Red Hat Enterprise Linux 5 for Itanium	Fujitsu: MC-08FC11, MC-08FC31, MC-08FC41, MC-08FC51, MC-08FC61, MC-08FC71	
	SuSE Linux Enterprise Server 8 (x86)	QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464	EMPD V2.0L10
	SuSE Linux Enterprise Server 9 (x86)		
	SuSE Linux Enterprise Server 8 (EM64T)		
SuSE Linux Enterprise Server 9 (EM64T)			
SuSE Linux Enterprise Server 9 (Itanium)	Fujitsu: MC-08FC11, MC-08FC41 Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464		
SuSE Linux Enterprise Server 10 (x86)	Emulex: LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 QLogic: QLA2460, QLA2462, QLE2460, QLE2462, QLE2464	DeviceMapper	
SuSE Linux Enterprise Server 10 (EM64T)			

Table 1-44 ETERNUS 4000 (continued)

Operating System		Host Bus Adapter	Multipath
Type	Version		
VMware Infrastructure	3.0.0, 3.0.1, 3.0.2, 3.5	Fujitsu: PG-FC106, PG-FC107, PG-FC201, PG-FC202, PG-FCD201, PG-FCD101, PG-FCD102 Emulex: LP9802, LP1050, LP1050Ex, LP10000, LP10000DC, LP1150, LP11000, LP11002, LPe1150, LPe11000, LPe11002 Qlogic: QLA2340, QLA2342, QLA2460, QLE2462	Vmware
VMware ESX Server	2.5.3, 2.5.4	Fujitsu: PG-FC106, PG-FC107, PG-FC201, PG-FCD101, PG-FCD102 Emulex: LP9802, LP1050, LP1050Ex, LP10000, LP10000DC Qlogic: QLA2340, QLA2342	
Solaris	8, 9	Fujitsu: GP7B8FC1, PW008FC2, PW008FC3, XSPFC211A, XSPFC212A Net Marks: PW008FC2-NM Emulex: LP10000, LP10000DC, LP11000, LP11002, LPe11000, LPe11002 QLogic: QLA2340, QLA2342, QLA2460, QLA2462 Sun: SG-XPCI1FC-QF2, SG-XPCI1FC-QL2, SG-XPCI2FC-QF2, SG-XPCI2FC-QF2-Z, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCI1FC-EM4, SG-XPCI2FC-EM4, SG-XPCI1FC-QF4, SG-XPCI2FC-QF4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4	
Solaris	10	Fujitsu: GP7B8FC1, PW008FC2, PW008FC3, XSPFC211A, XSPFC212A, SE0X7F11F, SE0X7F12F, XSPFC401A, XSPFC402A Net Marks: PW008FC2-NM Emulex: LP10000, LP10000DC, LP11000, LP11002, LPe11000, LPe11002 QLogic: QLA2340, QLA2342, QLA2460, QLA2462 Sun: SG-XPCI1FC-QF2, SG-XPCI1FC-QL2, SG-XPCI2FC-QF2, SG-XPCI2FC-QF2-Z, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCI1FC-EM4, SG-XPCI2FC-EM4, SG-XPCI1FC-QF4, SG-XPCI2FC-QF4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4	MPxIO VERITAS5.0 MP1 (DMP) EMPD V2.0.3
	x86 Solaris 10 OS	Sun: SG-XPCI1FC-EM4, SG-XPCI2FC-EM4, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCI1FC-QF4, SG-XPCI2FC-QF4 Emulex: LP11000, LP11002, LPe11000, LPe11002 QLogic: QLA2460, QLA2462	MPxIO

Table 1-44 ETERNUS 4000 (continued)

Operating System		Host Bus Adapter	Multipath
Type	Version		
HPUX	11iv1	HP: A6826A, AB378A	PV-Links
	11iv2	HP: A6826A, A6795A, A9782A, A9784A, AB378A, AB378B, AB379A, AB465A, AB378B, AD193A, AD300A, AD299A, AD355A	PV-Links(2007) VERITAS4.1 MP1 (DMP) VERITAS5.0 MP1 (DMP)
	11iv3	HP: AB378A, AB379A, A6826A, A6795A, AB378B, AD193A, AD300A	Native Multipathing PV-Links
AIX	5.2, 5.3	IBM: 5716, 1977, 5758, 1905, 5759, 1910, 6239, 6228	MPIO2.0.0 VERITAS4.0 MP1 (DMP) VERITAS5.0 MP1 (DMP)

Table 1-45 ETERNUS 8000

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2000	Advanced Server (SP4)	<p>Fujitsu: PG-FC105, PG-FC106, PG-FC107, PG-FCD101, PG-FCD102, PG-FCD201, PG-FC201, PG-FC202</p> <p>Emulex: LP9002L, LP9002DC, LP952L, LP9802, LP9802DC, LP982, LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150</p> <p>QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464</p>	EMPD V2.0L12
Windows 2003	Standard Edition, SP1, SP2 R2 Standard Edition, SP2 Enterprise Edition, SP1, SP2 R2 Enterprise Edition SP1, SP2 R2 Enterprise Edition SP2 (IA-32)	<p>Fujitsu: PG-FC105, PG-FC106, PG-FC107, PG-FCD101, PG-FCD102, PG-FCD201, PG-FC201, PG-FC202</p> <p>Emulex: LP9002L, LP9002DC, LP952L, LP9802, LP9802DC, LP982, LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150</p> <p>QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464</p>	EMPD V2.0L12
	Standard x64 Edition Enterprise x64 Edition	<p>Fujitsu: PG-FC106, PG-FC107, PG-FCD101, PG-FCD102, PG-FCD201, PG-FC201, PG-FC202</p> <p>Emulex: LP9002L, LP9002DC, LP952L, LP9802, LP9802DC, LP982, LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150</p> <p>QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464</p>	
	Enterprise Edition Datacenter Edition for Itanium-based Systems	<p>Fujitsu: MC-08FC11, MC-08FC31, MC-08FC41, MC-08FC51, MC-08FC61, MC-08FC71</p> <p>Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150</p>	
Linux	Red Hat Enterprise Linux AS v.3 for x86 Red Hat Enterprise Linux ES v.3 or x86 Red Hat Enterprise Linux AS v.4 for x86 Red Hat Enterprise Linux ES v.4 for x86	<p>Fujitsu: PG-FC106, PG-FC107, PG-FC201, PG-FC202, PG-FCD101, PG-FCD102, PG-FCD201</p> <p>Emulex: LP9802, LP9802DC, LP982, LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150</p> <p>QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464</p>	EMPD V2.0L03

Table 1-45 ETERNUS 8000 (continued)

Operating System		Host Bus Adapter	Multipath
Type	Version		
Linux	Red Hat Enterprise Linux AS v4 for EM64T	Fujitsu: PG-FC106, PG-FC107, PG-FC201, PG-FC202, PG-FCD101, PG-FCD102, PG-FCD201	EMPD V2.0L03
	Red Hat Enterprise Linux ES v4 for EM64T	Emulex: LP9802, LP9802DC, LP982LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464	
	Red Hat Enterprise Linux AS v4 for Itanium	Fujitsu: MC-08FC11, MC-08FC31, MC-08FC41, MC-08FC51, MC-08FC61, MC-08FC71	
	Red Hat Enterprise Linux ES v4 for Itanium		
	Red Hat Enterprise Linux 5 for x86	Fujitsu: PG-FC107, PG-FCD101, PG-FCD102, PG-FCD201, PG-FC201, PG-FC202	EMPD V2.0L11
	Red Hat Enterprise Linux 5, for Intel64	Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464	
	Red Hat Enterprise Linux 5 for Itanium	Fujitsu: MC-08FC11, MC-08FC31, MC-08FC41, MC-08FC51, MC-08FC61, MC-08FC71	
	SuSE Linux Enterprise Server 8 (x86)	QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464	EMPD V2.0L10
	SuSE Linux Enterprise Server 9 (x86)		
	SuSE Linux Enterprise Server 8 (EM64T)		
SuSE Linux Enterprise Server 9 (EM64T)			
SuSE Linux Enterprise Server 9 (Itanium)	Fujitsu: MC-08FC11, MC-08FC41 Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP1050Ex, LP10000ExDC, LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 QLogic: QLA2340, QLA2342, QLE2360, QLE2362, QLE2364, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464		
SuSE Linux Enterprise Server 10 (x86)	Emulex: LP11000, LP11002, LP1150, LPe11000, LPe11002, LPe1150 QLogic: QLA2460, QLA2462, QLE2460, QLE2462, QLE2464	DeviceMapper	
SuSE Linux Enterprise Server 10 (EM64T)			

Table 1-45 ETERNUS 8000 (continued)

Operating System		Host Bus Adapter	Multipath
Type	Version		
VMware Infrastructure	3.0.0, 3.0.1, 3.0.2, 3.5	Fujitsu: PG-FC106, PG-FC107, PG-FC201, PG-FC202, PG-FCD201, PG-FCD101, PG-FCD102 Emulex: LP9802, LP1050, LP1050Ex, LP10000, LP10000DC, LP1150, LP11000, LP11002, LPe1150, LPe11000, LPe11002 QLogic: QLA2340, QLA2342, QLA2460, QLE2462	Vmware
VMware ESX Server	2.5.3, 2.5.4	Fujitsu: PG-FC106, PG-FC107, PG-FC201, PG-FCD101, PG-FCD102 Emulex: LP9802, LP1050, LP1050Ex, LP10000, LP10000DC QLogic: QLA2340, QLA2342	
Solaris	8, 9	Fujitsu: GP7B8FC1, PW008FC2, PW008FC3, XSPFC211A, XSPFC212A Net Marks: PW008FC2-NM Emulex: LP10000, LP10000DC, LP11000, LP11002, LPe11000, LPe11002 QLogic: QLA2340, QLA2342, QLA2460, QLA2462 Sun: SG-XPCI1FC-QF2, SG-XPCI1FC-QL2, SG-XPCI2FC-QF2, SG-XPCI2FC-QF2-Z, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCI1FC-EM4, SG-XPCI2FC-EM4, SG-XPCI1FC-QF4, SG-XPCI2FC-QF4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4	
Solaris	10	Fujitsu: GP7B8FC1, PW008FC2, PW008FC3, XSPFC211A, XSPFC212A, SE0X7F11F, SE0X7F12F, XSPFC401A, XSPFC402A Net Marks: PW008FC2-NM Emulex: LP10000, LP10000DC, LP11000, LP11002, LPe11000, LPe11002 QLogic: QLA2340, QLA2342, QLA2460, QLA2462 Sun: SG-XPCI1FC-QF2, SG-XPCI1FC-QL2, SG-XPCI2FC-QF2, SG-XPCI2FC-QF2-Z, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCI1FC-EM4, SG-XPCI2FC-EM4, SG-XPCI1FC-QF4, SG-XPCI2FC-QF4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4	MPxIO VERITAS.5.0 MP1 (DMP) EMPD V2.0.3
	x86 Solaris 10 OS	Sun: SG-XPCI1FC-EM4, SG-XPCI2FC-EM4, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCI1FC-QF4, SG-XPCI2FC-QF4 Emulex: LP11000, LP11002, LPe11000, LPe11002 QLogic: QLA2460, QLA2462	MPxIO

Table 1-45 ETERNUS 8000 (continued)

Operating System		Host Bus Adapter	Multipath
Type	Version		
HPUX	11iv1	HP: A6826A, AB378A	PV-Links
	11iv2	HP: A6826A, A6795A, A9782A, A9784A, AB378A, AB378B, AB379A, AB465A, AB378B,AD193A,AD300A,AD299A,AD355A	PV-Links(2007) VERITAS4.1 MP1 (DMP) VERITAS5.0 MP1 (DMP)
	11iv3	HP: AB378A, AB379A, A6826A, A6795A, AB378B,AD193A,AD300A	Native Multipathing PV-Links
AIX	5.2, 5.3	IBM: 5716, 1977, 5758, 1905, 5759, 1910, 6239, 6228	MPIO2.0.0 VERITAS4.0 MP1 (DMP) VERITAS5.0 MP1 (DMP)

Table 1-46 ETERNUS DX60 S2, ETERNUS DX80 S2, ETERNUS DX90 S2, ETERNUS DX400 S2 Series, ETERNUS DX8000 S2 Series, ETERNUS DX60, ETERNUS DX80, ETERNUS DX90, ETERNUS DX400 Series, ETERNUS DX8000 Series

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows Server 2008	Release 2	Fujitsu: PG-FC202, PG-FC203, PG-FC204, PG-FCD201, PG-FCD202, PG-FC205, PG-FC206 Emulex: LPe12000/LPe12002, LPe11000/LPe11002, LPe1150, LPe1250 QLogic: QLE2560/QLE2562, QLE2460/QLE 2462, QLE2340/QLE2342	EMPD MSDSM and EMPD MSDSM and EMPD
Red Hat Enterprise Linux Server	6.1	Fujitsu: PG-FC202, PG-FC203, PG-FC204, PG-FCD201, PG-FCD202, PG-FC205, PG-FC206 Emulex: LPe12000/LPe12002, LPe11000/LPe11002, LPe1150, LPe1250 QLogic: QLE2560/QLE2562, QLE2460/QLE 2462, QLE2340/QLE2342	EMPD and Device Mapper EMPD and Device Mapper EMPD and Device Mapper
SUSE Linux Enterprise Server	Version 11	Fujitsu: PG-FC202, PG-FC203, PG-FC204, PG-FCD201, PG-FCD202, PG-FC205, PG-FC206 Emulex: LPe12000/LPe12002, LPe11000/LPe11002, LPe1150, LPe1250 QLogic: QLE2560/QLE2562, QLE2460/QLE 2462, QLE2340/QLE2342	EMPD and Device Mapper EMPD and Device Mapper EMPD and Device Mapper
ESXi	5.0	Fujitsu: PG-FC202, PG-FC203, PG-FC204, PG-FCD201, PG-FCD202, PG-FC205, PG-FC206 Emulex: LPe12000/LPe12002, LPe11000/LPe11002, LPe1150, LPe1250 QLogic: QLE2560/QLE2562, QLE2460/QLE 2462, QLE2340/QLE2342	Native MPIO

ADTX

Table 1-47 *ArrayMasStor L*

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2000	Advanced Server (SP4)	Emulex: LP9802	Path Cruiser
Windows 2003	Enterprise Server	QLogic: QLA2340	
Linux	RedHat 7.1.14-3	Emulex: LP9802	No
Solaris	8, 9	Sun: SG-XPCI1FC-QF2	Veritas DMP

Infortrend

Table 1-48 EonStor F16F-R2A2

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2000	Advanced Server (SP4)	Emulex: LP9002, LP9802	No
Windows 2003	Enterprise Server	Emulex: LP1050DC	
Linux	RedHat 8.0	Emulex: LP9002, 9802 QLogic: QLA2310	

Table 1-49 EonStor 2510FS

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows 2000	Advanced Server (SP4)	Emulex: LP9002, LP9802	No
Windows 2003	Enterprise Server	Emulex: LP1050DC	
Linux	RedHat 8.0	Emulex: LP9002, 9802 QLogic: QLA2310	

3PAR

Table 1-50 3Par InServ Storage Server

Qualified Operating System		Host Bus Adapter
Type	Version	
Windows 2000	SP4 x86 x64	QLogic: QLA2310F(L), QLA2340(L), QLA2342(L), QLA2344, QLA2350, QLA2352, QLE2360, QLE2362, 26K4859, 26K4841, 300874-B21, 361426-B21 381881-B21, 354054-B21, QLA2440, QLA2460, QLA2462, QLE2440, QLE2460, QLE2462, QLE2464, 26R0890, 26R0884, 41Y8527, 39Y9306, 403619-B21, 341-3574
Windows 2003	SP1, SP2, R2 SP1, R2 SP2 x86 x64 IA64	
Windows 2008	x86 x64 IA64	
Linux RH	RHEL 3, RHEL 4, RHEL 5	Emulex: LP952L, LP982, LP9002(L,DC), LP9402DC, LP9802(DC), LP10000(DC,ExDC), LP1050 (DC), 394757-B21, LP(e)1150, LP(e)11000, LP(e)11002, 39Y9186, 43W6859, 403621-B21, 341-3575
Linux SUSE	SLES 9, SLES 10	QLogic: QLA2310F(L), QLA 2302F, QLA2340, QLA2342, QLA2344, QLA2302, QLA2460, QLA2462, QLE2360, QLE2362, QLE2460, QLE2462, QLA2300F, QLA2440, QLE2440
AIX	5.1	IBM: 6228, 6239
	5.2	IBM: 6228 6239 5716
	AIX 5.3, AIX 6.1, IBM Virtual I/O Server	IBM: 6228 6239 5716 5758 5759 5773 5774
OnStor	EverON 2.2.x, 3.0.x, 3.1.x	Included in EverON
HP-UX	11i v1, 11iv2, 11iv3	HP: 6795A 6826A 9782A 9784A AB465A AB378 AB379 AD193A AD194A A6795A
Tru64	5.1b	HP: KGPSA-CA KGPSA-DA (FCA-2354) KGPSA-EA (FCA-2384) A5132-AA (FCA2684) A5134-AA (FCA-2684DC)
Egenera	PAN Manager 5.0, 5.1	Egenera supplied
VMware ESX	ESX 3.0, 3.0.x, 3.5, 3i	All QLogic and Emulex fibre channel HBAs supported by VMware (excluding: 8Gbs HBAs)
NetApp	ONTAP 7.2.2, 7.2.3, 7.2.4, 7.2.5	Included in ONTAP O/S
Incipient iNSP	1.1	N/A
Data Domain O/S	4.3, 4.4, 4.5	Data Domain supplied

Table 1-51 3Par InServ Storage Server

Qualified Operating System		Host Bus Adapter
Type	Version	
Solaris	8, 9, 10 SPARC	Sun StorageTek: X6799A, X6727A, SG-XPCI1FC-QF2(QL2), SG-XPCI2FC-QF2(QF2-Z), SG-XPCI1FC-EM2, SG-XPCI2FC-EM2, SG-XPCI1FC-EM4-Z, SG-XPCI2FC-EM4-Z, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCI1FC-QF4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4 Emulex: LP9002S, LP9002L, LP9002DC, LP9802, LP10000, LP10000DC, LP10000ExDC, LP11000, LP11002 QLogic: QLA2300F, QLA2302F, QLA2310F(L), QLA2340(L), QLA2342(L), QLA2344, QLA2460, QLA2462
	10 x86, x64	Sun StorageTek: X6799A, X6727A, SG-XPCI1FC-QF2(QL2), SG-XPCI2FC-QF2(QF2-Z), SG-XPCI1FC-EM2, SG-XPCI2FC-EM2, SG-XPCI1FC-EM4-Z, SG-XPCI2FC-EM4-Z, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCI1FC-QF4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4, QLogic: QLA2340(L)

XIOtech

Table 1-52 Magnitude (Rel. 10.01/11.01), Magnitude 3D (Rel. 2.5/3.13), Magnitude 3D 3000 (Rel 4.1)

Operating System		Host Bus Adapter
Type	Version	
Windows 2000	Advanced Server (SP4)	QLogic: QLA2340, QLA2310, QLA2200
Windows 2003	Standard and Enterprise Editions	Emulex: LP9002L
Windows NT	4.0 (SP6a)	QLogic: QLA2340, QLA2200, QLA2310F
MacOS	10.3	Apple: M9274G/B
AIX	4.3.3, 5.1	Cambex: PC1000, PC2000
Linux	RedHat 8.0, AS 2.1, Enterprise 3.0	QLogic: QLA 2340, QLA 2310F, QLA2200
	Suse United 1.0, SLES 9	QLogic: QLA 2310F, QLA2340
HP-UX	11, 11i	HP: A6795A
		Emulex: LP9002L
Netware	5.1, 6, 6.5	QLogic: QLA 2310F, QLA 2340, QLA 2200
VMware	ESX Server	QLogic: QLA2310F
Solaris	7, 8, 9	QLogic: QLA2310F, QLA2200, QLA 2202FS, QSB 2340

Table 1-53 Emprise 5000 1.2.4

Operating System		Host Bus Adapter
Type	Version	
Windows 2000	Advanced Server (SP4)	QLogic: QLA2340, QLA2310, QLA2200
Windows 2003	Standard and Enterprise Editions	Emulex: LP9002L
Windows NT	4.0 (SP6a)	QLogic: QLA2340, QLA2200, QLA2310F
MacOS	10.3	Apple: M9274G/B
AIX	4.3.3, 5.1, 5.2, 5.3, 6.1	Cambex: PC1000, PC2000, PC 4000
Linux	RedHat 8.0, AS 2.1, Enterprise 3.0 CENT OS 4.7, 5.1 Linux Oracle EL 4.7, 5.1, 5.3 (x86, x64)	QLogic: QLA246x, QLA234x, QLE256x Emulex: LP9002L, LP 11000, LPe11000, LP1150, LPe1150 Brocade: 415, 425, 815, 825
	Suse United 1.0, SLES 9	QLogic: QLA 2310F, QLA2340
HP-UX	11, 11i, 11i V2 (PA-RISC & IA64)	HP: AB378B Emulex: LP9002L, LP 11000, LPe11000
Netware	5.1, 6, 6.5	QLogic: QLA 2310F, QLA 2340, QLA 2200
VMware	ESX Server	QLogic: QLA2310F
Solaris	7, 8, 9	QLogic: QLA2310F, QLA2200, QLA 2202FS, QSB 2340

Table 1-54 Emprise 7000 8.3.30

Operating System		Host Bus Adapter
Type	Version	
Windows 2000	Advanced Server (SP4)	QLogic: QLA2340, QLA2310, QLA2200
Windows 2003	Standard and Enterprise Editions	Emulex: LP9002L
Windows NT	4.0 (SP6a)	QLogic: QLA2340, QLA2200, QLA2310F
MacOS	10.3	Apple: M9274G/B
AIX	4.3.3, 5.1	Cambex: PC1000, PC2000
Linux	RedHat EL 2.1, 3.0, 4.5, 4.7, 4.8, 5.1, 5.2, 5.3 (x86, x64)	QLogic: QLA 234x, QLA 231x, QLA2200, QLA246x, QLx246 Emulex: LP11000, LPe1100x,
	SUSE ES 8, 9 SP2, 9SP3, 10 SP1, 10 SP2, 11 (x86, x64)	QLogic: QLA 2310F, QLA2340
HP-UX	11, 11i v2, 11iv3 (PA-RISC, IA64)	Emulex: LP11000, LPe1100x
Netware	5.1 SP7, 6.0 SP5, 6.5 SP3, 6.5 SP6, 6.5 SP8 (x86)	QLogic: QLA 231x, QLx 246x, QLA234x
VMware	ESX 3.5, vSphere 4.0	QLogic: QLA 231x, QLx 246x, QLA234x
Solaris	8, 7, 9, 10 (SPARC), 10 (x86, x64)	Emulex: LP11000, LPe1100x,

Table 1-55 Distance Extension¹

Distance System	Maximum Distance	Network	Protocol	Storage System
MDS IPS-8	See note after this table.	DWDM	Geo-Replication (Sync mode)	Magnitude 10.01, 11.01
MDS IPS-4		CWDM		Magnitude 3D 2.5, 3.13
MPS-14/2		FCIP		Magnitude 3D 3000 4.1
MDS9216i				

1. Supported distance is determined by XIOTech, based on customer's application requirement. Xiotech accepts Cisco's qualification of the Cisco iSCSI drivers and Microsoft iSCSI drivers with the Cisco MDS 9000 Family switches

NetApp

Table 1-56 FAS and V-series Product Families

Operating System	Data ONTAP Version	Cisco Switch Model
All NetApp FCP Host Kit w/Multipath	6.4 (6.4.2,6.4.3,6.4.4,6.4.5)	MDS 9216, MDS 9509
	6.4 (6.4.2,6.4.3,6.4.4,6.4.5)	
	6.5 (6.5.1,6.5.2)	
	6.5 (6.5.1,6.5.2)	MDS 9506
	6.5 (6.5,6.5.1,6.5.2)	MDS 9216i, 9509, 9506
	6.5 (6.5.3,6.5.4,6.5.5,6.5.6)	MDS, 9216i, 9509, 9506
	7.0 (7.0,7.0.1,7.0.2,7.0.3,7.0.4,7.0.5,7.0.6)	
	6.5 (6.5.4,6.5.5,6.5.6); 7.0 (7.0,7.0.1,7.0.2,7.0.3,7.0.4,7.0.5,7.0.6) 7.1 (7.1,7.1.0.1,7.1.1,7.1.1.1,7.1.2,7.1.2.1) 7.2 (7.2.1,7.2.1.1,7.2.2,7.2.2L1,7.2.3) 7.2 (7.2.4) 7.2 (7.2.4L1)	MDS 9216 A, 9216i, 9509, 9506
	7.2 (7.2,7.2.1,7.2.1.1,7.2.2,7.2.2L1,7.2.3) 7.2 (7.2.4) 7.2 (7.2.4L1)	
	7.0 (7.0.1,7.0.2,7.0.3,7.0.4,7.0.5,7.0.6) 7.1 (7.1,7.1.0.1,7.1.1,7.1.1.1,7.1.2,7.1.2.1)	MDS 9020
7.0 (7.0.3,7.0.4,7.0.5,7.0.6) 7.1 (7.1,7.1.0.1,7.1.1,7.1.1.1,7.1.2,7.1.2.1) 7.2 (7.2,7.2.1,7.2.1.1,7.2.2,7.2.2L1,7.2.3) 7.2 (7.2.4) 7.2 (7.2.4L1)		
7.0 (7.0.4,7.0.5,7.0.6); 7.1(7.1,7.1.0.1,7.1.1,7.1.1.1,7.1.2,7.1.2.1) 7.2(7.2,7.2.1,7.2.1.1,7.2.2,7.2.2L1,7.2.3) 7.2 (7.2.4) 7.2 (7.2.4L1)	MDS 9216i, 9509, 9506, 9513, 9222i	

Table 1-56 FAS and V-series Product Families (continued)

Operating System	Data ONTAP Version	Cisco Switch Model
	7.1 7.1.0.1-7.1.2.1 7.0 (7.0.5,7.0.6) 7.2 (7.2.4) 7.2 7.2-7.2.3 7.2 (7.2.4L1)	MDS 9216i, 9509, 9506, 9513, 9222i
	7.2 (7.2.4) 7.2 7.2-7.2.3 7.1 7.1.0.1-7.1.2.1 7.0 (7.0.5,7.0.6) 7.2 (7.2.4L1)	MDS 9124, 9513, 9509, 9506, 9216i, 9216A, 9222i Cisco- HP C-Class 9124e Cisco - IBM BladeCenter Blade DS-IBM-FC-K9
	7.2 (7.2.4) 7.0 7.0.5-7.0.6 7.1 7.1.0.1-7.1.2.1 7.2 7.2-7.2.3 7.2 (7.2.4L1) 7.2.5, 7.2.6, 7.3.2, 7.3.3, 8.0 7.2.7, 7.3.5.1, 8.0.1 7-mode, 8.0.2 7-mode	MDS 9124, 9513, 9509, 9506, 9216i, 9216A, 9124, 9134, 9222i Cisco 9134 N-Port Virtualizer (NPV) Cisco 9124 N-Port Virtualizer (NPV) Cisco- HP C-Class 9124e Cisco- HP C-Class 9124e N-Port Virtualizer (NPV) Cisco - IBM BladeCenter Blade DS-IBM-FC-K9, DS-IBM-FC-K9 DS-IBM-FC-K9, DS-IBM-FC-K9 N-Port Virtualizer (NPV)
	7.2.5.1, 7.2.6, 7.2.6.1, 7.2.7 7.3.1, 7.3.1.1, 7.3.1.1L1, 7.3.2, 7.3.3, 7.3.4 7.3.5.1,7.3.6 8.0 7-mode, 8.0.1 7-mode, 8.0.2 7-mode	MDS 9148, 9222i, 9513, 9509, 9506 FCoE in the Cisco Nexus 7000 Series 32-port 1/10 Gigabit Ethernet module (N7K-F132XP-15)

Pillar Data Systems

Table 1-57 Axiom Storage System 300, 500

Operating System		Host Bus Adapter	Multipath (APM driver)
Type	Version		
Windows 2000	Server with SP4 (x86); Advanced Server with SP4 (x86)	Qlogic: QLA2200, QLA2310, QLA2340/42/44, QLE2460/62, QLA2460/62, QMH2462 Emulex: LP982, LP1050, LP9402DC, LP9802/DC, LP10000/DC, LP/e1150, LP11000/2, LPe11000/2	2.2.8 2.3.4
Windows 2003	Standard Edition with SP1 (x86, x64); Enterprise Edition with SP1 (x86, x64, IA64)	Qlogic: QLA2200, QLA2310, QLA2340/42/44, QLE2460/62, QLA2460/62, QMH2462 Emulex: LP982, LP1050, LP9402DC, LP9802/DC, LP10000/DC, LP/e1150, LP11000/2, LPe11000/2	
Linux	RedHat ES 3.0/4.0/5.0 OEL4.0	Qlogic: QLA2310F/L QLA2340/2/4, QLA2460/2, QLE2460/2 Emulex: LP10000/DC, LP11000/2, LPe11000/2	2.2.2
	SUSE 9	Qlogic: QLA2310F/L QLA2340/2/4, QLA2460/2, QLE2460/2 Emulex: LP10000/DC, LP11000/2, LPe11000/2	
Solaris	8, 9,10	Qlogic: QLA2200, QLA2310, QLA2340/42/44, QCP2340/42 Emulex: LP952/L, LP982, LP9002/DC, LP9402DC, LP9802/DC, LP1050 LP10000/DC	01.04.05 2.02
AIX	5.2, 5.3	IBM: 5716, 5758,5759,6228, 6239	2.0.6 2.1.4
ONStor	EverON 1.2.8.6	Internal HBA	Native
VMware ESX	2.5.2, 3.0.2, 3.5	Qlogic: QLA2310, QLA234x	

Apple Computer

Table 1-58 Xserve RAID

Operating System		Host Bus Adapter
Type	Version	
Windows 2000	Advanced Server (SP4)	LSI: 44929O QLogic: QLA 2310F
MacOS X Server	10.3.2	Apple: Dual FC HBA P/N M8940 G/D

ATTO

Table 1-59 ATTO Diamond V Class Array

Operating System		Host Bus Adapter	Multipath
Type	Version		
Windows Server 2003	Enterprise Edition	ATTO: FC3300, FC-21PS, FC-22XH	No
Solaris	9	ATTO: FC-21PS	
Mac OSX (Tiger)	10.3.9, 10.4.2	ATTO: FC-41XS, FC-21PS	
Mac OSX (Panther)	10.3.9	ATTO: FC-21PS	

Table 1-60 HP EVA 4x00, 6x00, 8x00

Operating System		Host Bus Adapter	Multipath
Type	Version		
MacOS	10.4.11	ATTO: Celerity FC-41XS, Celerity FC-41ES, Celerity FC-42ES, Celerity FC-44ES	No

Compellent

Table 1-61 Storage Center

Operating System		Host Bus Adapter
Type	Version	
Mac OS X	10.5.8 Intel	LSI: LSI7202EP
HP-UX	11i v2, 11iv3	HP: A6795A, AD194 / Emulex: Emulex: LP9xxx, LP11xxx
Tru64	5.1A	HP: FCA2684
OpenVMS	8.3	HP: FCA2354
AIX	5.2, 5.3, 6.1	Cambex: PC2000, PC4000 IBM: 5758, 5759
Windows 2000	x86	Qlogic: QLA23xx
Windows 2003	x86, x64	Qlogic: QLA24xx, QLE24xx, QLA23xx Emulex: LP11xxx, LPe11xxx, LPe12xxx
Windows 2008	x86, x64	Qlogic: QLA23xx, QLA24xx Emulex: LPe11xxx, LPe12xxx
NetWare	6.5	Qlogic: QLA23xx, QLA24xx
Linux	SLES 10	Qlogic: QLA24xx, QLE24xx
	RHEL 5	Qlogic: QLA23xx, QLE24xx Emulex: LPe12xxx
Solaris	9, 10	Qlogic: QLA23xx, QLA24xx
VMWare	ESX 3.5, ESX 4.0	Qlogic: QLA23xx, QLA24xx, QLE24xx

Nexsan

Table 1-62 ATAboy-2X

Qualified Operating System		Host Bus Adapter
Type	Version	
Windows 2000	Advanced Server (SP3)	QLogic: QLA 2312
Windows 2003		
RedHat	9	
RHEL	Update 3	

Table 1-63 ATAbeast

Qualified Operating System		Host Bus Adapter
Type	Version	
Windows 2000	Advanced Server (SP3)	QLogic: QLA 2312
Windows 2003		
RedHat	9	
RHEL	Update 3	

Table 1-64 SATABoy

Qualified Operating System		Host Bus Adapter
Type	Version	
Windows 2000	Advanced Server (SP3)	QLogic: QLA 2312
Windows 2003		
RedHat	9	
RHEL	Update 3	



CHAPTER 2

Tape Storage Interoperability Matrix

This chapter lists tape storage libraries and drives tested by Cisco's Solution-Interoperability Engineering group (iLAB) and/or self-certified by OEMs/Partners.

Table 2-1 *Tested Tape Storage Libraries and Drives*

Vendor	Tape Library Model	Page
IBM	IBM 3590 /3592 E11/E1A and H11/H1A	2
	IBM Ultrium 3584 UltraScalable	2
	IBM Ultrium 3583 Scalable	2
	IBM Ultrium 3582	3
Oracle	VTL version 5	4
	L700e, L180	4
	L8500	4
	SL500	5
	SL3000	5
Quantum	Scalar 24	6
	Scalar 50	6
	Scalar I500	6
	Scalar i2000/i6000	6
	PX720	7
HP	HP MSL, ESL, EML Series	8
	HP VLS Series	8
Overland Storage	Neo Series	8
SONY	PetaSite	9
ATTO	Fibre Storage	9
Crossroad Systems	Storage Routers 8000 /6000/10000	10
	Storage Routers 4250	10
Tape Acceleration	SAN-OS 2.x, 3.x, 4.x Tape Acceleration Feature	11
IOA	Nexus-OS 4.x IO Acceleration Feature	12

IBM

Table 2-2 IBM 3590 /3592 E11/E1A and H11/H1A

Operating System		Tape Drive Models
Type	Version	
AIX	5.1 & later	Native FC standalone or in a 3494 tape library or Silo
Windows 2003	Std & Enterp. Edition	
Windows 2000	Server, Adv. Server (SP3 or later)	
Linux	RH 2.1 & later	
	SLES 7 & later	
Solaris	2.6, 7, 8, 9 & later	
HP-UX	11.0, 11i	

Table 2-3 IBM Ultrium 3584 UltraScalable

Operating System		Tape Drive Models
Type	Version	
AIX	5.1, 5.2, 5.3 & later	IBM: LTO-3 FC LTO-2 FC
Windows 2003	Std & Ent. Edition	
Windows 2000	Server, Adv. Server (SP3 or later)	
Linux	RH 2.1 & later	
	SLES 7 & later	
Solaris	2.6, 7, 8, 9 & later	
HP-UX	11.0, 11i	
OS/400	V5R2, V5R3 & later	

Table 2-4 IBM Ultrium 3583 Scalable

Operating System		Tape Drive Models	IBM iSCSI Support	
Type	Version			
AIX	5.1, 5.2, 5.3	Native FC LTO-2, LTO-3 or	No	
Windows 2003	Stand, Adv. Edition	Integrated SDG Module	Yes	
Windows 2000	Server, Adv. Server (SP3 & later)			
Linux	RH 2.1 & later		FC LTO-2, LTO-3	No
	SLES 7 & later			
Solaris	2.6, 7, 8, 9, 10			
HP-UX	11.0, 11i			
OS/400	V5R2, V5R3 & later			

Table 2-5 IBM Ultrium 3582

Operating System		Tape Drive Models	IBM iSCSI Support
Type	Version		
AIX	5.1, 5.2	Native FC LTO-2	No
Windows 2003	Standard Edition Enterprise Edition	LTO-3	Yes
Windows 2000	Server Advanced Server (SP3 or later)		
Linux	RH 2.1 & higher		
	SLES 7 & higher		
Solaris	2.6, 7, 8, 9, 10 & later		
HP-UX	11.0, 11i		

Oracle

Table 2-6 VTL version 5

Operating System		Tape Drive Models
Level	Version	
		STK: T10000B
Windows 2003	Enterprise	HP: LTO
Windows 2008	Enterprise	IBM: LTO
Linux	RHAT 4, 5 & later	
	SUSE 10 & later	
Solaris	10 & later	

Table 2-7 L700e, L180

Operating System		Tape Drive Models
Level	Version	
Windows 2003	Enterprise	STK: 9840A FC, 9840B FC, 9840C FC, 9940A FC, 9940B FC, T10000 FC IBM: LTO Gen-2 FC, LTO Gen-3 FC HP: LTO Gen-2 FC, LTO Gen-3 FC Quantum: SDLT-600 FC, S4 FC
Windows 2008	Enterprise	
AIX	5.1, 5.2, 5.3 & later	
Linux	RedHat 4 & later	
	SUSE 7 & later	
HPUX	11.0, 11i	
Solaris	8, 9 & later	

Table 2-8 L8500

Operating System		Tape Drive Models
Level	Version	
Windows 2003	Enterprise	STK: 9840A FC, 9840B FC, 9840C FC, 9940A FC, 9940B FC, T10000 FC 2G, T10000 FC 4G IBM: LTO Gen-2 FC, LTO, Gen-3 FC 4G HP: LTO Gen-2 FC, LTO, Gen-3 FC 4G Quantum: SDLT-600 2G FC
Windows 2008	Enterprise	
Linux	RedHat 4 & later	
	SUSE 7 & later	
AIX	5.1, 5.2, 5.3 & later	
HPUX	11.0, 11i	
Solaris	7, 8, 9, 10	

Table 2-9 SL500

Operating System		Tape Drive Model
Level	Version	
Windows 2003	Enterprise	IBM: LTO Gen-2 FC, LTO Gen-3 FC , LTO Gen-4 FC HP: LTO Gen-2 FC, LTO Gen-3 FC, LTO Gen-4 FC
Windows 2008	Enterprise	
Linux	RedHat 4 & later	
	SUSE 7 & later	
AIX	5.1, 5.2, 5.3 & later	
HPUX	11.0, 11i	
Solaris	8, 9, 10 & later	

Table 2-10 SL3000

Operating System		Tape Drive Model
Level	Version	
Windows 2003	Enterprise	IBM: LTO Gen-3 FC, LTO Gen-4 FC STK: T10000B, 9840D
Windows 2008	Enterprise	
AIX	5.3 & later	HP: LTO Gen-3 FC, LTO Gen-4 FC
Linux	RedHat 4 & later	
	SUSE 7 & later	
HPUX	11i	
Solaris	9, 10 & later	

Quantum

Table 2-11 **Scalar 24**

Operating System		Tape Drive Models
Type	Version	
Windows 2003	Enterprise	IBM: LTO Gen-2 FC, LTO Gen-3 FC 4G, LTO Gen-4 FC 4G Quantum: SDLT-600 2G FC
AIX	5.4 & later	
Linux	RedHat 4 & later	
	SUSE 7 & later	
Solaris	9, 10 & later	

Table 2-12 **Scalar 50**

Operating System		Tape Drive Models
Type	Version	
Windows 2003	Enterprise	HP: LTO Gen-3 FC 4G, LTO Gen-4 FC 4G Quantum: DLT-S4 4G FC, Quantum LTO-3 HH
Linux	RedHat 4 & later	
	SUSE 7 & later	
Solaris	9, 10 & later	

Table 2-13 **Scalar I500**

Operating System		Tape Drive Models
Type	Version	
Windows 2003	Enterprise	IBM: LTO Gen-2 FC, LTO Gen-3 FC, LTO Gen-4 FC, LTO-Gen 5 8G HP: LTO Gen-4 FC, LTO Gen 5 FC 8G
Windows 2008	Enterprise	
Solaris	9, 10 & later	
Linux	RH 4 & later	
HPUX	11iv2, 11iv3	
AIX	5.4 & later	

Table 2-14 **Scalar i2000/i6000**

Operating System		Tape Drive Models
Type	Version	
Linux	RedHat 4 & later	IBM: LTO Gen-2 FC, LTO Gen-3 FC, LTO Gen-4 FC HP: LTO Gen-3 FC, LTO Gen-4 FC, LTO Gen-5 8G Quantum: S4 FC, SDLT-600 2G FC
Windows 2008	Enterprise	
Windows 2003	Enterprise	
Solaris	8, 9, 10 & later	
HPUX	11iv2, 11vi3	
AIX	5.4 & later	

Table 2-15 PX720

Operating System		Tape Drive Models
Type	Version	
Windows 2003	Enterprise	Quantum: SDLT S4 4G FC, SDLT 600 2G FC HP: LTO Gen-2 2G FC, LTO Gen-3 4G FC, LTO Gen-3 2G FC, LTO Gen-4 4G FC
Solaris	9,10& later	
HPUX	11iv2	

Table 2-16 Sacalar i40/180

Operating System		Tape Drive Models
Type	Version	
Windows 2003	Enterprise	HP:LTO Gen-4 4G FC
Windows 2008	Enterprise	
Solaris	9, 10 & later	
HPUX	11iv2, 1 liv 3	
AIX	5.4 and later	

Table 2-17 DXI 7500

Operating System		Tape Drive Models
Type	Version	
Windows 2003	Enterprise	IBM: LTO Gen-2, LTO Gen-3, LTO Gen-4 HP: LTO Gen-2, LTO Gen-3, LTO Gen-4
Windows 2008	Enterprise	
Linux	RedHat 4, 5	

Table 2-18 DXI 6540/6550 NAS Device

Operating System		Tape Drive Models
Type	Version	
Windows 2003	Enterprise	IBM: LTO Gen-2, LTO Gen-3, LTO Gen-4 HP: LTO Gen-2, LTO Gen-3, LTO Gen-4
Windows 2008	Enterprise	
Linux	RedHat 4, 5	

HP

Table 2-19 HP MSL, ESL, EML Series

Operating System ¹	Host Bus Adapter	Tape Drive Models
Windows	HP: All HP supported models	HP: LTO-1, LTO-2, LTO-3, LTO-4, LTO-5
Solaris		
Linux		
HPUX		
AIX		
Open VMS		
Netware		

1. Refer to the EBS compatibility matrix at the following link for more information on supported operating systems and applications: <http://h18000.www1.hp.com/products/storageworks/ebs/index.html>

Table 2-20 HP VLS Series

Operating System ¹	Host Bus Adapter	Tape Drive Models
Windows	HP: All HP supported models	HP: All supported emulated tape drives
Solaris		
Linux		
HPUX		
AIX		
Open VMS		
Netware		

1. Refer to the EBS compatibility matrix at the following link for more information on supported operating systems and applications: <http://h18000.www1.hp.com/products/storageworks/ebs/index.html>

Overland Storage

Table 2-21 Neo Series

Operating System		Host Bus Adapter	Tape Drive Models
Type	Version		
Windows 2000	Advanced Server (SP3)	QLogic: QLA2300	HP: LTO-1, LTO-2 Qntm ATL: SDLT320
		Emulex: LP9802	HP: LTO-1, LTO-2 Qntm ATL: SDLT320

SONY

Table 2-22 PetaSite

Operating System		Host Bus Adapter	Tape Drive Models
Type	Version		
Windows 2000	Advanced Server (SP2)	Emulex: LP9802	SONY:
Solaris	8, 9	Emulex: LP8000, LP9002 QLogic: QLA2310, QLA2342 Sun: X6767A, X6727A	SDZ 100 SAIT SDZ 130 SAIT
Irix	6.5.18m, 6.5.19m, 6.5.21m & APD2.7	SGI: PCI-FC-1P (QLA2200) QLogic: QLA2340	
HP-UX	11i	HP: A5158A Emulex: LP9002	
Linux	RedHat 8	QLogic: QLA2300	

ATTO

Table 2-23 Fibre Storage

Operating System		Host Bus Adapter	Tape Library Model	Tape Drive Models
Type	Version	Model		
Windows Server 2003	Enterprise Edition10	ATTO: FC3300	FB 1180 FB1290 FB2300 FB4500	IBM LTO-2 IBM LTO-2 IBM LTO-2 SDLT 220
Windows 2000	Professional	ATTO: FC-21PS	FB2400	IBM LTO-2
Mac OSX Tiger	10.4.2	ATTO: FC-41XS, FC-42XS	FB2300	SDLT220
Mac OSX Panther	Panther	ATTO: FC-21PS		

Crossroad Systems

Table 2-24 Storage Routers 8000 /6000/10000

Operating System		Host Bus Adapter	Model	Cisco Tested
Type	Version			
Solaris	8	QLogic: QLA2200, QLA2342	CR 8000 fw: 4.03.27	Yes
		JNI: FCE 1473	CR 10000 (set at 2G) 4.0.3.27	
		JNI: FCE 1473	CR 6000	

Table 2-25 Storage Routers 4250

Operating System		Host Bus Adapter	Model	Cisco Tested
Type	Version			
Windows 2000	AS	QLogic: QLA2200	CR 4250	Yes
		Emulex: LP9002DC	fw: 306 2009m	

Tape Acceleration

Table 2-26 SAN-OS 2.x, 3.x, 4.x Tape Acceleration Feature

Tape Drive	Symantec NetBackup	Legato Networker	CA BrightStor	HP Data Protector	Commvault Galaxy	IBM TSM
IBM LTO-2, 3, 4	Yes	Yes	Yes		Yes	Yes
IBM 3590/3592	Yes	Yes	Yes		Yes	Yes
HP LTO-2, 3, 4	Yes	Yes	Yes	Yes		
HP LTO-1	Yes	Yes	Yes	Yes		
HP NSR Bridge				Yes		
Crossroad Systems	Yes	Yes	Yes	Yes	Yes	Yes
STK T9840	Yes	Yes	Yes		Yes	
STK T9940	Yes	Yes	Yes		Yes	
STK T10KA	Yes	Yes				
STK T10KB	Yes	Yes				
EMC CDL	Yes	Yes				Yes
Sony SAIT	Yes	Yes	Yes		Yes	Yes
Quantum SDLT 600, S4	Yes	Yes	Yes		Yes	Yes

IOA

Table 2-27 Nexus-OS 4.x IO Acceleration Feature

Tape Drive	Symantec NetBackup	Legato Networker	CA BrightStor	HP Data Protector	Commvault Galaxy	IBM TSM
IBM LTO-4	Yes	Yes				Yes
IBM LTO-3						
IBM LTO-2						
HP LTO-4	Yes	Yes				Yes
HP LTO-3						
HP LTO-2						
Sun T9840C						
Sun T9940B						
Sun T10KA						
Sun T10KB						
Sun VTL+		Yes				
EMC CDL	Yes					Yes
NetApp VTL	Yes					
Quantum SDLT 600, S4		Yes				



CHAPTER 3

Fabric Services Interoperability Matrix

This chapter lists Cisco fabric applications supported by the SSM module and tested by Cisco's Solution-Interoperability Engineering group (iLAB) to ensure seamless installation at the end-user data center.

- [Data Mobility Manager \(DMM\)](#)
- [Storage Media Encryption for Tape \(SME-Tape\)](#)
- [Storage Media Encryption for Disk \(SME-Disk\)](#)
- [FC-IP SAN Extension](#)

Data Mobility Manager (DMM)

Table 3-1 Data Mobility Manager¹

Software Partner	Storage Array	Page
EMC	Transferring data from Existing CLARiiON 600 to New CLARiiON 700	4
	Transferring data from Existing CLARiiON 600 to New DMX 3000	4
	Transferring data from Existing Symmetrix-5 to New DMX 3000	5
	Transferring Data from Existing Symmetrix 8430 to new HDS USPV	5
	Transferring Data from Existing DMX-3 to new CLARiiON 600	5
	Transferring Data from Existing DMX-3 to new CLARiiON 600, then from this CLARiiON 600 back to DMX-3	6
	Under VCS control, transferring Data from Existing DMX-3 to new DMX-3	6
	Under HACMP control, transferring Data from Existing DMX-3 to new DMX-3	6
	Under MSCS control, transferring Data from Existing DMX-3 to new DMX-3	6
	Transferring Data from Existing DMX-3 to new DMX-3	7
	Transferring Data from Existing DMX-3 to IBM SVC	7
	Under Sun Cluster control, transferring Data from Existing DMX-3 to new DMX-3	7
	Transferring Data from Existing DMX-1000 to new DMX-3	8
	Transferring Data from Existing EMC CX700 to new DMX-3	8
	Transferring Data from Existing Oracle STK D280 to new DMX-3	8
	Transferring Data from Existing DMX-1000 to new EMC CX4	9
	Transferring Data from Existing DMX-3 to new EMC CX4	9
	Transferring Data from Existing EMC CX700 to new EMC CX4	10
	Transferring Data from Existing Oracle STK D280 to new EMC CX4	10
	Transferring Data from Existing EMC DMX-3 to new EMC DMX-3	10
Transferring Data from Existing Compellent storage to new EMC DMX-3	10	
Transferring Data from Existing DMX3 to new EMC DMX-3	11	
IBM	Transferring data from Existing FAStT to New DS4500	12
	Transferring data from Existing ESS 2105 model 800 to New DS8000	12
	Transferring data from Existing ESS 2105 model 800 to New DS8000	13
	Transferring data from Existing HP EVA 4000 to New IBM DS8100	13
	Transferring data from Existing HP XP12000 to New IBM DS8100	13
	Transferring data from Existing IBM 2105 800 (ESS Shark) to New NetApp FAS3050	14
	Under VMware ESX environment, transferring data from Existing FAStT900 to New IBM DS4500	14
	Under MSCS, transferring data from Existing HDS 9585v to New IBM DS8100	14
	Transferring Data from Existing IBM N7900 to New NetApp Fas3050	20
	Transferring Data from Existing IBM DS 8000 to New NetApp Fas3050	21

Table 3-1 Data Mobility Manager¹

Software Partner	Storage Array	Page
HP	Transferring data from Existing EVA 5000 to New EVA 4000/ 8000	16
	Transferring data from Existing EVA 5000 to New XP12000	16
	Transferring data from Existing EVA 5000 to New XP12000	16
	Under Oracle RAC environment, transferring data from Existing HP EVA 4000 to New HP EVA 4000	17
	Transferring data from Existing XP1024 to New XP12000	17
HDS	Transferring data from Existing HDS9585 to New HDS9970v	18
	Transferring data from Existing HDS9585 to New TagmaStore	18
	Transferring data from Existing HDS9000 to New TagmaStore	19
	Under MSCS and Veritas Volume Manager, transferring data from existing 9970V to new CLARiiON700	19
	Transferring data from Existing HDS9200 to New HDS USPV	19
NetApp	Transferring data from Existing FAS940C to New FAS940C	20
SUN	Transferring data from Existing StorageTek 9985V to New Storage Tek 9990V	21
	Transferring data from Existing Storage Tek 9900V to New Storage Tek 9990V	21
Compellent	Transferring data from existing EMC DMX-3 to new Compellent storage	22

1. The following matrices includes configurations tested and certified by Cisco Quality Assurance labs. For more details on the listed configs including the SAN-OS and SSI versions, send an inquiry request to “mds-rpq@cisco.com”. For configurations other than listed below, please send an RPQ request to “mds-rpq@cisco.com”. Method 3 configuration is not supported on MDS9222i.

EMC

Table 3-2 Transferring data from Existing CLARiiON 600 to New CLARiiON 700

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003 R2	SP1	QLogic: QLE2462	PowerPath	Windows Native	SSM MDS 9222i
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLE2462	PowerPath	LVM	MSM 18/4
		Emulex: LPe11002			
	AS 4.0	QLogic: QLE2462	Device Mapper	LVM2	
		Emulex: LPe11002-M4	PowerPath	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			PowerPath		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			PowerPath		
AIX	5.3	IBM: 03N5014	PowerPath	LVM	

Table 3-3 Transferring data from Existing CLARiiON 600 to New DMX 3000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003 R2	SP1, SP2	QLogic: QLE2462	PowerPath	Windows Native	SSM MDS 9222i
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	Emulex: LPe11002-M4	PowerPath	LVM	MSM 18/4
	AS 4.0	QLogic: QLE2462	PowerPath	LVM2	
		Emulex: LPe11002-M4	Device Mapper	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			PowerPath		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			PowerPath		
AIX	5.3	IBM: 03N5014	PowerPath	LVM	

Table 3-4 Transferring data from Existing Symmetrix-5 to New DMX 3000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	PowerPath	Windows Native	SSM MDS 9222i
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLE2462	PowerPath	LVM	MSM 18/4
		Emulex: LPe11002-M4			
	AS 4.0	QLogic: QLE2462	PowerPath	LVM2	
		Emulex: LPe11002-M4	Device Mapper	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			PowerPath		
HPUX	11iv2	HP: AB378-60101	HP PVLinks	LVM	
			PowerPath		
AIX	5.3	IBM: 03N5014	PowerPath	LVM	

Table 3-5 Transferring Data from Existing Symmetrix 8430 to new HDS USPV

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003 R2	SP2	QLogic: QLE2462	PowerPath	Windows Native	SSM MDS 9222i
Linux RedHat	AS 4.0	Emulex: LPe11002-M4	PowerPath	LVM2	MSM 18/4
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
HPUX	11iv2	HP: AB378-60101	HP PVLinks	LVM	
AIX	5.3	IBM: 03N5014	PowerPath	LVM	

Table 3-6 Transferring Data from Existing DMX-3 to new CLARiiON 600

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Solaris	8	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	SSM MDS 9222i MSM 18/4
			PowerPath		

Table 3-7 Transferring Data from Existing DMX-3 to new CLARiiON 600, then from this CLARiiON 600 back to DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003 R2	SP2	QLogic: QLE2462	PowerPath	Windows Native	SSM MDS 9222i
AIX	5.3	IBM: 03N5014	MPIO	LVM	MSM 18/4

Table 3-8 Under VCS control, transferring Data from Existing DMX-3 to new DMX-3¹

Operating Systems	OS Version	VCS version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Solaris	10	5.0 w/IO fencing	Emulex: LPE11002-M4	Veritas DMP	VxVm	SSM MDS 9222i MSM 18/4
		5.0 w/out IO fencing				
		4.1 w/ IO fencing		PowerPath 4.5.1		
		4.1 w/out IO fencing				

1. For VCS, the following cutover procedure need to be followed:
 - a. When ready for cutover first stop all application traffic from all cluster nodes
 - b. Wait for migration to reach 100% (This step can be eliminated once the issue is fixed in a future release)
 - c. Shutdown VCS
 - d. Click “Finish” in DMM GUI
 - e. Once complete change zoning and cutover to NS (Follow the general procedure from this step)

Table 3-9 Under HACMP control, transferring Data from Existing DMX-3 to new DMX-3

Operating Systems	OS Version	HACMP version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
AIX	5.3	5.4	IBM: 03N5014	Power Path 5.1	LVM	SSM MDS 9222i MSM 18/4

Table 3-10 Under MSCS control, transferring Data from Existing DMX-3 to new DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows2003 R2	SP2	Emulex: LPE11002-M4	PowerPath 5.1	native	SSM ¹ MDS 9222i MSM 18/4

1. DMM Method 3 and DMM Storage Type Job are not supported with MSCS.

Table 3-11 Transferring Data from Existing DMX-3 to new DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2000 Advanced Server	SP4	Emulex: LPE11002-M4	PowerPath 4.5.2	Windows Native	SSM MDS 9222i MSM 18/4
Windows 2003 R2	SP2		PowerPath 5.1		
Windows 2000 Server	SP4	QLogic: QLE2462	Powerpath 5.1		
Windows 2000 Advanced Server Cluster			PowerPath 5.2		
Windows 2003 Server			Powerpath 5.3		
Windows 2003 Advanced Server Cluster			PowerPath 5.2		
Windows 2008 Server R2			PowerPath 5.3		
Windows 2008 Failover Server					

Table 3-12 Transferring Data from Existing DMX-3 to IBM SVC¹

Operating Systems	OS Version	Host Bus Adapter	SVC Version	Multipath App.	Volume Manager	Switch H/W
AIX	5.3	IBM: 03N5014	4.1.0.566	MPIO	LVM	SSM MDS 9222i MSM 18/4
VMware ESX (sanboot)	4.1	QLogic: QLA2342 Emulex: LPe11002-M4	6.1.0.8	VMware native	VMware native	
VMware ESXi (sanboot)	5.0	QLogic: QLA2342 Emulex: LPe11002-M4	6.1.0.8	VMware native	VMware native	

Table 3-13 Under Sun Cluster control, transferring Data from Existing DMX-3 to new DMX-3

Operating Systems	OS Version	Sun Cluster Ver	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Solaris	10	3.2	Emulex: LPe11002-M4	MPXIO	SVM	SSM MDS 9222i MSM 18/4

1. SVC back-end storage: IBM Shark and FAST900

Table 3-14 Transferring Data from Existing DMX-1000 to new DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows 2000 Server	SP4	QLogic: QLE 2462	PowerPath 5.1	Windows Native	SSM MDS 9222i MSM 18/4
Windows 2000 Advanced Server Cluster			PowerPath 5.2		
Windows 2003 Server	SP2		PowerPath 5.3		
Windows 2008 Server R2			PowerPath 5.2		
Windows 2008 Failover Server			PowerPath 5.3		

Table 3-15 Transferring Data from Existing EMC CX700 to new DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows 2000 Server	SP4	QLogic: QLE 2462	PowerPath 5.1	Windows Native	SSM MDS 9222i MSM 18/4
Windows 2000 Advanced Server Cluster			PowerPath 5.2		
Windows 2003 Server	SP2		PowerPath 5.3		
Windows 2003 Advanced Server Cluster			PowerPath 5.2		
Windows 2008 Server R2			PowerPath 5.3		
Windows 2008 Failover Server					

Table 3-16 Transferring Data from Existing Oracle STK D280 to new DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows 2000 Server	SP4	QLogic: QLE 2462	RDAC 9.1.32.30	Windows Native	SSM MDS 9222i MSM 18/4
Windows 2000 Advanced Server Cluster					
Windows 2003 Server	SP2				
Windows 2003 Advanced Server Cluster					

Table 3-17 Transferring Data from Existing DMX-1000 to new EMC CX4

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows 2000 Server	SP4	QLogic: QLE 2462	PowerPath 5.1	Windows Native	SSM MDS 9222i MSM 18/4
Windows 2000 Advanced Server Cluster			PowerPath 5.2		
Windows 2003 Server	SP2		PowerPath 5.3		
Windows 2003 Advanced Server Cluster			PowerPath 5.2		
Windows 2008 Failover Server			PowerPath 5.3		

Table 3-18 Transferring Data from Existing DMX-3 to new EMC CX4

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows 2000 Server	SP4	QLogic: QLE 2462	PowerPath 5.1	Windows Native	SSM MDS 9222i MSM 18/4
Windows 2000 Advanced Server Cluster			PowerPath 5.2		
Windows 2003 Server	SP2		PowerPath 5.3		
Windows 2003 Advanced Server Cluster			PowerPath 5.2		
Windows 2008 Server R2			PowerPath 5.3		
Windows 2008 Failover Server					

Table 3-19 Transferring Data from Existing EMC CX700 to new EMC CX4

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows 2000 Server	SP4	QLogic: QLE 2462	PowerPath 5.1	Windows Native	SSM MDS 9222i MSM 18/4
Windows 2000 Advanced Server Cluster			PowerPath 5.2		
Windows 2003 Server	SP2		PowerPath 5.3		
Windows 2003 Advanced Server Cluster			PowerPath 5.2		
Windows 2008 Server R2			PowerPath 5.3		
Windows 2008 Failover Server					

Table 3-20 Transferring Data from Existing Oracle STK D280 to new EMC CX4

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows 2000 Server	SP4	QLogic: QLE 2462	RDAC 9.1.32.30	Windows Native	SSM MDS 9222i MSM 18/4
Windows 2000 Advanced Server Cluster					
Windows 2003 Server	SP2				
Windows 2003 Advanced Server Cluster					

Table 3-21 Transferring Data from Existing EMC DMX-3 to new EMC DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Tru64 Unix	5.1b	HP: KGPSA-CA	Native	LSM	SSM MDS 9222i MSM 18/4
Open VMS	7.3-1				

Table 3-22 Transferring Data from Existing Compellent storage to new EMC DMX-3

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H//W
Windows 2003	Server SP2	QLogic: QLE 2462	MPIO	Windows Native	MDS 9222i MSM 18/4
		Emulex: LPe11002			

Table 3-23 *Transferring Data from Existing DMX3 to new EMC DMX-3*

Operating Systems	OS Version	Covergent Network Adapter	Multipath App.	Volume Manager	Switch H//W
UCS 1.1.1+ Windows 2008	Server	Cisco: M71KR-Q	PowerPath 5.3	WIndows Native	MDS 9222i MSM 18/4

IBM

Operating Systems	OS Version	VCS version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Solaris	10	5.0 w/IO fencing	Emulex: LPE11002-M4	Veritas DMP	VxVm	SSM
		5.0 w/out IO fencing				MDS 9222i
						MSM 18/4

Table 3-24 Transferring data from Existing FAStT to New DS4500

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	RDAC	Windows Native	SSM
		Emulex: LPe11002-M4			MDS 9222i
Linux RedHat	AS 3.0	QLogic: QLA2342	RDAC	LVM	MSM 18/4
	AS 4.0	QLogic: QLA2342	Device Mapper	LVM2	
		Emulex: LPe11002-M4	RDAC	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			RDAC		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			RDAC		
AIX	5.3	IBM: 03N5014	RDAC	LVM	

Table 3-25 Transferring data from Existing ESS 2105 model 800 to New DS8000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLA2342	SDD	Windows Native	SSM
		Emulex: LPe11002-M4			MDS 9222i
Linux RedHat	AS 3.0	Emulex: LPe11002-M4	SDD	LVM	MSM 18/4
	AS 4.0	Emulex: LPe11002-M4	Device Mapper	LVM2	
			SDD	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			SDD		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			SDD		
AIX	5.3	IBM: 03N5014	SDD	LVM	

Table 3-26 Transferring data from Existing DS4500 to New DS8000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLA2342	RADAC, SDD	Windows Native	SSM MDS 9222i
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLA2342	SDD	LVM	MSM 18/4
	AS 4.0	Emulex: LPe11002-M4	SDD	LVM2	
		QLogic: QLA2342	Device Mapper	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			RDAC, SDD		
HPUX	11iv2	HP: AB378-60101	HP PVLinks	LVM	
			RDAC, SDD		
AIX	5.3	IBM: 03N5014	RDAC, SDD	LVM	

Table 3-27 Transferring data from Existing HP EVA 4000 to New IBM DS8100

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP2	QLogic: QLE2462	MPIO	Windows Native	SSM MDS 9222i
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	MSM 18/4
AIX	5.3	IBM: 03N5014	HP MPIO / AIX MPIO	LVM	

Table 3-28 Transferring data from Existing HP XP12000 to New IBM DS8100

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP2	QLogic: QLE2462	MPIO	Windows Native	SSM MDS 9222i
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	MSM 18/4

Table 3-29 Transferring data from Existing IBM 2105 800 (ESS Shark) to New NetApp FAS3050

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
AIX	5.3	IBM: 10N9824	SDD PCM 2.2.0.0	LVM	SSM MDS 9222i
AIX	5.3	IBM: 10N9824	SDD 1.7.2.0	LVM	MSM 18/4
AIX	5.3	IBM: 03N5014	SDD PCM 2.2.2.0	LVM	
AIX	5.3	QLogic: QLA234200P4295	SDD PCM 2.2.2.0	LVM	

Table 3-30 Under VMware ESX environment, transferring data from Existing FASt900 to New IBM DS4500

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
VMware ESX	ESX Server 3.0.1 Linux RH 4.0	QLogic: QLA2432	VMware Native	VMware Native	SSM MDS 9222i MSM 18/4
VMware ESX	ESX server 3.0.1 Windows 2003 Server	QLogic: QLA2432	VMware Native	VMware Native	

Table 3-31 Under MSCS, transferring data from Existing HDS 9585v to New IBM DS8100

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP2	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i MSM 18/4

Table 3-32 Transferring Data from Existing IBM N7900 to New NetApp Fas3050

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	N/A	Windows Native	SSM MDS 9222i
Linux Red Hat	AS 3.0	QLogic: QLE2462	N/A	LVM2	MSM-18/4

Table 3-33 *Tansferring Data from Existing IBM DS 8000 to New NetApp Fas3050*

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
AIX	5.3	IBM: 03N5014	SDD PCM 2.2.2.0	LVM	
AIX	5.3	QLogic: QLA234200P4295	SDD PCM 2.2.2.0	LVM	

HP

Table 3-34 Transferring data from Existing EVA 5000 to New EVA 4000/ 8000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	SecurePath	Windows Native	SSM
		Emulex: LPe11002-M4			MDS 9222i
Linux RedHat	AS 3.0	Emulex: LPe11002-M4	SecurePath	LVM	MSM 18/4
	AS 4.0	QLogic: QLE2462	QL Failover	LVM2	
		Emulex: LPe11002-M4	Device Mapper	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			MPXIO		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			SecurePath		
AIX	5.3	IBM: 03N5014	SecurePath	LVM	

Table 3-35 Transferring data from Existing EVA 5000 to New XP12000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	MPIO	Windows Native	SSM
		Emulex: LPe11002-M4			MDS 9222i
Linux RedHat	AS 3.0	QLogic: QLE2462	QL Failover	LVM	MSM 18/4
	AS 4.0	QLogic: QLE2462	QL Failover	LVM2	
		Emulex: LPe1102-M4	Multipulse	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			MPXIO		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			SecurePath		
AIX	5.3	IBM: 03N5014	SecurePath	LVM	

Table 3-36 Under Oracle RAC environment, transferring data from Existing HP EVA 4000 to New HP EVA 4000

Operating Systems	OS Version	Oracle RAC/ Clusterware	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Linux RedHat	AS 4.0	Oracle DB 11g R1 Oracle Clusterware 11gR1	Emulex: LPe1100 2-M4	Emulex Multipulse HP Multipulse	LVM2	SSM MDS 9222i MSM 18/4

Table 3-37 Transferring data from Existing XP1024 to New XP12000

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	MPIO	Windows Native	SSM MDS 9222i
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLE2462	QL Failover	LVM	MSM 18/4
	AS 4.0	QLogic: QLE2462	QL Failover	LVM2	
		Emulex: LPe11002-M4	Multipulse	LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			MPXIO		
HPUX	11iv2	HP: AB378-60101	HP PVLinks	LVM	
			SecurePath		
AIX	5.3	IBM: 03N5014	?	LVM	

HDS

Table 3-38 Transferring data from Existing HDS9585 to New HDS9970v

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLE2462	Device Mapper	LVM	MSM 18/4
	AS 4.0	QLogic: QLE2462		LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			HDLM		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			HDLM		
AIX	5.3	IBM: 03N5014	HDLM	LVM	

Table 3-39 Transferring data from Existing HDS9585 to New TagmaStore

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	Emulex: LPe11002-M4	Device Mapper	LVM	MSM 18/4
	AS 4.0	QLogic: QLE2462		LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			HDLM		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			HDLM		
AIX	5.3	IBM: 03N5014	HDLM	LVM	

Table 3-40 Transferring data from Existing HDS9000 to New TagmaStore

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLE2462	Device Mapper	LVM	MSM 18/4
	AS 4.0	QLogic: QLE2462 Emulex: LPe11002-M4		LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			HDLM		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			HDLM		
AIX	5.3	IBM: 03N5014	HDLM	LVM	

Table 3-41 Under MSCS and Veritas Volume Manager, transferring data from existing 9970V to new CLARiiON700¹

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003 Cluster	SP2	Emulex	Veritas Volume Manager 4.3 M1 for MSCS	Veritas Volume Manager 4.3 M1 for MSCS	SSM MDS 9222i MSM 18/4

1. The VFS for MSCS supports active/passive mode only, so the active path has to be selected as the only path for DMM to do migration. Any failover with this path requires the DMM job to be re-created.

Table 3-42 Transferring data from Existing HDS9200 to New HDS USPV

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i MSM 18/4
				LVM2	
Linux RedHat	AS 4.0	QLogic: QLE2462	Veritas DMP	VxVm	
Solaris	10	Emulex: LPe11002-M4 (Leadville)			
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
AIX	5.3	IBM: 03N5014	HDLM	LVM	

NetApp

Table 3-43 Transferring data from Existing FAS940C to New FAS940C

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	N/A	Windows Native	SSM MDS 9222i
Linux RedHat	AS 3.0	QLogic: QLE2462	NA	LVM2	MSM 18/4

SUN

Table 3-44 Transferring data from Existing Storage Tek 9985V to New Storage Tek 9990V

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	Emulex: LPe11002-M4	Device Mapper	LVM	MSM 18/4
	AS 4.0	QLogic: QLE2462		LVM2	
		Emulex: LPe11002-M4		LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			HDLM		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			HDLM		
AIX	5.3	IBM: 03N5014	HDLM	LVM	

Table 3-45 Transferring data from Existing Storage Tek 9900V to New Storage Tek 9990V

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	SP1	QLogic: QLE2462	HDLM	Windows Native	SSM MDS 9222i
		Emulex: LPe11002-M4			
Linux RedHat	AS 3.0	QLogic: QLE2462	Device Mapper	LVM	MSM 18/4
	AS 4.0	QLogic: QLE2462		LVM2	
		Emulex: LPe11002-M4		LVM2	
Solaris	10	Emulex: LPe11002-M4 (Leadville)	Veritas DMP	VxVm	
			HDLM		
HPUX	11iv2	HP: AB378-60101	HP PVLlinks	LVM	
			HDLM		
AIX	5.3	IBM: 03N5014	HDLM	LVM	

Compellent

Table 3-46 Transferring data from existing EMC DMX-3 to new Compellent storage

Operating Systems	OS Version	Host Bus Adapter	Multipath App.	Volume Manager	Switch H/W
Windows 2003	Server SP2	QLogic: QLE2462	PowerPath 5.2	Windows Native	MDS 9222i
		Emulex: LPe11002-M4			MSM 18/4

Storage Media Encryption for Tape (SME-Tape)

Table 3-47 Storage Media Encryption for Tape¹

Software Partner	Data Center Backup Application	Page
Symantec	Veritas NetBackup	24
EMC	Legato Networker	26
HP	HP Data Protector	28
BakBone Software	NetVault	29
IBM	Tivoli Storage Manager (TSM)	30

1. The following matrices include configurations tested and certified by Cisco Quality Assurance Labs. For configurations other than listed below, please send an RPQ request to “mds-rpq@cisco.com”.

Symantec

Table 3-48 Veritas NetBackup

Operating Systems	NetBackup Version	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W
Windows 2000 ¹ (SP4)	5.1	Sun/STK L180	STK 9840C, IBM LTO-2	SSN-16, MDS 9222i MSM-18/4
		HP Standalone Tape Drive	MSL 6060	
	6.0	Sun/STK L180	HP LTO-2,	
		Sun/STK L700e	STK T10k, IBM LTO-3, IBM LTO-2, HP LTO-3	
		Sun/STK L8500	HP LTO-2, HP LTO-3, IBM LTO-2, IBM LTO-3	
		EMC CDL 4400	ADIC i2k SDLT320 Sun/STK SL500 IBM LTO-3	
		Quantum ADIC Scalar i2000	IBM LTO-3	
IBM Standalone Tape Drive	IBM 3592			
Windows 2003 (SP1)	5.1	Sun/STK L180	IBM LTO-2, STK 9840C	
		Sun/STK L700e	STK T10k, HP LTO-3, IBM LTO-3	
		HP Stainable Tape Drive	HP MSL 6060	
	6.0	Sun/STK L180	HP LTO-2	
		Sun/STK L700e	STK T10k, HP LTO-3, IBM LTO-2, IBM LTO-3	
		Sun/STK L8500	HP LTO-2, HP LTO-3, IBM LTO-2,	
		Quantum ADIC Scalar i2000	IBM LTO-3	
EMC CDL 4400	ADIC i2k SDLT320, Sun/STK SL500 IBM LTO-3			
IBM Standalone Tape Drive	IBM 3592			
Solaris 8	5.1	Sun/STK L180	HP LTO-2, STK 9840C, IBM LTO-2	
		Sun/STK L700e	HP LTO-3, STK T10k IBM LTO-3	
	6.0	Sun/STK L8500	HP LTO-2, HP LTO-3, IBM LTO-2, IBM LTO-3, SDLT 600	

Table 3-48 Veritas NetBackup (continued)

Operating Systems	NetBackup Version	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W
Solaris 10	5.1	Sun/STK L180	HP LTO2, STK 9840C,	SSN-16, MDS 9222i MSM-18/4
	6.0	Quantum ADIC Scalar i2000	IBM LTO-3	
		Sun/STK L700e	STK T10k, IBM LTO-2, IBM LTO-3, STK 9940B	
		Sun/STK SL500	HP LTO-4	
		Sun/STK L700	IBM LTO-4	
		Sun/STK L8500	HP LTO-3, HP LTO-2, STK T10k, IBM LTO-2, IBM LTO-3, SDLT 600	
		EMC CDL 4400	ADIC i2k SDLT 320 Sun/STK SL500 IBM LTO-3	
		IBM 3584	IBM LTO-2	
		IBM Stand Alone Tape	IBM 3592	
		SpectraLogic T120	IBM LTO-2, IBM LTO-3	
6.5	Sun/STK L700	IBM LTO-4		
AIX 5.3	6.0	Sun/STK L700e	IBM LTO-2, IBM LTO-3, HP LTO-3, STK T10k	
		EMC CDL 4400	Sun/STK SL500 IBM LTO-3	

1. Windows 2000 operating system is supported on SAN-OS 3.3(1c) code version only.

EMC

Table 3-49 Legato Networker

Operating Systems	Networker Version	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W	
Windows 2000 ¹ (SP4)	7.2.1	Sun/STK L700e	HP LTO-3, IBM LTO-2, IBM LTO-3	SSN-16, MDS 9222i	
		Quantum ADIC Scalar i2000	IBM LTO-3	MSM-18/4	
		EMC CDL 4400	ADIC i2k SDLT320 Sun/STK SL500 IBM LTO-3		
	7.3.2	Sun/STK L180	HP LTO-2, IBM LTO-2		
		Sun/STK L700e	STK T10k		
		Sun/STK L8500	IBM LTO-2, IBM LTO-3		
		IBM Standalone Tape Drive	IBM 3592, HP MSL 6060		
	Windows 2003 (SP1)	7.2.1	Sun/STK L700e	IBM LTO-2, IBM LTO-3, HP LTO-3	
Quantum ADIC Scalar i2000			HP MSL 6060		
EMC CDL 4400			ADIC i2k SDLT320 Sun/STK SL500 IBM LTO-3		
7.3.2		Sun/STK L180	STK 9840C, HP LTO-2, IBM LTO-2		
		Sun/STK L700e	STK T10k, STK 9940B		
		Sun/STK L8500	IBM LTO-2, IBM LTO-3		
		IBM Standalone Tape Drive	IBM 3592, HP MSL 6060		
7.4		Sun/STK SL500	HP LTO-4		
		Sun/STK L700	IBM LTO-4		
		Sun/STK L8500	HP LTO-2		
Solaris 8		7.2.1	Sun/STK L700e	IBM LTO-3	
		7.3.2	Sun/STK L700	IBM LTO-3	
Solaris 10	7.2.1	Sun/STK L700e	HP LTO-3, IBM LTO-2, IBM LTO-3		
		Sun/STK L700e	STK T10k		
	7.3.2	Sun/STK L180	HP LTO2, STK 9840C, IBM LTO-2		
		Quantum ADIC Scalar i2000	IBM LTO-3		
		Sun/STK L8500	IBM LTO-3, SDLT 600		
		EMC CDL 4400	ADIC i2k SDLT 320 Sun/STK SL500 IBM LTO-3		
IBM Stand Alone Tape	IBM 3592				

Table 3-49 Legato Networker (continued)

Operating Systems	Networker Version	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W
AIX 5.3	7.2.1	Sun/STK L700e	IBM LTO-2, IBM LTO-3, HP LTO-3	SSN-16, MDS 9222i
	7.3.2	Sun/STK L700e	STK T10k	MSM-18/4
		EMC CDL 4400	Sun/STK SL500 IBM LTO-3	
		IBM Standalone Tape Drives	IBM 3592	
HP-UX 11i (ia64)	7.3.2	Sun/STK L700	IBM LTO-3	

1. Windows 2000 operating system is supported on SAN-OS 3.3(1c) code version only.

HP

Table 3-50 HP Data Protector

Operating Systems	Data Protector	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W
Linux RedHat (version 4.0)	6.0	ESL 322e	HP LTO-2	SSN-16, MDS 9222i MSM-18/4
		MSL 2024	HP LTO-3	
		VLS 6105	HP LTO-2, HP LTO-3	
		ESL E-series	HP LTO-3	
		MSL 6030	Quantum SDLT 600	
		EML E-series	HP LTO-4	
		MSL 8096	HP LTO-4	
Linux SUSE (SLES 9.0)	6.0	ESL 322e	HP LTO-2	SSN-16, MDS 9222i MSM-18/4
		MSL 2024	HP LTO-3	
		VLS 6105	HP LTO-2, HP LTO-3	
		ESL E-series	HP LTO-3	
		MSL 6030	Quantum SDLT 600	
		EML E-series	HP LTO-4	
		MSL 8096	HP LTO-4	
Windows 2003 (Enterprise)	6.0	ESL 322e	HP LTO-2	SSN-16, MDS 9222i MSM-18/4
		MSL 2024	HP LTO-3	
		VLS 6105	HP LTO-2, HP LTO-3	
		ESL E-series	HP LTO-3	
		MSL 6030	Quantum SDLT 600	
		EML E-series	HP LTO-4	
		MSL 8096	HP LTO-4	
HP-UX 11iv3	6.0	HP ESL 322e	HP LTO-2	SSN-16, MDS 9222i MSM-18/4
	5.5	HP ESL 322e	HP LTO-2, HP LTO-3	
		SUN/STK 8500	HP LTO-2, HP LTO-3	
		EMC CDL 4400	SL500 HP LTO-3	

BakBone Software

Table 3-51 NetVault

Operating Systems	NetVault	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W
Linux RHEL V4	8.0	Sun/STK L180	HP LTO-2, IBM LTO-2	SSN-16, MDS 9222i
		Stand Alone drive	HP LTO-4	
Linux RHEL V5	8.2	Sun/STK L180	HP LTO-3, IBM LTO-3, HP LTO-4, IBM LTO-4	MSM-18/2
	8.2			
NetApp FAS Series	8.0 (NDMP)	Sun/STK L180	HP LTO-2, IBM LTO-2	
	8.2 (NDMP)		HP LTO-3, IBM LTO-3, HP LTO-4, IBM LTO-4	
	8.0 (NDMP)	Stand Alone drive	HP LTO-4	
EMC CDL Series	8.2 (NDMP)	Sun/STK L180	IBM LTO-3, IBM LTO-4	
		Sun/STK SL500		

IBM

Table 3-52 Tivoli Storage Manager (TSM)

Operating Systems	TSM Version	Tape Library Model	Tape Drives & Emulated Libraries Supported	Switch H/W
Windows 2000 ¹ (SP4)	5.4.0	IBM Stand-Alone Tape	IBM LTO-2, IBM TS1120	SSN-16, MDS 9222i MSM-18/2
Windows 2003 (SP2)	5.4.0	IBM Stand-Alone Tape	IBM LTO-2, IBM TS1120	
Linux RH AS 4 U2 kernel 2.6.9.22	5.4.0	IBM Stand-Alone Tape	IBM LTO-2, IBM TS1120	
AIX 5.3	5.4.0	SUN/STK 8500	HP LTO-2	
		SUN/STK SL500	HP LTO-3, IBM LTO-4, HP LTO-4	
		IBM Stand-Alone Tape	IBM TS1120, IBM LTO-2	
		EMC CDL SL500	IBM LTO-2, IBM LTO-4	
		SUN/STK L700	IBM LTO-2, IBM LTO-3, STK9840C, STKT10000A	
		SUN/STK L180	IBM LTO-2	
		IBM 3584	IBM LTO-2	
		Quantum ADIC Scalar i2000	IBM LTO-3	
		EMC CDL 4400	IBM LTO-3	
		EMC CDL 4400	SL500-IBM LTO-3	
	5.4.2	SUN/STK SL500	HP LTO-4	
		SUN/STK L700	IBM LTO-4	
	5.5.1	SpectraLogic T120	IBM LTO-2, LTO-3	

1. Windows 2000 operating system is supported on SAN-OS 3.3(1c) code version only.

Storage Media Encryption for Disk (SME-Disk)

EMC

Table 3-53 EMC CX4-480 (FLARE v04.30.000.5.511)

Operating System	OS Version	HBA	HBA Driver	Multipath Application	Failover Mode
Windows Server 2003	SP2	Qlogic QLE 2462	9.1.8.25	PowerPath 5.5	Failover Mode: 4
AIX	5300-12	IBM FC 1905, 5758, 5760, 5761 PN 03N5014	Native OS driver	PowerPath 5.1.0	Failover Mode: 1

Table 3-54 EMC Clarion CX700 (FLARE v02.16.700.5.010)

Operating System	OS Version	HBA	HBA/CNA Driver	Multipath Application	Failover Mode
Windows Server 2003	SP2	Qlogic QLE 2462	9.1.8.25	PowerPath 5.5	Failover Mode: 1
AIX	5300-12	IBM FC 1905, 5758, 5760, 5761 PN 03N5014	Native OS driver	PowerPath 5.1.0	Failover Mode: 1
Red Hat	5.5	Cisco M71KR-E	1.3(1n)	PowerPath 5.5	Failover Mode: 1

Table 3-55 EMC VNX-5300 (v05.31.000.5.008)

Operating System	OS Version	HBA	HBA/CNA Driver	Multipath Application	Failover Mode
Red Hat	5.5	Cisco M71KR-E	1.3(1n)	PowerPath 5.5	Failover Mode: 1

Table 3-56 NetApp FAS940(6.5.6)

Operating System	OS Version	HBA	HBA/CNA Driver	Multipath Application	Failover Mode
Red Hat	5.5	Cisco M71KR-E	1.3(1n)	Native	Load-balance

Table 3-57 HDS 9585v

Operating System	OS Version	HBA	HBA/CNA Driver	Multipath Application	Failover Mode
Windows Server 2008 Datacenter	SP2	Cisco M71KR-Q	1.3(1n)	MPIO	

FC-IP SAN Extension

Table 3-58 SAN Extension InterOp Support Matrix

MDS Module	IPSec	FC-IP WA ¹	H/W	Compression			FC-IP TA
				S/W			
				Mode 1	Mode 2	Mode 3	
9216i/14+2 to 9216i/14+2	Yes	Yes	Yes (LZS)	See note ²	Yes (DEFLATE moderate comp)	Yes (DEFLATE high comp)	Yes
9216i/14+2 to 9222i/18+4	Yes	No	No	No	No	No	See note ³
9222i/18+4 to 9222i/18+4	Yes	Yes	Yes (DEFLATE)	See note ⁴	See note ⁴	See note ⁴	Yes
SSN-16 to SSN-16/18+4	Yes	Yes	Yes (DEFLATE)	See note ⁴	See note ⁴	See note ⁴	Yes
SSN-16 to SSN-16/18+4	Yes	No	No	No	No	No	See note ³
IPS(IPS-4/IPS-8) to IPS(IPS-4/IPS-8)	Yes	Yes	No	Yes (LZS)	Yes (DEFLATE moderate comp)	Yes (DEFLATE high comp)	Yes
IPS to 9216i/14+2 (See note ⁵)	Yes	Yes	See note ⁶	See note ⁶	Yes (DEFLATE moderate comp)	Yes (DEFLATE high comp)	Yes
IPS to 9222i/18+4 (See note ⁴)	Yes	No	No	No	No	No	See note ¹

1. IBM PPRC is not supported.
2. If Mode1 is configured on 9216i/14+2 HW (LZS) compression will be in effect
3. Veritas NetBackup and IBM TSM backup applications are supported only
4. On 9222i/18+4 mode1/mode2/mode3 configuration will automatically be converted to "auto" which means H/W (DEFLATE) compression will in effect
5. The IPS modules are not supported in Nx-OS 4.x and higher. However, replication between IPS module running SAN-OS 3.x code version to the 4.x supported modules is supported.
6. S/W LZS on IPS4/8 side and H/W LZS on 14+2 side



CHAPTER 4

SAN Interconnect Device Matrix

This chapter lists devices tested by Cisco Solution-Interoperability Engineering group (iLAB) used for connecting SAN islands over metropolitan networks (MAN) and wide area networks (WAN).

- [Cisco and Partners Devices](#)

Use the following link for access to the latest Storage Service Interface (SSI) release compatibility matrix:

<http://www.cisco.com/en/US/docs/switches/datacenter/mds9000/sw/nx-os/ssi/matrix/SSImtx.html>

Cisco and Partners Devices

Table 4-1 Cisco System Ethernet/ MAN/WAN Device Status

Vendor	MAN/WAN Device	Protocol	Switch Fabric
Cisco Systems	Storage Router 5420, 5428, 5428-2	FC, iSCSI	All MDS family
	ONS 1553/15540/15252/15454	FC	
	Cisco 1000Base cWDM GBICs + Add/Drop Modules	FC	
	IPS-8, MPS-14/2, MDS9216i, MDS9222i, MSM-18/4	iSCSI, FCIP	
	Cisco 7000 Router w/Port Adapter Module (PAM)	FC	
	Cisco CWDM-MUX-4-SF1= , CWDM-MUX-4-SF2=	FC	
HP	mpx 100 (EVA iSCSI Connectivity Option)	iSCSI	
	mpx100b (EVA4400 iSCSI Connectivity Option)	iSCSI	
	mpx110 (IP Distance Gateway)	FCIP	
	MPX200 Multifunction Router	iSCSI, FCIP, FCoE	



CHAPTER 5

Device Interoperability

This chapter lists the devices tested by Cisco Solution-Interoperability Engineering group (iLAB) for switch interoperability and lists firmware versions and software versions.

- [Switch Interoperability Matrix](#)
- [IBM eServer Bladecenter Interoperability Matrix](#)
- [NPV Interoperability Matrix](#)

Use the following link for access to the latest Storage Service Interface (SSI) release compatibility matrix:

<http://www.cisco.com/en/US/docs/switches/datacenter/mds9000/sw/nx-os/ssi/matrix/SSImtx.html>

Switch Interoperability Matrix

The switch Interoperability test was performed per the Fibre Channel Methodologies for Interconnect (FC-MI) Technical Report version 1.92 which describes common methodologies for facilitating interoperability in a heterogeneous switch SAN environment.

The MDS family is **SANmark** 3001 and 3002 qualified.

IBM Supports MDS InterOp Mode-1 (FC-MI standard), Mode-2 (Brocade PID=0), Mode-3 (Brocade PID=1), and Mode-4 (McDATA native). Please refer to the following IBM document for more information:

<ftp://service.boulder.ibm.com/storage/san/cisco/mds9216.pdf>

EMC Supports all MDS InterOp Modes with Brocade and McDATA outlined in the Switched Fabric Topology Parameters section EMC Support Matrix:

<http://www.emc.com/collateral/elab/emc-support-matrices.pdf>

HDS Supports MDS InterOp Mode-1 with Brocade and McDATA.

HP Supports MDS InterOp Mode-1 with Brocade and McDATA, refer to the below link for more information:

<http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00758719/c00758719.pdf>

Table 5-1 Switch Interoperability Matrix

Switch Vendor	Switch Models	Firmware Version	Cisco MDS OS Version	MDS InterOp Mode	
Brocade	2400, 2800	2.6.0j	1.2(1b)	1 ¹ , 2 ²	
		2.6.1a	1.2(1a)		
		2.6.1c	1.2(1b)		
		2.6.2	1.3(4a)		
		2.6.2b	2.0(1b)		
			2.1(1a)	1, 2, 3 ³	
	200E	5.1.0d	3.1.2b, 4.1(1b)	1, 3 ³	
		5.3.1a	4.1(3a)		
		6.1.0d ⁴	4.1(1b)	1, 3 ³	
	3000	5.3.2x, 6.1.2x	5.0(1a)	3 ³	
	3800	3.0.2k	3.0.2k	1.2(1a)	1, 2
			3.1.1	1.2(1a)	
			3.1.1c	1.2(1b)	
			3.1.2	1.3(4a)	
		3.1.3a	3.1.3a	2.0(1b)	1, 2, 3 ³
				2.1(1a)	
				3.0(1)	
				3.0(2a)	
	3.0(2)				
	3.0(3)				
3.1(2)					
3.1(3)					
3.2.1c	3.2(3a), 3.3(1a), 3.3(1c), 4.1(1b), 4.1(3a), 4.2(1a), 5.0(1a)				
3900	4.0.2d	4.0.2d	1.2(1a)	1	
		4.1.1			
	4.1.2b	1.2(1b)			
	4.2.0b	1.3(4a)	1, 3 ³		
	4.2.2a	2.0(1b)			
		2.1(1a)			
	4.4.0f	3.0(2a)			
		3.0(3)			
4.4.0f	4.4.0f	3.0(1)	1, 2, 3 ³		
		3.0(2)			
		3.0(2a)			
4.4.0f	4.4.0f	3.0(3)			
		3.1(2)			
		3.1(3)			
4.4.0f	4.4.0f	3.2(1a)			

Table 5-1 Switch Interoperability Matrix (continued)

Switch Vendor	Switch Models	Firmware Version	Cisco MDS OS Version	MDS InterOp Mode	
Brocade (continued)	3900	5.0.3	3.0(1)	1, 3 ³	
		5.0.3b	3.0(2)		
		5.0(3)	3.0(2a) 3.0(3)		
		5.1.0d	3.1(2) 3.1(3) 3.2(1a)	1, 3 ³	
		5.3.0	3.2(1a), 4.2(1a)	1	
		5.3.0b	3.2(3a) 3.3(1a), 3.3(1c), 4.1(1b), 4.2(1a)	1, 3 ³	
	5.3.1a	4.1(3a), 4.2(1a)			
		5.0.5f, 5.3.1b, 5.3.2	4.1(1b), 4.1(3a)	3 ³	
		5.3.2x, 6.1.1x	5.0(1a)		
	4100	4100	5.3.2x, 6.1.2x	5.0(1a)	
			6.1.0x	4.1(1b)	
	48000,7500	48000,7500	6.1.0d	4.1(1b)	1
			6.1.0f, 6.1.0j, 6.1.0h, 6.1.0d ⁴	4.1(1b)	3 ³
	DCX, DCX(8G)	DCX, DCX(8G)	6.3.0x, 6.2.1x	5.0(1a)	
			6.1.0x ⁴	4.1(1b)	
			6.2.0x	4.2(3a), 4.2(x), 4.2(7d)	
			6.2.2c	5.0(4), 5.0(4b), 5.0(4c), 5.0(4d)	
			6.4.0b	5.0(1a)	
	DCX ⁵	DCX ⁵	6.4.0c	5.0(4d)	3 ³
			6.4.1a	5.0(4d)	
6.2.2c			5.2(1)		
6.4.2			5.2(1)		
48000, 3850, 4900, 4100 ⁶	48000, 3850, 4900, 4100 ⁶	5.0.3	3.0(1)	1, 3 ³	
		5.0.3b	3.0(2)		
		5.0(3)	3.0(2a) 3.0(3)		
		5.3.0	3.2(1a), 4.2(x)	1	
		5.3.0b	3.2(3a) 3.3(1a), 3.3(1c), 4.1(1b), 4.2(x)	1, 3 ³	
		5.3.0d	5.0(1a)	3 ³	
		5.3.1a	4.1(3a), 4.2(1a)	1, 3 ³	
		5.0.5f, 5.3.1b, 5.3.2	4.1(1b), 4.1(3a)	3 ³	
		5.3.2	5.0(1a)		
		6.2.2c	5.0(4), 5.0(4b), 5.0(4c), 5.04(d)		

Table 5-1 Switch Interoperability Matrix (continued)

Switch Vendor	Switch Models	Firmware Version	Cisco MDS OS Version	MDS InterOp Mode
Brocade (continued)	24000	5.1.0d	3.1(2), 3.2(1a)	1, 3 ³
		5.3.0b	3.2(3a) 3.3(1a), 3.3(1c), 4.1(1b)	1, 3 ³
		5.3.1a	4.1(3a), 4.2(1a)	
		5.0.5f, 5.3.1b, 5.3.2	4.1(1b), 4.1(3a)	3 ³
		5.3.2x, 6.1.1x, 6.2.1x	5.0(1a)	
		5.3.2c	5.0(4), 5.0(4b), 5.04(c), 5.0(4d)	
	4900	5.3.0b	4.1(1b)	
	5100	6.1.1x, 6.2.1x	5.0(1a)	
		6.1.0x,	4.1(1b)	
	5300	6.4.0c	5.2(1)	1, 3 ³
		6.4.1a	5.2(1)	1, 3 ³
6.4.1b		5.2(1)	3 ³	
QLogic	SANbox2	1.4.0.43-0	1.3(4a)	Native
	SANbox 5200	6.0	2.1(2b)	
	SANbox64	1.5.1.04	1.3(4a)	
		2.01	1.3(4a)	
	SANbox 5600	5.0.1.10.00	3.0(2a) 3.0(3)	
HP	Virtual Connect	VCM 2.01 (FC 1.30)	4.1(3a), 4.2(1a)	Native (NPIV enabled), 1
McDATA	6064, 6140, 4500, 3232	4.01	1.2(1a)	1
		5.0.1	1.2(1b)	
		5.0.2	1.2(1a), 1.3(4a)	
		6.0, 6.01	1.3(4a)	
		6.02	2.0(1b)	
		7.0	2.1(1a)	
		7.1.0.5		

Table 5-1 Switch Interoperability Matrix (continued)

Switch Vendor	Switch Models	Firmware Version	Cisco MDS OS Version	MDS InterOp Mode
McDATA	4500, 6140, 6064	07.1.0.5	3.0(1), 3.0(2a)	1, 4 ⁷
		08.1.01.4	3.0(1), 3.0(2a), 3.1(2), 4.2(5), 4.2(7a)	
		09.00	3.0(3), 3.1(2), 3.1(3)	
		09.01.00	3.0(3), 3.2(1a), 3.3(4)	
		09.06	3.2(1a)	
		09.06.00 22	3.2(3a)	
			4.1(1b)	
		09.07.01.4	3.3(1a), 3.3(1c), 4.1(1b)	
		09.07.02.1	3.3(3), 4.1(1b)	
		09.07.02.1	4.1(3a), 4.2(1a), 5.0(1a)	
		09.08.01	4.1(1b), 4.1(1c), 4.1(3a), 4.2(1a), 4.2(1b)	
	09.09.06	4.1(3a) ⁸		
	4500, 6064	09.09.08	3.3(3), 3.3(5), 4.2(7c)	4 ⁶
	6140	09.06.00, 09.09.06	5.0(1a)	1, 4 ⁶
			4.2(3) ⁹	4 ⁸
		09.09.08	5.2(1)	1, 4 ⁹
		09.09.09	5.0(4b)	4 ⁸
		09.09.09	5.2(1)	1, 4 ⁹
		09.08.01	5.2(2a)	1,4 ^{7,9}
	6064	09.09.03, 09.09.06	5.0(1a)	1, 4 ⁶
	3032	09.07.01.4	3.3(1a), 3.3(1c), 4.1(1b)	1, 4 ⁹
		09.07.02.1	3.3(3), 4.1(1b), 4.1(3a), 4.2(1)	
		09.09.08	4.2(3)	
4700	08.01.00, 09.09.03	5.0(1a)	1, 4 ⁶	
4500	09.09.03	5.0(1a)	1, 4 ⁶	
	09.09.07, 09.09.08	4.2.(1a), 5.0(4b)	4 ⁹	
	09.09.08	4.2(3)	1	
i10k	09.2.0.8	3.2(2c), 3.2(3), 3.2(3a)	1, 4 ⁶	
	09.07.1.5	3.3(1a), 3.3(1c), 4.1(1b)		
	09.07.02.1	3.3(3), 4.1(1b), 4.1(3a), 4.2(1a)		
	09.08.03, 09.09.03	4.1(1b), 4.1(1c), 4.1(3a), 4.2(1a), 4.2(1b)		
	09.09.05	3.3(3), 4.1(1b), 4.1(1c), 4.1(3a), 4.2(1a), 4.2(1b)		
	09.09.08	4.2(3) ¹⁰		4 ⁸
	09.09.06	5.0(4b)		1,4 ⁶

Table 5-1 Switch Interoperability Matrix (continued)

Switch Vendor	Switch Models	Firmware Version	Cisco MDS OS Version	MDS InterOp Mode
Inrange	FC/9000	04.00.04.06	1.3(4a)	No Interop Setting required

- Cisco MDS interop mode 1 supports connectivity of Cisco MDS 9000 Family switches to other Fibre Channel vendor switches per the FC-MI standard document.
- Cisco MDS interop mode 2 supports nondisruptive connectivity to Brocade Silkstorm 2800 and 3800 switches family with Core-PID set to 0.
- Cisco MDS **InterOp mode 3** supports nondisruptive connectivity of all Brocade Silkstorm switches including 3900 and 12000 switch family with Core-PID set to 1. We recommend using Cisco Fabric Manager for all MDS interop mode types with Brocade for zone administration. In MDS InterOp mode 3 and Brocade Native, Host attached to Brocade does not receive RSCN after zoneset activation/de-activation and can not discover LUNs immediately. Zoneset activation includes, a new zoneset activation and modification of existing zoneset and reactivation. Zoneset may be a regular zoneset or IVR zoneset. This issue is seen on all major Brocade releases 5.3.x; 6.1.0d, 6.x.
- Zoning changes cannot be activated from Brocade switch. Work around is to use MDS switches to activate zoning changes. Brocade switches cannot see IVR enabled devices if NAT is enabled
- In an IVR NAT enabled configuration, use persistence FCID with Area's value of 64 or less for MDS connected devices. This will ensure that the Brocade nameserver will discover the devices. In addition, RDI mode must be configured.
- Cisco SAN-OS 3.2(1a) is supported on Brocade switches running 5.3.0 only.
- MDS interop mode 4 supports native connectivity to McDATA switches, and is supported for migration purposes. McDATA software security features such as Fabric Binding are not supported in this mode and must be disabled.
The McDATA/IBM BladeCenter embedded switch in McDATA mode is not supported in interop mode 4. Only the standard mode (mode 1) is supported. For HP Blade servers with embedded Brocade and McDATA switch Interoperability matrix, visit:
<http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00758719/c00758719.pdf> and
http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00758729/c00758729.pdf?jumpid=reg_R1002_USEN.
For procedures, guidelines, and techniques for implementing switch-to-switch interoperability refer to the *Cisco MDS 9000 Family Switch to Switch Interoperability Configuration Guide* at the following URL:
http://www.cisco.com/en/US/products/hw/ps4159/ps4358/products_device_support_tables_list.html
- MDS9124e in NPV mode.
- Zoneset de-activation from either MDS or McDATA will cause McDATA switch to be un-responsive and rebooting it would be require to gain access.
- MDS 9513 and MDS 9124 in IBM blade center

IBM eServer Bladecenter Interoperability Matrix

Table 5-2 MDS Interoperability with IBM eServer Bladecenter¹

	Blade SW Module Firmware	2062-D07, T07, D04, T04 (MDS 9500) Firmware	2054-E11 (MDS9513) Firmware	2062-D01/2061-020/040 (MDS9200/9100) Firmware	2053-424 (MDS9124) Firmware
Blade Center					
2-port FC Switch Module (No InterOp Mode Required)	2.0.1.09	1.3(2a) to 3.0(2a)	3.0(1) & 3.0(2a)	1.3(2a) to 3.0(2a)	NA
QLogic 6-port 2G Enterprise FC Switch Module (No InterOp Mode Required)	4.1.0.22 5.5.1.10	2.1(1a) to 3.0(2a) 3.0(2a)	3.0(1) & 3.0(2a) 3.0(2a)	2.1(1a) to 3.0(2a) 3.0(2a)	NA
QLogic 6-port 4G Enterprise FC Switch Module (No InterOp Mode Required)	5.5.1.10 5.5.2.6 5.5.2.8	3.0(2a) & higher	3.0(2a) & higher	3.0(2a) & higher	3.1(2) & higher
QLogic 4G Intelligent Pass-thru Module	6.5.0.21	4.1(1c) & higher (NPIV Mode)	4.1(1c) & higher (NPIV Mode)	4.1(1c) & higher (NPIV Mode)	4.1(1c) & higher (NPIV Mode)
QLogic 8G IPM	7.10.1.3.0	4.2.(5) & higher	4.2(5) & higher	4.2(5) & higher	4.2(5) & higher
McData 6-port 2/4G FC Switch Module (Standard Mode)	5.5.1.10 5.5.2.5 5.5.2.6.0	3.0(2a) & higher (default Mode)	3.0(1) & higher (default Mode)	3.0(2a) & higher (default Mode)	3.1(2) & higher (default Mode)
McData 6-port 2/4G FC Switch Module Standard and McDATA Fabric modes	5.5.2.6.0	NX-OS 4.1(1b)	NX-OS 4.1(1b)	NX-OS 4.1(1b)	NX-OS 4.1(1b)
Optical Pass-thru Module	NA	1.3(2a) to 3.0(2a)	3.0(1) & 3.0(2a)	1.3(2a) to 3.0(2a)	NA
Brocade Enterprise SAN Switch Module (InterOp Mode)	4.2.1a 5.0.3a	1.3(4a), 2.0(2b), 2.1(1a) 3.0(1), 3.0(2), 3.0(2a) (InterOp Mode 1)	3.0(2a) (InterOp Mode 1)	1.3(4a), 2.0(2b), 2.1(1a) 3.0(1), 3.0(2), 3.0(2a) (InterOp Mode 1)	NA
Brocade Entry SAN Switch Module (InterOp Mode)					

Table 5-2 MDS Interoperability with IBM eServer BladeCenter¹

	Blade SW Module Firmware	2062-D07, T07, D04, T04 (MDS 9500) Firmware	2054-E11 (MDS9513) Firmware	2062-D01/2061-020/040 (MDS9200/9100) Firmware	2053-424 (MDS9124) Firmware
Blade Center					
Brocade Enterprise SAN Switch Module (Native Mode)	4.2.1a	1.3(4a), 2.0(2b), 2.1(1a)	3.0(2a) (InterOp Mode 3)	1.3(4a), 2.0(2b), 2.1(1a)	NA
Brocade Entry SAN Switch Module (Native Mode)	5.0.3a	3.0(1), 3.0(2), 3.0(2a) (InterOp Mode 3)		3.0(1), 3.0(2), 3.0(2a) (InterOp Mode 3)	
Brocade 4G 6-port SAN Switch Module (InterOp Mode)	5.0.3a 5.3.1	3.0(1), 3.0(2), 3.0(2a) & higher (InterOp Mode 1)	3.0(2a) & higher (InterOp Mode 1)	3.0(1), 3.0(2), 3.0(2a) & higher (InterOp Mode 1)	3.1(2) & higher (InterOp Mode 1)
Brocade 4G 6-port SAN Switch Module (Native Mode)	5.0.3a 5.3.1	3.0(1), 3.0(2), 3.0(2a) & higher (InterOp Mode 3)	3.0(2a) & higher (InterOp Mode 3)	3.0(1), 3.0(2), 3.0(2a) & higher (InterOp Mode 3)	3.1(2) & higher (InterOp Mode 3)
Brocade 4G 6-port SAN Switch Module (Access Gateway)	5.3.1	4.1(1c) & higher (NPIV Mode)	4.1(1c) & higher (NPIV Mode)	4.1(1c) & higher (NPIV Mode)	4.1(1c) & higher (NPIV Mode)

1. Refer to the following URL for full IBM SAN Volume Controller compatibility information with Cisco MDS 9000 switch family:
<http://www-1.ibm.com/support/docview.wss?rs=591&uid=ssg1S1002472>

NPV Interoperability Matrix

Table 5-3 Cisco N-Port Virtualization (NPV) InterOp Matrix - Edge

Cisco MDS9000	MDS OS version (NPV enabled)	Brocade Core FOS version (NPIV)	McDATA
Embedded MDS 9124e	3.2(1), 3.3(1c)	5.2.0a	
	4.1(1b), 4.1(1c), 4.1(3a)	6.1.0d	
	4.1(3a)		9.09.06
	4.2(3a)	5.1.0d	
Embedded MDS IBM Blade Switch	3.2(1), 3.3(1c)	5.2.0a	
	4.1(1b), 4.1(1c), 4.1(3a), 4.2(1a)	6.1.0d	
MDS9134	5.0(1a)	6.4.0b	

Table 5-4 Cisco N-Port Virtualization (NPV) InterOp Matrix - Core

Brocade Embedded Switch Blade (edge)	FabricOS	Cisco Core NX-OS (NPIV)
Access Gateway	6.4.x	4.2(7c)
HP Bladeserver (Brocade 5480)	6.4.0b	4.2(1b), 5.0(1a)

Table 5-5 Cisco N-Port Virtualization (NPV) InterOp Matrix - Core

HP embedded swiches	FW	Cisco Core NX-OS (NPIV)
Virtual Connect ¹	VCM 2.01 (FC 1.30)	4.1(3a), 4.2(1a)

1. Refer to HP matrix for more detailed information:

http://h20272.www2.hp.com/utility/document.aspx?docurl=Shared%20Documents/hw/switches/C-Series_FC_Switch_Connectivity_Stream_2011_02_04.pdf



CHAPTER 6

iSCSI Interoperability

This chapter lists iSCSI drivers and TCP Offload Engine (TOE) cards tested by Cisco's Solution-Interoperability Engineering group (iLAB).

- [EMC](#)
- [IBM](#)
- [HDS](#)
- [HP](#)
- [ADTX](#)



Note

Minimum iSCSI driver version required for supporting Cisco's feature modes on Cisco SAN-OS Release 2.1(1b) and later are as follows:

- Store-and-forward forwarding mode—There is no restriction.
 - Cut-through forwarding mode—There is no restriction.
 - Pass-through forwarding mode:
 - Cisco iSCSI driver version 4.2.1 for Windows 2000 and 2003
 - Microsoft Windows 2000 and 2003 iSCSI driver version 2.0
-

EMC

Table 6-1 MDS iSCSI Feature Support

IPS Advanced Features	Supported	Switch Fabric, IPS-8, MSP-14/2, MSM 18/4
Proxy mode initiator	Yes	MDS 9222i, MDS9216i
Transparent mode initiator	Yes	3.0(2a), 3.1(2), 3.2(1a), 3.2(2c), 3.2(3a), 3.3(1c), 4.1(1b), 4.1(3a), 4.2(1a)
Transparent IP failover (VRRP)	Yes	
CHAP authentication	Yes	
Transparent target failover	No	
Virtual target LUN mapping	Yes	

Table 6-2 Linux Drivers (Only 32-bit CPU Support)

EMC Storage Types	RedHat 2.4, 2.6 kernel	SUSE Enterprise
DMX	Yes	Yes
All Cx family	Yes	Yes

Table 6-3 OSM Drivers

EMC Storage Types	HP: HPUX 11i	IBM: AIX 5.2	Solaris 8/9/10	Multipath Support
		B.11.11.03a	1.1	
DMX	No	No	No	No
All Cx family	No	No	No	No

Table 6-4 Microsoft Drivers

EMC Storage Types	Windows 2000	Windows 2003	Multipath Support
		2.0	
DMX	Yes	Yes	Power Path
All Cx family	Yes	Yes	Power Path

IBM

Table 6-5 MDS iSCSI Feature Support

IPS Advanced Features	Supported	Switch Fabric, MSP-14/2, MSM 18/4
Proxy mode initiator	Yes	MDS 9222i, MDS 9216i
Transparent mode initiator	Yes	3.0(2a), 3.0(3), 3.1(2a), 3.2(1a), 3.2(2c), 3.2(3a), 3.3(1c), 4.1(1b), 4.1(3a), 4.2(1a)
Transparent IP failover (VRRP)	Yes	
CHAP authentication	Yes	
Transparent target failover	Yes	
Virtual target LUN mapping	Yes	

Table 6-6 Linux Drivers (Only 32-bit CPU Support)

IBM Storage Types	RH Linux RH 2.4 , 2.6 kernel
ESS 2105-800	Yes
ESS 2105-F20	Yes
DS8000, 4000	Yes

Table 6-7 OSM Drivers

IBM Storage Types	HP: HPUX 11i	IBM: AIX 5.2 / 5.3	Solaris 8&9/10	Multipath Support
	B.11.11.03e, B.11.23.03c	5.2.0.75/5.3.0.50	3.3.5/1.0/ 11.10.0	
ESS 2105-800	Yes	Yes	Yes	No
ESS 2105-F20	Yes	Yes	Yes	No
DS 8x00, 4x00	No	No	Yes	No

Table 6-8 Microsoft Drivers

IBM Storage Types	Windows 2000	Windows 2003	Multipath Support
	2.0x	2.0x	
ESS 2105-800	Yes	Yes	No
ESS 2105-F20	Yes	Yes	No
DS 8x00, 4x00	Yes	Yes	No

Table 6-9 IBM SAN Volume Controller (SVC)

IBM Storage Types	Windows 2000	Windows 2003	Linux RH 2.4, 2.6 kernel	Heterogeneous SAN Switch Support	Multipath Support
	1.06	1.06	3.6.2		
ESS 2105-800	Yes	Yes	Yes	Brocade and McDATA	No
ESS 2105-F20	Yes	Yes	Yes		No
DS 8x00, 4x00	Yes	Yes	Yes	Inter-VSAN Routing (IVR) is supported	No

HDS

Table 6-10 MDS iSCSI Feature Support

IPS Advanced Features	Supported	Switch Fabric, IPS-8, IMSP-14/2, MSM 18/2
Proxy mode initiator	Yes	MDS 9222i, 9216i
Transparent mode initiator	Yes	3.0(1), 3.0(2a), 3.0(3), 3.1(2), 3.2(1a), 3.2(2c), 3.3(1a), 3.3(1c), 4.1(1b), 4.1(3a), 4.2(1a)
Transparent IP failover (VRRP)	Yes	
CHAP authentication	Yes	
Transparent target failover	Yes	
Virtual target LUN mapping	Yes	

Table 6-11 Linux Drivers (Only 32-bit CPU Support)

HDS Storage Types	RH Linux 2.4, 2.6 kernel
Lightning 9900v, 9900	Yes
TagmaStore USP V	Yes
TagmaStore USP	Yes
Thunder 9500v, AMS 500	Yes
Thunder 9200	No

Table 6-12 OSM Drivers

HDS Storage Types	HP: HPUX 11iv2 B.11.23.03e	IBM: AIX 5.2/5.3 1.0	Solaris 8/9/10 3.3.5/1.0	Novell: Netware 6.0/6.5 1.0.3/4	Multipath Support
Lightning 9900v, 9900	Yes	Yes	Yes	Yes	No
Thunder 9500v, AMS 500	Yes	Yes	Yes	Yes	No
TagmaStore USP	Yes	Yes	Yes	Yes	No
TagmaStore USP V	Yes	Yes	Yes	Yes	No

Table 6-13 Microsoft Drivers

HDS Storage Types	Windows 2000 1.06/2.0	Windows 2003 1.06/2.0	Multipath Support
Lightning 9970v, 9900,	Yes	Yes	No
Thunder 9500v, AMS 500	Yes	Yes	No
TagmaStore USP, USP V	Yes	Yes	No

Table 6-14 MDS iSCSI Feature Support

IPS Advanced Features	Supported	Switch Fabric, IPS-8, MSP-14/2, MSM 18/4
Proxy mode initiator	Yes	MDS 9222i, MDS 9216i
Transparent mode initiator	Yes	3.0(1), 3.0(3), 3.1(2a), 3.2(1a), 3.2(2c), 3.2(3), 3.3(1a), 3.3(1c), 4.1(1b), 4.1(3a), 4.2(1a)
Transparent IP failover (VRRP)	Yes	
CHAP authentication	Yes	
Transparent target failover	Yes	
Virtual target LUN mapping	Yes	

Table 6-15 Cisco Drivers (Only 32-bit CPU Support)

HP Storage Types	Linux SUSE	Linux RH 2.4, 2.6 kernel
	8, 10	
XP12000, XP1024, XP48		Yes
EVA 3000, EVA 5000		Yes
MA8000 (HSG80)		Yes

Table 6-16 OSM Drivers

HP Storage Types	HP HPUX 11i, 11.23	Novell Netware 6.5 SP2	IBM AIX 5.2, 5.3	Solaris 8/9/10	Multipath Support
	11i-v1, 11.23.03d	1.0.3	1.0	3.3.6	
XP Family	Yes	Yes	No	Yes	No
EVA GL & XL Family	No	Yes	No	Yes	No
MA8000 (HSG80)	No	Yes	No	Yes	No

Table 6-17 Microsoft Drivers

HP Storage Types	Windows 2000	Windows 2003	Multipath Support
	2.01 and prior	2.01 and prior	
XP Family	Yes	Yes	Yes (2.00+)
EVA GL & XL Family	Yes	Yes	Yes (2.00+)
MA8000 (HSG80)	Yes	Yes	Yes (2.00+)

ADTX

Table 6-18 MDS iSCSI Feature Support

IPS Advanced Features	Supported	Switch Fabric, MSP-14/2
Proxy mode initiator	Yes	MDS9216i
Transparent mode initiator	Yes	2.0(2b), 2.1(1b), 2.1(1b), 2.1(2b)
Transparent IP failover (VRRP)	Yes	
CHAP authentication	Yes	
Transparent target failover	Yes	
Virtual target LUN mapping	Yes	

Table 6-19 Microsoft Drivers

Storage Types	Windows 2000	Windows 2003	Multipath Support
	1.06	1.06	
ArrayMasStor L	Yes	Yes	No



Cisco Nexus 5000 Family Interoperability Support Matrix

- [Disk Storage Interoperability Matrix](#)



CHAPTER 7

Disk Storage Interoperability Matrix

This chapter lists storage systems qualified by the Original Storage Vendors (OSMs), Cisco's Partners, and Cisco's Data Center InterOperability Lab for supporting seamless deployment of Storage Area Networks using the Nexus 2232, 5000 and 5500 product families.

Table 7-1 *Qualified Storage Systems*

Vendor	Disk Storage Model	Page
EMC	Symmetrix DMX , CLARiiON, and AX Product Families	2
HP	EVA4000/4100/6000/6100/8000/8100, EVA4400/6400, MSA2000, P2000 P3, P6500, XP12000/24000, XP P9500, 3PAR F200	3
HDS	AMS, USP-V, VSP Product Families	4
IBM	DS8000, DS 8300, XIV, DS 5000, DS4500, DS 4700, DS 4800, DS3512, N3300, SVC, Tape Libraries	5
NetApp	All FAS and V-series Product Families	6
Compellent	Storage Center	7
Fujitsu	ETERNUS DX Series, ETERNUS2000, ETERNUS4000, ETERNUS8000	8
3PAR	InServ Storage Servers	9
Switch Interoperability Matrix	Nexus InterOp Matrix	10

EMC

Table 7-2 Symmetrix DMX , CLARiiON, and AX Product Families

Operating System		Multipath Support	Converged Network Adapter (CNA)
Type	Version		
Windows 2003	Data Center, Enterprise	Yes	QLogic: QLE8042, QLE8140, QLE8142, QLE8150-CU, QLE8152-CU Emulex: LP21002-M, LP2100, OCe10102 IBM: 42C8100 Cisco: M81K
Windows 2008	SP2, R2		
Enterprise Linux	RedHat (x86, 64bit) 5.2 & higher		
	SLES(x86, 64bit) 10 & higher		
VMware ESX	3.5, 4.0, 4.1		

HP

Table 7-3 EVA4000/4100/6000/6100/8000/8100, EVA4400/6400, MSA2000, P2000 P3, P6500, XP12000/24000, XP P9500, 3PAR F200

Operating System		Multipath Support	Converged Network Adapter (CNA)
Type	Version		
Windows 2003	x86, x64	MPIO-DSM	Emulex: LP21000-M, LP21000-C, LP21002-M, LP21002-M,
Windows 2008	SP2, R2		
Enterprise Linux	RedHat ((x86, 64bit) 5 & higher	Device Mapper	QLogic: QLE5152-CU, 8142-SR HP: CN1000E, NC551, NC553i, NC551i QLogic: QLE8152-CU, QLE8142-SR, QLE8152-SR
	SLES (x86, 64bit) 10 & higher		
VMware	ESX 4.0, 4.0U1, 4.1	Native	Emulex: LP21000
	ESX 3.5	Native	

HDS

Table 7-4 AMS, USP-V, VSP Product Families

Operating System		Multipath Support	Converged Network Adapter (CNA)
Type	Version		
Windows 2003	x86, x64	HDLM 6.0	QLogic: QLE8000
Windows 2008 R2			Emulex: LP21002-M
Enterprise Linux	RedHat 5.1 (x86, x64), 5.5 (x64), 5.6, 6.1	Device Mapper	Cisco: UCS P81E
	SLES 10, 11 (x86, x64)		QLogic: QLE8242
VMware	ESX 4.0 U2, 4.1 (x64)	Native	Emulex: Ocel1102
	SLES 11		QLogic: QLE8000
			Emulex: LP21002-M
			Cisco: UCS P81E

IBM

Table 7-5 *DS8000, DS 8300, XIV, DS 5000, DS4500, DS 4700, DS 4800, DS3512, N3300, SVC, Tape Libraries*

Operating System		Tapes, Multipath, Cables	Converged Network Adapter (CNA)
Type	Version		
Windows 2003	32 bit	DS 8000	QLogic: QLE 8142, QMI 8142 (Blade Center)
	64 bit	Tape LTO 4/LTO 3	
Windows 2008	32 bit	Tape 3584	
	64 bit	Tape E06/E05	
Enterprise Linux	SLES (x86, 64 bit) 10 & higher	SVC 4GB	
	RedHat (x86, 64bit) 5.3 & higher	SDD, MPIO	
AIX	5.3, 6.1	SDD	FC5708
	VIOS		

Direct-attached Fibre Channel initiator and target, and SVC appliance are not supported.

NetApp

Table 7-6 All FAS and V-series Product Families

Operating System		ONTAP version	Converged Network Adapter (CNA)
Type	Version		
Windows 2003	EE (SP1 IA64)	7.2.5.1, 7.3.0	QLogic: QLE8000, QLE8152 Emulex: LP21002-M
Windows 2008	Hyper V	7.3.2, 7.3.4, 7.3.5, 8.0.1	QLogic: QLE8152, QLE8150, QLE8140, QLE 8142 Emulex: OCe10102 Cisco: MK81R, UCS P81E
Windows 2008	Enterprise, Standard, Data Cenetr		
Enterprise Linux	RedHat 4.8 & higher (x86, x64)		
	SLES 10 SP3 & higher		
VMware	ESX 3.5 Update 3 & higher		

Compellent

Table 7-7 Storage Center

Operating System		Converged Network Adapter (CNA)
Type	Version	
VMware	ESX 4.0	Qlogic: QLE81xx Emulex: LP21002-C

Fujitsu

Table 7-8 *ETERNUS DX Series, ETERNUS2000, ETERNUS4000, ETERNUS8000*

Operating System		Converged Network Adapter (CNA)
Type	Version	
Windows 2008	SP2, R2	Qlogic: QLE8142, QLE8140, QLE8152, QLE8150 Emulex: OCe10102
Solaris	10	Qlogic: QLE8142, QLE8140, QLE8152, QLE8150 Emulex: OCe10102 Oracle: SG-XPCIEFCOE2-Q-SR, SG-XPCIEFCOE2-Q-TA
Enterprise Linux	RedHat 5.5, 6.0	Qlogic: QLE8142, QLE8140, QLE8152, QLE8150
	SLES 11	Emulex: OCe10102

Table 7-9 *ETERNUS DX400 Series, ETERNUS DX8000 Series, ETERNUS4000 Model 400, 600, ETERNUS8000 Model 800, 1200, 2200*

Operating System		Converged Network Adapter (CNA)
Type	Version	
VMware	ESX 4.1 Update 1	Qlogic: QLE8142, QLE8140, QLE8152, QLE8150

3PAR

Table 7-10 *InServ Storage Servers*

Operating System		Converged Network Adapter (CNA)	Multipath
Type	Version		
Windows 2003	Enterprise R2 SP2 x64	Qlogic: QLE814x Emulex: LP2100x	3PAR-MPIO 1.0.23
Windows 2008	Enterprise R1 SP2 x64		MS-MPIO
Linux RedHat	5U3 x64		device-mapper-1.02.28-2.el5 device-mapper-multipath-0.4.7-23el15
VMware	ESX 4.0	Emulex: LP2100x	Vmware Embedded

Switch Interoperability Matrix

Table 7-11 Nexus InterOp Matrix

Switch Vendor	Switch Model	Code Version	Nexus 5000 Code Version	InterOp Mode
Brocade	i10K, 6140	9.6	4.0(0)N1(1)	NPV
	48k	5.2.0a	4.0(0)N1(1), 4.2(1)N1(1)	NPV, FC-SW
		6.2.0b	4.2(1)N1(1)	
	4100	6.0.0b	4.0(0)N1(1)	NPV
	3900	12.4	5.0(2)N1(1)	NPV, FC-SW
	300, 5100, 4300	v6.1.2b, v6.2.1b, v6.2.2b, v6.3.0b, v6.3.0c, v6.3.1a, v6.3.2a	4.0(1a)N1(1a), 4.1(3)N1(1), 4.1(3)N2(1), 4.1(3)N2(1a), 4.2(1)N1(1), 4.2(1)N2(1)	NPV
	DCX	6.2.0b	4.1(3)N2(1), 4.2(1)N1(1)	NPV, FC-SW ¹
		v6.2.0g, v6.2.1b, v6.2.2b, v6.3.0b, v6.3.0c, v6.3.1a, v6.3.2a, v6.4.0b	4.0(1a)N1(1a), 4.1(3)N1(1), 4.1(3)N2(1), 4.1(3)N2(1a), 4.2(1)N1(1), 4.2(1)N2(1)	NPV
		6.4.1b	5.1(3)N1(1)	NPV, FC-SW
	8510	7.0.0a	5.0(3)N2(1)	NPV

1. FC 8G E port and FC 8G NP port are supported.



Cisco Unified Computing System Interoperability Support Matrix

- [UCS Storage Interoperability Matrix](#)



CHAPTER 8

UCS Storage Interoperability Matrix

The following table lists storage systems that have been qualified by the Original Storage Manufacturers (OSMs), Cisco Partners, and the Cisco Storage Enterprise Assurance Lab (SEAL) to support seamless deployment of networks using Cisco Unified Computing System products.



Note

Starting with Cisco UCS B-Series Release 2.0(2), interoperability information for storage devices and UCS servers is maintained in the *Hardware and Software Interoperability Matrix for B Series Servers in Release 2.0(2)*.

Table 8-1 **Qualified Storage Systems Partners**

Vendor	Disk Storage Model	Page
Supported Storage Arrays	UCS-B Storage Support Matrix	2
Fabric Connectivity Matrix	UCS-B Switch InterOp Support Matrix	4
UCS-C Storage Support Matrix	UCS-C Supported Storage Arrays	8

Supported Storage Arrays

Table 8-2 UCS-B Storage Support Matrix

Supported Storage Arrays		Rel. Version	Notes
Vendor	Model		
EMC	EMC Symmetrix family (VMAX & DMX), EMC CLARiiON (AX & CX) EMC Unified Storage VNX EMC Celerra (Native Block)	1.3(1), 1.4(1), 1.4(2), 1.4(3), 2.0(1q), 2.0(1s), 2.0(1t)	note 1, 2, 3, 12
NetApp	FAS2000 series, FAS3000 series, FAS6000 series, FAS3100 series, FAS3200 series, FAS6200 series V3000 series, V6000 series	1.3(1), 1.4(1), 1.4(2), 1.4(3), 2.0(1q), 2.0(1s), 2.0(1t)	note 1, 3, 4, 12
HP	EVA 4000/6000/8000/4100/6100/8100, EVA 4400/6400/8400, XP 10000/12000, XP 20000/24000, P9500, MSA 2000, P2000, HP 3PAR F200, F400, T400, T800 HP 9500	1.3(1), 1.4(1), 2.0(1m), 2.0(1t)	note 1, 6, 12
HDS	USP-V, USP-VM, VSP AMS 2000 Series: AMS 2100, AMS 2300, AMS 2500	1.3(1), 1.4(1), 1.4(2), 1.4(3), 2.0(1q), 2.0(1w), 2.0(1x)	note 1, 5, 12
IBM	DS 8100, DS 5300, SVC, Storwize V7000, IBM N-Series, DS 3500, DS 4800, XIV	1.3(1), 1.4(2), 1.4(3), 2.0(1q), 2.0(1x)	note 1, 8, 12
Compellent/Dell	Storage Center	1.3(1), 1.4(1)	note 1, 9, 12
DataDirect Networks	SFA1000, SFA1000E	1.4(2)	note 7, 9, 12
HP/3PAR	InServ Storage Servers (E-Class, F-Class, S-Class, and T-Class)	1.3(1), 1.4(1)	note 1, 9, 12
NEC	Symmetrix family (DMX4)	1.3(1), 1.4(1)	note 1, 2, 3, 9, 12
Fujitsu	ETERNUS DX80 S2, ETERNUS DX90 S2, ETERNUS DX400 S2 series, ETERNUS DX8000 S2 series	1.4(3i)	note 9, 10, 12
Xiotech	Emprise 5000, ISE-1, ISE-2	1.4(3i)	note 1, 9, 11, 12
Dell/Equallogic	PS6010/6510 Series	2.0(1t)	note 1, 13

Notes:

- 1) For detailed information on supported Servers, CNAs, and drivers, refer to the Cisco Hardware and Software Interoperability Matrix: http://www.cisco.com/en/US/products/ps10477/prod_technical_reference_list.html
- 2) Refer to the EMC ESM matrix for support storage firmware versions and specific supported configuration information: <http://www.emc.com/products/interoperability/>
- 3) Direct-Attached FC storage to 6120XP/6140XP/6248UP is supported in release 1.4(1) and higher. However, it is restricted to topologies in which the zoning database is provided from an upstream Cisco MDS 9000 switch or Nexus 5000 or 5500 switch.

- 4) Refer to NetApp NOW for more information on supported Data ONTAP versions and specific supported configuration information: <http://now.netapp.com/matrix>
- 5) Refer to Hitachi Data System interoperability matrix for more info: <http://www.hds.com/products/interoperability/>
- 6) Cisco M81KR CNA is supported only.
- 7) Refer to “<http://www.ddn.com/>” for detailed information on supported platforms.
- 8) SUSE 11 not supported with DS 3500 for SANBoot.
- 9) Cisco UCS 6248UP Fabric Interconnects and Cisco 2208 I/O modules are not supported.
- 10) Cisco M81KR CNA with ESX 4.1 U1 only.
- 11) See the Xiotech customer support matrix for storage firmware versions and specific supported configuration information: https://xone.xiootech.com/support/supportmatrix/Matrix/Fibre_Channel_over_Ethernet.aspx.
- 12) Cisco UCS B Series Servers and C Series Servers have the functionality to support boot from SAN.
- 13) iSCSI target support only.

Fabric Connectivity Matrix

^r **Table 8-3 UCS-B Switch InterOp Support Matrix¹**

UCS Fabric Interconnect	Switch Vendor	UCS FW Bundle ²
	Brocade³	
6120XP, 6140XP ⁴ , 6248UP	<p>300, 5100, 5300: v6.1.2b, v6.2.1b, v6.2.2b, v6.3.0c, v6.3.1a, v6.3.2a, v6.3.2b (T), v6.4.0b, v6.4.1, v6.4.1a, v6.4.1b</p> <p>4100, 48000, 4900, 5000: v6.1.2, v6.1.2b, v6.2.1b, v6.2.2b, v6.3.0c, v6.3.1a, v6.3.2a, v6.3.2b (T), v6.4.0b, v6.4.1, v6.4.1a, v6.4.1b</p> <p>7500: v6.1.2, v6.1.2b, v6.2.1b, v6.2.2b, v6.3.0c, v6.3.1a, v6.3.2a, v6.3.2b (T), v6.4.0b, v6.4.1, v6.4.1b</p> <p>DCX-4S: v6.2.1b, v6.2.2b, v6.3.0c, v6.3.1a, v6.3.2a, v6.3.2b (T), v6.4.0b, v6.4.1, v6.4.1_fcoe, v6.4.1_fcoe1, v6.4.1a, v6.4.1b</p> <p>DCX: v6.1.2, v6.1.2b, v6.2.1, v6.2.1b, v6.2.2b, v6.3.0c, v6.3.1a, v6.3.2a, v6.3.2b (T), v6.4.0b, v6.4.1, 6.4.1_fcoe, v6.4.1_fcoe1, v6.4.1a, v6.4.1b</p>	2.0(1q), 2.0(1s), 2.0(1t)
	<p>300, 5100, 5300: v6.3.2a, v6.3.2b, v6.4.0b, v6.4.1, v6.4.1a</p> <p>4100, 48000, 4900, 5000: v6.3.0c, v6.3.1a, v6.3.2a, v6.3.2b, v6.4.0b, v6.4.1, v6.4.1a</p> <p>7500: v6.3.0c, v6.3.1a, v6.3.2a, v6.3.2b, v6.4.0b, v6.4.1</p> <p>DCX-4S: v6.3.0c, v6.3.1a, v6.3.2a, v6.3.2b, v6.4.0b, v6.4.1, v6.4.1_fcoe, v6.4.1a</p> <p>DCX: v6.3.2b, v6.4.0b, v6.4.1, v6.4.1_fcoe, v6.4.1a</p>	1.4(1), 1.4(2), 1.4(3), 2.0(1s), 2.0(1t)
	<p>300, 5100, 5300, DCX: v6.1.0c, v6.1.0f, v6.1.0h, v6.1.0j, v6.1.2b, v6.2.0c, v6.2.1, v6.3.1a</p> <p>4100, 4900, 48000, 5000: v5.3.1b, v5.3.2, v6.0.0c, v6.0.1a, v6.1.0c, v6.1.0f, v6.1.0h, v6.1.0j, v6.1.2b, v6.2.0c, v6.2.1, v6.2.1b, v6.3.1a, 6.4.1a</p> <p>7500: v5.3.2, v5.3.2c, , v6.1.2, v6.1.2b, v6.2.1b, v6.2.2b, 6.4.1</p> <p>DCX-4S: v6.2.0c, v6.2.0g, v6.2.1, v6.2.1b, v6.2.2b, v6.3.1a, 6.4.1a</p> <p>DCX: v6.1.2, v6.1.2b, v6.2.1, v6.2.1b, v6.2.2b, v6.3.0c, v6.3.1a, v6.3.2a, 6.4.1a</p>	1.3(1), 2.0(1s), 2.0(1t)

1. As of July 2011, UCS Series B switches no longer support McData directors and switches.

2. The 6100 fabric interconnect firmware is included in the UCS code bundle

3. NPV support mode only.

4. Switch Management Application Revision: The use of mixed code revisions in the same fabric should be limited to code upgrade processes only. You must always use the management code rev. associated with the highest level of switch code

UCS-C Storage Support Matrix

Table 8-4 UCS-C Supported Storage Arrays

Vendor	Model	OS	Version	CNA
EMC	VMAX-1, DMX-3, CX4-480, VNX5500	Windows 2008	R2	Cisco: P81E VIC
		RedHat Linux	5.5	
		SLES 11	SP1	
		VMWare ESX	4.0 u2	
IBM	DS8100	Windows 2008	R2	Cisco: P81E VIC
		RedHat Linux	5.5	
		VMWare ESX	4.0 u2	
HDS	USP-V, USP, AMS1000, AMS2000, VSP	Windows 2008	R2	Cisco: P81E VIC
		RedHat Linux	5.5	
		VMWare ESX	4.0 u2	
NetApp	FAS and V-Series	Windows 2008	R2	Cisco: P81E VIC
		RedHat Linux	5.5	
		VMWare ESX	4.0 u2	
HP	XP24000, XP12000, XP1024, EVA4400, MSA2000fc, EVA4000, MPX, P 9500	Windows 2008	R2	Cisco: P81E VIC
		RedHat Linux	5.5	
		VMWare ESX	4.0 u2	

