



Cisco MDS 9000 Family Interoperability Support Matrix

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Preface

This document provides a reference to matrices of Cisco MDS SAN-OS components and configurations tested and validated by Cisco's Solution-Interoperability Engineering 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. For the latest version, visit the following URL:

<http://www.cisco.com/en/US/products/hw/ps4159/ps4358/index.html>

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, 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>



CHAPTER 1

Disk Storage Interoperability Matrix

This chapter lists storage systems qualified by the Original Storage Vendors (OSMs), Cisco's Partners, Cisco's Solution-Interoperability Engineering (iLAB) for supporting seamless deployment of Storage Area Networks using the MDS 9000 family of Fibre Channel Switch and Director class products.

Refer to the following OSM web sites to obtain the latest support matrix:

- EMC—visit <http://www.emc.com/horizontal/interoperability>
- HP—visit <http://h18006.www1.hp.com/products/storageworks/san/documentation.html>
- IBM—visit <http://www.storage.ibm.com/disk/fastt/pdf/0708-03.pdf> and <http://www.storage.ibm.com/disk/ess/pdf/interop0513-03.pdf>
- IBM SAN Volume Controller—visit <http://www-1.ibm.com/support/docview.wss?rs=591&uid=ssg1S1002472>

| Vendor | Disk Storage Model | Page |
|--------|--|------|
| EMC | EMC Symmetrix 8000 Series | 5 |
| | EMC Symmetrix DMX | 6 |
| | CLARiiON FC4700 | 7 |
| | CLARiiON CX200 | 8 |
| | CLARiiON CX600/400/300/500/700 | 9 |
| | Distance Extension | 10 |

| Vendor | Disk Storage Model | Page |
|----------------------|---|------|
| Hitachi Data Systems | TagmaStore Universal Storage Platform (USP) Series | 11 |
| | Lightning 9900 Series | 12 |
| | Lightning 9900V Series | 13 |
| | TagmaStore AMS500 | 14 |
| | Thunder 9500V Series | 15 |
| | Thunder 9200 Series | 16 |
| | HDS-NetApp Enterprise gFiler NAS Gateways | 17 |
| | Distance Extension | 18 |
| IBM | ESS 2105 model 800 | 19 |
| | ESS 2105 model F10/F20 | 20 |
| | DS 8000 Series | 22 |
| | DS 6000 Series | 23 |
| | DS4800 | 24 |
| | DS400 (FAStT 700), DS4500 (FAStT 900) | 25 |
| | DS4100 (FAStT 100) | 27 |
| | DS4300 (FAStT 600 Single and Dual Controller), DS4300 Turbo | 26 |
| | IBM FAStT 200, 500 | 28 |
| | IBM DS 8000, 6000 Series Distance Extension | 29 |
| | IBM DS 4000 Series Distance Extension | 29 |
| | IBM ESS 2105 Series Distance Extension | 30 |

| Vendor | Disk Storage Model | Page |
|------------------|--|------|
| HP | HP XP12000 | 31 |
| | HP XP128, XP1024 | 32 |
| | HP XP48, XP512 | 33 |
| | HP EVA GL -- 3000 (HSV100, HSV101), 5000 (HSV200, HSV201) | 34 |
| | HP EVA XL -- 4000 (HSV200, HSV201), 6000 (HSV200, HSV201), 8000 (2Gb or 4Gb)(HSV210) | 35 |
| | HP MA8000 (HSG80) | 36 |
| | HP VA7410, VA7400 | 38 |
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| | Distance Extension | 40 |
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| Sun Microsystems | StorEdge 9970V | 46 |
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| | StorEdge FC Array A5200 | 47 |
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| NEC | S2300 | 49 |
| | S1300 | 49 |
| | S2800 | 50 |
| | S2800 Distance Extension | 50 |
| Fujitsu | Eternus 3000 | 51 |
| | Eternus 6000 | 51 |
| ADTX | ArrayMasStor L | 52 |
| Infortrend | EonStor F16F-R2A2 | 53 |
| | EonStor 2510FS | 53 |

| Vendor | Disk Storage Model | Page |
|---------------------|--|------|
| 3PAR | InServ Storage Server E200 (continued) | 55 |
| | InServ Storage Server S400 (continued) | 57 |
| | InServ Storage Server S800 (continued) | 59 |
| XIOtech | Magnitude (Rel. 10.01/11.01), Magnitude 3D (Rel. 2.5/3.13), Magnitude 3D 3000 (Rel 4.1), | 60 |
| NetApp | F825/F840/F880/FAS900 Data OnTap 6.5.2 | 62 |
| Pillar Data Systems | Axiom Storage System 500 | 63 |
| Apple Computer | Xserve RAID | 64 |
| ATTO | ATTO Diamond V Class Array | 65 |
| Nexsan | ATAboy-2X | 66 |
| | ATAbeast | 66 |
| | SATABoy | 66 |

**Note**

For EMC Symmetrix 4.x support, please see [Table 1-1, “EMC Symmetrix 8000 Series,”](#) on page 5.

EMC

Table 1-1 EMC Symmetrix 8000 Series

| Operating System | | Host Bus Adapter | Switch Fabric |
|------------------|---|---|--------------------------------------|
| 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 | MDS9513 MDS9509 MDS9506 |
| HP-UX | 11.0, 11i (11.11) | HP: A5158A, A6795A | MDS9216A MDS9140 |
| | 11.0 | HP: A6684, A6685A | MDS9216i |
| Tru64 Unix | 5.1 | HP: KGPSA-DA | 3.0(2) |
| | 5.1, 5.1A, 5.1B | HP: KGPSA-CA, KGPSA-DA, KGPSA-BC, FCA 2384, FCA2354 | 3.0(2a) 3.1(2) |
| 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 | MDS9020 2.1(2) |
| Windows 2000 | Advanced Server (SP3, SP4) Data Center | Emulex: LP8000-EMC, LP850-EMC, LP9002L-E, LP9002DC-E, LP9802-E, LP982-E, LP10000-E, LP10000DC-E QLogic: QLA2200F-EMC Unisys:FCH732213-P64 | MDS9124 3.1(2) |
| Windows 2003 | AS Enterprise Edition | Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E, LP9002DC-E HP: 336070-001, FCA2354, FCA2355, FCA2404 IBM: 19K1246 (QLA2310), 24P0960 (QLA2340) NEC: N8803-031 | FICON 2.0(2b) 3.0(2) 3.0(3) |
| | AS Standard Edition | QLogic: QLA2310F-E, QLA2340-E, QLA2342-E Unisys: FCH20111-P64, FCH20113-P64, FCH732213-P64 | ECC 2.0(3) 2.1(2b) 3.0(2) |
| | Data Center | | 3.0(2a) 3.1(2) |
| Windows NT | 4.0 (SP6a) | Emulex:LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E, LP9002DC-E, LP850-EMC IBM: 00N6881 HP: 176479, KGPSA-CB, KGPSA-CY QLogic: QLA2200F-EMC Unisys: FCH20111-P64, FCH20113-P4 | |
| Linux | RedHat AS 2.1 | HP: Mezzanine | |
| | RedHat ES 2.1 | QLogic: QLA220F, QLA2310F, QLA2340-E | |
| | RedHat 8.0 | Emulex: LP982-E, LP9002-E, LP9802-E, LP9802DC-E, LP1050DC-E, LP10000-E, LP10000DC-E | |
| | RedHat 7.3 | | |
| Solaris | 8 | Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002DC-E, LP9002S-E, LP9002C-E QLogic: QLA2202FS-E, QLA2340-E, QLA2342-E JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E | |
| | 9 | Emulex: LP8000-EMC, LP9002DC-E, LP9002S-E, LP9002C-E 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 | QLogic: QLA2340-E, QLA2342-E | |

Table 1-2 EMC Symmetrix DMX

| Operating System | | Host Bus Adapter | Switch Fabric |
|------------------|---|--|--|
| 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 | MDS9513 MDS9509 MDS9506 MDS9216A MDS9140 MDS9216i |
| HP-UX | 11.0, 11i | HP: A5158A, A6795A | 3.0(2) |
| | 11.0 | HP: A6684, A6685A | 3.0(2a) 3.1(2) |
| Tru64 Unix | 5.1 | HP: KGPSA-DA, FCA2354 | MDS9020 |
| | 5.1, 5.1A, 5.1B | HP: KGPSA-CA, KGPSA-DA, KGPSA-BC, FCA 2384, FCA2354 | 2.1(2) |
| OpenVMS | 7.2-2, 7.3, 7.3-1 | HP: KGPSA-CA, KGPSA-DA, KGPSA-BC, FCA2354 | MDS9124 3.1(2) |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716 | FICON 2.0(2b) 3.0(2) 3.0(3) |
| Windows 2000 | Advanced Server (SP3, SP4) Data Center | Emulex: LP8000-EMC, LP9002L-E, LP9002DC-E, LP9802-E, LP10000-E, LP10000DC-E Qlogic: QLA2200F-EMC, QLA2310-E, QLA2342-E Unisys: FCH732213-P64, FCH2113-P4, FCH732213-P64 HP: FCA2404 | ECC 2.0(3) 2.1(2b) 3.0(2) 3.0(2a) 3.1(2) |
| Windows 2003 | Enterprise Edition | Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E, LP9002DC-E HP: 336070-001, FCA2354, FCA2355, FCA2404 IBM: 19K1246 (QLA2310), 24P0960 (QLA2340) NEC: N8803-031 Qlogic: QLA2310F-E, QLA2340-E, QLA2342-E Unisys: FCH20111-P64, FCH20113-P64, FCH732213-P64 | |
| | Standard Edition | | |
| Windows NT | 4.0 (SP6a) | Emulex: LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E, LP9002DC-E, LP850-EMC IBM: 00N6881 HP: 176479, 336070-001, FCA2404, KGPSA-CB Qlogic: QLA2310-E, QLA2342-E, QLA2340-E Unisys: FCH20111-P64, FCH20113-P4 | |
| Linux | RedHat AS 2.1 ES 2.1, 8.0, 7.3 | HP: Mezzanine QLogic: QLA2200F, QLA2310F, QLA2340-E Emulex: LP982-E, LP9002-E, LP9802-E, LP9802DC-E, LP1050DC-E, LP10000-E, LP10000DC-E | |
| Solaris | 8 | Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002DC-E, LP9002S-E, LP9602-E Qlogic: QLA2202F-E, QLA2202-E, QLA2202FS-E, QLA2340-E, QLA2342-E JNI: FC64-1063-EMC, FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX-6562-E | |
| | 9 | Emulex: LP8000-EMC, LP9002DC-E, LP9002S-E, LP9002C-E, LP9002-E Qlogic: QCP2202F-E, QLA2200F-E, QLA2342-E JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E | |
| VMWare ESX | 1.5.2 Patch 2 /3 | QLogic: QLA2340-E, QLA2342-E | |

Table 1-3 CLARiiON FC4700

| Operating System | | Host Bus Adapter | Switch Fabric |
|------------------|---|---|--------------------------------------|
| 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 | MDS9513 MDS9509 MDS9506 |
| HP-UX | 11.0, 11i | HP: A5158A, A6795A | MDS9216A MDS9140 |
| | 11.0 | HP: A6684, A6685A | MDS9216i |
| Tru64 Unix | 5.1 | HP: KGPSA-DA, FCA2354 | 3.0(2) |
| | 5.1, 5.1A, 5.1B | HP: KGPSA-CA, KGPSA-DA, KGPSA-BC, FCA2354 | 3.0(2a) 3.1(2) |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716 | MDS9020 2.1(2) |
| Windows 2000 | Advanced Server (SP3, SP4) | Emulex: LP8000-EMC, LP9002L-E, LP9002DC-E, LP9802-E, LP10000-E, LP10000DC-E | MDS9124 3.1(2) |
| | Data Center (SP3, SP4) | Qlogic: QLA2200F-EMC, QLA2310-E, QLA2342-E, QLA2340 Unisys: FCH732213-P64, FCH2113-P4, FCH732213-P64 HP: FCA2404, 336070-001, FCA2354, FCA2355 IBM: 00N6881 | |
| Windows 2003 | Enterprise Edition | Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC HP: 336070-001, FCA2404 IBM: 19K1246 (QLA2310), 24P0960 (QLA2340) NEC: N8803-031 | FICON 2.0(2b) 3.0(2) 3.0(3) |
| | Standard Edition | Qlogic: QLA2310F-E, QLA2340-E, QLA2342-E Unisys: FCH732213-P64, FCH2113-P4, FCH732213-P64 | ECC 2.0(3) 2.1(2b) 3.0(2) |
| Windows NT | 4.0 (SP6a) | Emulex: LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E HP: 336070-001, FCA2404 Qlogic: QLA2310-E, QLA2342-E, QLA2340-E Unisys: FCH20111-P64, FCH20113-P4 | 3.0(2a) 3.1(2) |
| Linux | RedHat AS 2.1 | HP: Mezzanine | |
| | RedHat ES 2.1 RedHat 8.0 RedHat 7.3 | QLogic: QLA220F, QLA2310F, QLA2340-E Emulex: LP982-E, LP9002-E, LP9002DC-E, LP9802-E, LP9802DC-E, LP1050DC-E, LP10000-E, LP10000DC-E | |
| Solaris | 8 | Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002S-E Qlogic: QLA2340-E, QLA2342-E | |
| | 9 | Emulex: LP10000-E, LP10000DC-E, LP8000-EMC, LP9002DC-E, LP9002C-E, LP9802-E Qlogic: QCP2202F-E JNI: FCE-1063-E, FCE2-1063-E, FCE2-1473-E, FCE2-6412-E, FCX2-6562-E | |

Table 1-4 CLARiiON CX200

| Operating System | | Host Bus Adapter | Switch Fabric |
|------------------|--|---|---|
| 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 | MDS9513 MDS9509 MDS9506 MDS9216A MDS9140 MDS9216i 3.0(2) 3.0(2a) 3.1(2) |
| 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 | MDS9020 2.1(2) |
| Windows NT | 4.0 (SP6a) | Emulex: LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E HP: 336070-001, FCA2404 Qlogic: QLA2310-E, QLA2342-E, QLA2340-E | MDS9124 3.1(2) |
| Linux | RedHat AS 2.1, ES 2.1, 8.0, 7.3 | HP: Mezzanine QLogic: QLA220F, QLA2310F, QLA2340-E Emulex: LP982-E, LP9002-E, LP9802-E, LP9002DC-E, LP9802DC-E, LP1050DC-E, LP10000-E, LP10000DC-E | FICON 2.0(2b) 3.0(2) 3.0(3) ECC 2.0(3) 2.1(2b) 3.0(2) 3.0(2a) 3.1(2) |

Table 1-5 CLARiiON CX600/400/300/500/700

| Operating System | | Host Bus Adapter | Switch Fabric |
|------------------|--|---|--|
| 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 | MDS9509 MDS9506 MDS9216A MDS9140 MDS9216i MDS9513 |
| HP-UX | 11.0, 11i | HP: A5158A, A6795A, A6684, A6685A | 3.0(2) 3.0(2a) 3.1(2) |
| Tru64 Unix | 5.1, 5.1A, 5.1B | HP: KGPSA-DA, FCA2354, FC2384, KGPSA-CA, KGPSA-BC | MDS9020 2.1(2) |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716 | MDS9124 3.1(2) |
| 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 | FICON 2.0(2b) 3.0(2) 3.0(3) |
| 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 | ECC 2.0(3) 2.1(2b) 3.0(2) 3.0(2a) 3.1(2) |
| Windows NT | 4.0 (SP6a) | Emulex: LP8000-EMC, LP9002-E, LP982-E, LP9802-E, LP9802DC-E HP: 336070-001, FCA2404 Qlogic: QLA2310-E, QLA2342-E, QLA2340-E | |
| Linux | RedHat AS 2.1, ES 2.1, 8.0, 7.3 | HP: Mezzanine QLogic: QLA220F, QLA2310F, QLA2340-E Emulex: LP982-E, LP9002-E, LP9002DC-E, LP9802-E, LP9802DC-E, LP1050DC-E, LP10000-E, LP10000DC-E | |
| 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 | Emulex: LP10000-E, LP10000DC-E, LP9002DC-E, LP9002C-E, LP9802-E Qlogic: QCP2202F-E | |

Table 1-6 Distance Extension

| Distance System | Maximum Distance | Network | Protocol | Storage System | Switch Fabric |
|--|----------------------------|---------|-------------------------------|--------------------------------|--|
| Cisco Metro 1500 | 200km | DWDM | Block I/O | EMC CLARiiON FC4700, CX Series | MDS9513 |
| | | | Block I/O SRDF/S | EMC Symmetrix 8000 Series | MDS9509 MDS9506 MDS9216A |
| | | | Block I/O SRDF/S SRDF-A | EMC Symmetrix DMX Series | MDS9140 MDS9216i 3.0(2) 3.0(2a) 3.1(2) |
| ONS 15252 ONS 15530 ONS 15540 | 200km | DWDM | Block I/O Mirror Virew | EMC CLARiiON FC4700, CX Series | MDS9020 |
| | | | Block I/O SRDF/S | EMC Symmetrix 8000 Series | 2.1(2) |
| | | | Block I/O SRDF/S SRDF/A | EMC Symmetrix DMX Series | MDS9124 3.1(2) |
| MDS IPS-8 MDS IPS-4 MDS9216i MPS-14/2 | See note after this table. | FCIP | Block I/O Mirror Virew | EMC CLARiiON FC4700, CX Series | FICON 2.0(2b) 3.0(2) 3.0(3) |
| | | | Block I/O SRDF/S | EMC Symmetrix 8000 Series | ECC 2.0(3) |
| | | | Block I/O SRDF/S SRDF/A | EMC Symmetrix DMX Series | 2.1(2b) 3.0(2) 3.0(2a) 3.1(2) |

**Note**

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

**Note**

The Fibre Channel write acceleration (FC-WA) feature with MirrorView is supported by SSI boot image version 2.1(1g) and later.

**Note**

Refer to the following link for more info on EMC support Matrix:

<http://www.emc.com/interoperability/>

Hitachi Data Systems

Table 1-7 TagmaStore Universal Storage Platform (USP) Series

| Operating System | | Host Bus Adapter | HDLM Support | HDS iSCSI Support | Switch Fabric |
|------------------|-----------------------------------|---|--------------|-------------------|---|
| Type | Version | | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP11000-M4, LP10000, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 QLogic: QLA2462, QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card | Yes | Yes | MDS9513 MDS9509 MDS9506 MDS9216A MDS9140 MDS9216i 3.0(2a) 3.0(3) 3.1(1) 3.1(2) |
| Windows 2003 | Enterprise Edition | Emulex: LP11000-M4, LP10000, 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 | | | MDS 9124 3.1(1) 3.1(2) |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716 | | | MDS9020 2.1(2) |
| HPUX | 11.0, 11i | HP: A5158A, A6795A | | | FICON |
| Solaris | 7, 8, 9, 10 | Emulex: LP10000, LP9802, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000 QLogic: QLA2340 JNI: FCE-1473, FCE-6410, FCE2-6410, FCE2-6412, FCE-6460N SUN: SG-XPCI1FC-JF2, SG-XPCI2FC-JF2, X6727A, X6799A | | | 2.0(2b) 3.0(2) 3.0(3) |
| Linux | RedHat AS 2.1, RedHat AS 3.0 SLES | Emulex: LP9000, LP952L, LP9002, LP9002L, LP9002DC, LP9402DC, LP9802 QLogic: QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fiber card | | | |
| Netware | 6.0 SP2, 6.5 SP4a | QLogic: QLA2300F, QLA2310F, QLA2340, QLA2342, QLA2344 | Bundled | | |

Table 1-8 Lightning 9900 Series

| Operating System | | Host Bus Adapter | HDLM Support | HDS iSCSI Support | Switch Fabric |
|------------------|-----------------------------------|--|--------------|-------------------|---|
| Type | Version | | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP11000-M4, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 Qlogic: QLA2460, QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card | Yes | Yes | MDS9513 MDS9509 MDS9506 MDS9216A MDS9140 MDS9216i 3.0(2a) 3.0(3) 3.1(1) 3.1(2) |
| 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 | | | MDS 9124 3.1(1) 3.1(2) |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716 | | | MDS9020 2.1(2) |
| HPUX | 11.0, 11i | HP: A5158A, A6795A | | | FICON 2.0(2b) 3.0(2) 3.0(3) |
| Solaris | 7, 8, 9, 10 | Emulex: LP10000, LP9802, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000 QLogic: QLA2340 JNI: FCE-1473, FCE-6410, FCE2-6410, FCE2-6412, FCE-6460N SUN: SG-XPCI1FC-JF2, SG-XPCI2FC-JF2, X6727A, X6799A | | | |
| Linux | RedHat AS 2.1, RedHat AS 3.0 SLES | Emulex: LP9000, LP952L, LP9002, LP9002L, LP9002DC, LP9402DC, LP9802 QLogic: QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fiber card | | | |
| Netware | 6.0 SP2, 6.5 SP4a | QLogic: QLA2300F, QLA2310F, QLA2340, QLA2342, QLA2344 | Bundled | | |

Table 1-9 Lightning 9900V Series

| Operating System | | Host Bus Adapter | HDLM Support | HDS iSCSI Support | Switch Fabric |
|------------------|-----------------------------------|--|--------------|-------------------|---|
| Type | Version | | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP11000-M4, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 QLogic: QLA2462, QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card | Yes | Yes | MDS9513 MDS9509 MDS9506 MDS9216A MDS9140 MDS9216i 3.0(2a) 3.0(3) 3.1(1) 3.1(2) |
| 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 | | | MDS 9124 3.1(1) 3.1(2) |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716 | | | MDS9020 2.1(2) |
| HPUX | 11.0, 11i | HP: A5158A, A6795A | | | FICON 2.0(2b) 3.0(2) 3.0(3) |
| Solaris | 7, 8, 9, 10 | Emulex: LP10000, LP9802, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000 QLogic: QLA2340 JNI: FCE-1473, FCE-6410, FCE2-6410, FCE2-6412, FCE-6460N SUN: SG-XPCI1FC-JF2, SG-XPCI2FC-JF2, X6727A, X6799A | | | |
| Linux | RedHat AS 2.1, RedHat AS 3.0 SLES | Emulex: LP9000, LP952L, LP9002, LP9002L, LP9002DC, LP9402DC, LP9802 QLogic: QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fiber card | | | |
| Netware | 6.0 SP2, 6.5 SP4a | QLogic: QLA2300F, QLA2310F, QLA2340, QLA2342, QLA2344 | Bundled | | |

Table 1-10 TagmaStore AMS500

| Operating System | | Host Bus Adapter | HDLM Support | HDS iSCSI Support | Switch Fabric |
|------------------|-----------------------------------|--|--------------|-------------------|---|
| Type | Version | | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP11000-M4, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 Qlogic: QLA2462, QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card | Yes | Yes | MDS9513 MDS9509 MDS9506 MDS9216A MDS9140 MDS9216i 3.0(2a) 3.0(3) 3.1(1) 3.1(2) |
| 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 | | | MDS 9124 3.1(1) 3.1(2) |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716 | | | MDS9020 2.1(2) |
| HPUX | 11.0, 11i | HP: A5158A, A6795A | | | FICON 2.0(2b) 3.0(2) 3.0(3) |
| Solaris | 7, 8, 9, 10 | Emulex: LP10000, LP9802, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000 QLogic: QLA2340 JNI: FCE-1473, FCE-6410, FCE2-6410, FCE2-6412, FCE-6460N SUN: SG-XPCI1FC-JF2, SG-XPCI2FC-JF2, X6727A, X6799A | | | |
| Linux | RedHat AS 2.1, RedHat AS 3.0 SLES | Emulex: LP9000, LP952L, LP9002, LP9002L, LP9002DC, LP9402DC, LP9802 QLogic: QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fiber card | | | |
| Netware | 6.0 SP2, 6.5 SP4a | QLogic: QLA2300F, QLA2310F, QLA2340, QLA2342, QLA2344 | Bundled | | |

Table 1-11 Thunder 9500V Series

| Operating System | | Host Bus Adapter | HDLM Support | HDS iSCSI Support | Switch Fabric |
|------------------|-----------------------------------|--|--------------|-------------------|---|
| Type | Version | | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP11000-M4, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 QLogic: QLA2462, QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card | Yes | Yes | MDS9513 MDS9509 MDS9506 MDS9216A MDS9140 MDS9216i 3.0(2a) 3.0(3) 3.1(1) 3.1(2) |
| 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 | | | MDS 9124 3.1(1) 3.1(2) |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716 | | | MDS9020 2.1(2) |
| HPUX | 11.0, 11i | HP: A5158A, A6795A | | | FICON 2.0(2b) 3.0(2) 3.0(3) |
| Solaris | 7, 8, 9, 10 | Emulex: LP10000, LP9802, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000 QLogic: QLA2340 JNI: FCE-1473, FCE-6410, FCE2-6410, FCE2-6412, FCE-6460N SUN: SG-XPCI1FC-JF2, SG-XPCI2FC-JF2, X6727A, X6799A | | | |
| Linux | RedHat AS 2.1, RedHat AS 3.0 SLES | Emulex: LP9000, LP952L, LP9002, LP9002L, LP9002DC, LP9402DC, LP9802 QLogic: QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fiber card | | | |
| Netware | 6.0 SP2, 6.5 SP4a | QLogic: QLA2300F, QLA2310F, QLA2340, QLA2342, QLA2344 | Bundled | | |

Table 1-12 Thunder 9200 Series

| Operating System | | Host Bus Adapter | HDLM Support | HDS iSCSI Support | Switch Fabric |
|------------------|-----------------------------------|---|--------------|-------------------|--|
| Type | Version | | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 QLogic: QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card | Yes | Yes | MDS9500 MDS9216 1.0(2) 1.1(2) 1.2(1a) 1.3(3c) 1.3(4a) 2.0(2b) 2.1(1b) 2.1(2b) 2.1(2d) |
| Windows 2003 | Enterprise Edition | Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 QLogic: QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fibre card | | | |
| AIX | 5.1, 5.2 | IBM: 6227, 6228, 6239 | | | |
| HPUX | 11.0, 11i | HP: A5158, A6795A | | | |
| Solaris | 7, 8, 9 | Emulex: LP10000, LP9802, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000 JNI: FCE-1473, FCE-6410, FCE2-6410, FCE2-6412, FCE-6460N | | | |
| Linux | RedHat AS 2.1, RedHat AS 3.0 SLES | Emulex: LP9000, LP952L, LP9002, LP9002L, LP9002DC, LP9402DC, LP9802 QLogic: QLA2340, QLA2342, QLA2344, HP Fibre card, IBM Fiber card | | | |
| Netware | 6.0 SP2, 6.5 SP1.1 | QLogic: QLA2300F, QLA2310F, QLA2340, QLA2342, QLA2344 | Bundled | | MDS9100 1.2(1a) 1.3(3c) 1.3(4a) 2.0(2b) 2.1(1b) 2.1(2b) 2.1(2d) MDS9216i 2.0(2b) 2.1(1b) 2.1(2b) 2.1(2d) |

Table 1-13 HDS-NetApp Enterprise gFiler NAS Gateways

| HDS Storage | Configurati on | DATA ONTAP Verion | Protocol | Operating System | Switch Fabric |
|--|-------------------------------------|-----------------------|--------------------------------------|--|--|
| TagmaStore (USP) Lightning 9900 Lightning 9900v Thunder 9500v | Stand-alone and Metro Cluster | 6.5.2P2 6.5.3.H1P4 | Block: FCP, iSCSI File: NFS, CIFS | Windows 2000 (SP 4) Windows 2003 (SP 1) AIX (5.1, 5.2) HP-UX (11.0, 11i) Linux (RedHat 3.0, 2.1) Solaris (8, 9) | MDS9500 MDS9216 MDS9216i MDS9100 1.3(4a) 2.0(2b) 2.1(1b) 2.1(2b) 2.1(2d) |

Table 1-14 Unisys - Microsoft Data Center

| Storage | Server | Operating System | | Host Bus Adapter | Unisys Qualified | Switch Fabric |
|--------------|------------------------------|------------------|-------------------|------------------|---------------------|--|
| | | Type | Version | | | |
| Thunder 9200 | Unisys ES7000/540 v1.0 | Windows 2000 | Data Center (SP3) | Emulex: LP9002L | Yes | MDS9500 MDS9216 1.0(2) 1.1(2) 1.3(3c) 1.3(4a) 2.0(2b) 2.1(1b) 2.1(2b) 2.1(2d) |

Table 1-15 Distance Extension

| Distance System | Maximum Distance | Network (TrueCopy) | Protocol | Storage System | Switch Fabric |
|--|----------------------------|--------------------|---|---|---|
| MDS IPS-8 MDS IPS-4 MDS9216i MPS-14/2 | See note after this table. | FC-IP | Block I/O True Copy (Sync and Async) | TagmaStore Lightning 9900v, 9900 Thunder 9500v (Sync. only) | MDS9509 MDS9506 MDS9216A MDS9140 MDS9216i MDS9513 |
| Cisco ONS 15530 Cisco ONS 15454 Cisco CWDM | 100 km 25 km | DWDM CWDM | Block I/O True Copy (Sync and Async) | TagmaStore Lightning 9900v, 9900 Thunder 9500v (Sync. only) | 3.0(2a) 3.0(3) 3.1(1) 3.1(2) MDS 9124 3.1(1) 3.1(2) MDS9020 2.1(2) FICON 2.0(2b) 3.0(2) 3.0(3) |

**Note**

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 later. Hitachi Universal Replicator (HUR) for TagmaStore has been qualified on Cisco MDS SAN-OS Release 3.0(2a).

IBM

Table 1-16 ESS 2105 model 800

| Operating System | | Host Bus Adapter | SDD Multipath Support | Switch Fabric |
|------------------|---|--|-----------------------|--|
| Type | Version | | | |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716 | Yes | MDS 9509 MDS 9506 MDS 9216A MDS 9216i MDS 9140 MDS 9513 3.0(2a) 3.0(3) 3.1(2a) |
| 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 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2310F, QLA2310FL IBM: FC2104 (FC2/133-24P0960), eServer BladeCenter HS20 (8678 and 8832) | | |
| Windows 2003 | Standard Enterprise | | | |
| Netware | 6.0 | Emulex: LP9002L, LP9002DC QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2310F, QLA2310FL IBM: FC2104 (FC2/133-24P0960) | No | MDS 9020 2.1(2) MDS 9124 3.1(2a) |
| | 6.5 | IBM: eServer BladeCenter HS20 (8678 and 8832) | | |
| Linux | RedHat 7.2, AS 2.1, AS 3.0 | Emulex: LP9002L, LP9002DC, LP8000, LP9802 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2310F, QLA2310FL IBM: FC2104 (FC2/133-24P0960) | Yes | Blade Center Cisco Embedded Switch 3.1(2a) |
| | 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 | 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 | Emulex: LP8000, LP9002L, LP9002DC, LP9002S, LP9002C QLogic: QLA2310FL, QLA2340/2342 JNI: FCE-6460, FCC-6562, FCX2-6562, FCC2-6562, FCE1473 | Yes | |
| HP-UX | 11.0, 11i | HP: A5158A, A6795A | | |
| VMware ESX | 2.0 | IBM: eServer BladeCenter HS20 (8678 and 8832) | | |

| Operating System | | Host Bus Adapter | SDD Multipath Support | Switch Fabric |
|---|----------------|--|-----------------------|--|
| Type | Version | | | |
| OS/400 (iSeries) | V5R2, V5R3 | IBM: 2766, 2787 | NA | 1.3(2a) and higher |
| IBM z/OS (FICON or FICON Express Channel) | 1.4.1 or later | IBM: zSeries models z900, z990, G5/G6 Logwave: FC2315, FC2319 Shortwave: FC2318, FC2320 | | 1.3(4a) 2.0(2b) 3.0(2) 3.0(3) |

Table 1-17 ESS 2105 model F10/F20

| Operating System | | Host Bus Adapter | SDD Multipath Support | Switch Fabric |
|------------------|---|---|-----------------------|--|
| Type | Version | | | |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716 | Yes | MDS 9509 MDS 9506 MDS 9216A MDS 9216i MDS 9140 MDS 9513 3.0(2a) 3.0(3) 3.1(2a) |
| 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 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2310F, QLA2310FL IBM: FC2104 (FC2/133-24P0960), eServer Blade-Center HS20 (8678 and 8832) | | |
| Windows 2003 | Standard Edition Enterprise Edition | | | |
| Netware | 6.0 | Emulex: LP9002L, LP9002DC, LP8000, LP9802 QLogic: QLA2340L, QLA2342L, QLA2200, QLA2310F, QLA2310FL IBM: FC2104 (FC2/133-24P0960) | | MDS 9020 2.1(2) MDS 9124 3.1(2a) |
| | 6.5 | IBM: eServer BladeCenter HS20 (8678 and 8832) | | |
| Linux | RedHat 7.2, AS 2.1, AS 3.0 | Emulex: LP9002L, LP9002DC, LP8000, LP9802 QLogic: QLA2300F, QLA2340L, QLA2342L, QLA2310F, QLA2310FL IBM: FC2104 (FC2/133-24P0960) | Yes | Blade Center Cisco Embedded Switch 3.1(2a) |
| | SLES 7, 8 United Linux 1.0 | | | |
| | United Linux 1.0 (SP2) | QLogic: eServer Blade Center HS20 (8678) QLogic: zSeries models z800, z890, z900, z990 | | |
| | RedHat AS 2.1 | IBM: eServer BladeCenter HS20 (8832) | Yes | |
| | RedHat 7.3, 8, 9 | IBM: eServer BladeCenter HS20 (8678 and 8832) | | |
| Solaris | 2.6, 7, 8, 9 | Emulex: LP8000, LP9002L, LP9002DC, LP9002S, LP9002C QLogic: QLA2310FL, QLA2340L, QLA2342L JNI: FCE-6460, FCC-6562, FCX2-6562, FCC2-6562, FCE-1473 | Yes | |
| HP-UX | 11.0, 11i | HP: A5158A, A6795A | | |
| VMware ESX | 2.0 | IBM: Blade Center HS20 (8678, 8832) | | |

| Operating System | | Host Bus Adapter | SDD Multipath Support | Switch Fabric |
|--|----------------|--|-----------------------|--|
| Type | Version | | | |
| OS/400 (iSeries) | V5R2, V5R3 | IBM: 2766, 2787 | NA | 1.3(2a) or higher |
| 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 | | 1.3(4a) 2.0(2b) 3.0(2) 3.0(3) |

**Note**

Only Fabric mode and Cisco MDS SAN-OS Release 1.3(2a) or higher are supported on the iSeries.

Table 1-18 DS 8000 Series

| Operating System | | Host Bus Adapter | SDD Multipath Support | Switch Fabric |
|---------------------------|-------------------------------------|--|-----------------------|--|
| Type | Version | | | |
| AIX | 5.1, 5.2, 5.3 | IBM: FC 0612, FC 0625, FC 0626, FC 0646, FC 2766, FC 2787, FC 1977, FC 5716, FC 6228, FC 6239 | Yes | MDS 9509 MDS 9506 MDS 9216A MDS 9216i MDS 9140 MDS 9513 3.0(2a) 3.0(3) 3.1(2a) |
| NAS Gateway 500 | 5198 model 001 | NA | | |
| Windows 2000 | Advanced Server Data Center | Emulex: LP9002L, LP9002DC, LP9402DC, LP9802 LP10000, LP10000DC | | |
| Windows 2003 | Standard Edition Enterprise Edition | QLogic: QLA2310F, QLA2310FL, QLA2340F, QLA2342FL | No | MDS 9020 2.1(2) |
| Netware | 5.1, 6.0, 6.5 | IBM: 19K1246, 24P0960, eServer BladeCenter HS20, HS40, LS20 | | |
| Linux | RedHat 2.1, 3.0 | Emulex: LP9002L, LP9002DC, LP9802, LP9402DC, LP10000, LP10000DC QLogic: QLA2340F, QLA2342FL, QLA2310F, QLA2310FL IBM: FC 0612, FC 0625, FC 0626, FC 0646, FC 2766, FC 2787, FC 1977, FC 5716, FC 6228, FC 6239, 19K1246, 24P0960 | Yes | MDS 9124 3.1(2a) Blade Center Cisco Embedded Switch 3.1(2a) |
| | SLES 8, 9 | | | |
| IBM Virtual Server (VIOS) | 1.1 | IBM: FC 1977, FC 5716, FC 6228, FC 6239 | | |
| Solaris | 8, 9, 10 | Emulex: LP9002L, LP9002DC, LP9402DC, LP9002S LP9802, LP10000, LP10000DC QLogic: QLA2310FL, QLA2310F, QLA2340F, QLA2342FL AMCC/JNI: FCE-6460, FCX2-6562, FCX-6562, FCE-1473 Sun: 6727A, 6757A, 6767A (SG-XPCI1FC-QF2), 6768A (SG-XPCI2FC-QF2) | Yes | |
| HP-UX | 11.i, 11v2 (11.23) | HP: A5158A, A6795A, A6684A, A6826A, A6685A, A9782A | | |
| VMware ESX | 2.5.0, 2.5.1 | IBM: Blade Center HS20, HS40, 19K1246, 24P0960 Emulex: LP9402DC, LP9802 QLogic: QLA2310F, QLA2310FL, QLA2340F, QLA2342FL | | |

| Operating System | | Host Bus Adapter | SDD Multipath Support | Switch Fabric |
|--|---|---|-----------------------|--|
| Type | Version | | | |
| OS/400 i5/OS | V5R3 | IBM: FC 0612, FC 0625, FC 0626, FC 0646, FC 2766, FC 2787 | NA | 1.3(2a) or higher |
| IBM z/OS (FCP, FICON) z/OS (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 8, 9 | 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 | | 1.3(4a) 2.0(2b) 3.0(2) 3.0(3) |

Table 1-19 DS 6000 Series

| Operating System | | Host Bus Adapter | SDD Multipath Support | Switch Fabric |
|------------------|---|---|-----------------------|--|
| Type | Version | | | |
| AIX | 5.1, 5.2, 5.3 | IBM: FC 5716, FC 6228, FC 6239 | Yes | MDS 9509 MDS 9506 MDS 9216A MDS 9216i MDS 9140 MDS 9513 3.0(2a) 3.0(3) 3.1(2a) |
| 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 IBM: 19K1246, 24P0960, eServer BladeCenter HS20 (8678 and 8832) | | |
| Windows 2003 | Standard Edition Enterprise Edition | | | |
| Netware | 6.0 | | No | |
| | 6.5 | IBM: eServer BladeCenter HS20 (8678 and 8832) | MDS 9020 2.1(2) | |
| Linux | RedHat 2.1, 3.0 | Emulex: LP9002L, LP9002DC, LP9802, LP9402DC, LP10000, LP10000DC QLogic: QLA2340L, QLA2342FL, QLA2310F, QLA2310FL IBM: FC2104 (FC2/133-24P0960) | Yes | MDS 9124 3.1(2a) Blade Center Cisco Embedded Switch 3.1(2a) |
| | 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 | Yes | |
| 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 | | |

| Operating System | | Host Bus Adapter | SDD Multipath Support | Switch Fabric |
|--|----------------|---|-----------------------|--|
| Type | Version | | | |
| OS/400 (iSeries) | V5R2, V5R3 | IBM: FC2766, FC 2787, FC 0646, FC 0612, FC 0626 | NA | 1.3(2a) or higher |
| 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 | | 1.3(4a) 2.0(2b) 3.0(2) 3.0(3) |

Table 1-20 DS4800

| Operating System | | Host Bus Adapter | RDAC Multipath Support | Switch Fabric |
|---------------------------|-----------------------------------|--|------------------------|--|
| Type | Version | | | |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716, JS20 blade | Yes | MDS 9509 MDS 9506 MDS 9216A MDS 9216i MDS 9140 MDS 9513 3.0(2a) 3.0(3) 3.1(2a) |
| Windows 2000 | Server Advanced Server | IBM: FC2103, FC2104, FC2102 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F | | |
| Windows 2003 | Standard, Enterprise, Web Edition | IBM: eServer BladeCenter HS20, HS40 (8678 and 8832) Emulex: LP9002, LP9402, LP9802, LP10000 | No | MDS 9124 3.1(2a) |
| Netware | 6.0 | IBM: FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F, QLA2310FL | | |
| | 6.5 | IBM: eServer BladeCenter HS20, HS40 (8678 and 8832) | Yes | Blade Center Cisco Embedded Switch 3.1(2a) |
| Linux | RedHat AS 2.1 | IBM: FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F Emulex: LP9002, LP9402, LP9802, LP10000 | | |
| | United Linux 1.0 (SLES 8) | IBM: eServer Blade Center HS20, HS40 | | |
| | RedHat 7.3, 8, 9 | | | |
| | RedHat 3.0 | | | |
| United Linux 1.0 (SLES 8) | | | | |
| Solaris | 2.6, 7, 8, 9 | JNI: FCE-1473, FCE-6460 QLogic: QLA2200F, QLA2300F, QLA2310F | Yes | |
| HP-UX | 11.0, 11i | HP: A5158A, A6795A, A3591B, A3740 | Yes | |
| VMware ESX | 2.5.2 | IBM: eServer Blade Center HS20, HS40 (8678 and 8832) QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F Emulex: LP9002, LP9402, LP9802, LP10000 | | |

Table 1-21 DS400 (FAS:t 700), DS4500 (FAS:t 900)

| Operating System | | Host Bus Adapter | RDAC Multipath Support | Switch Fabric |
|------------------|--------------------------------------|--|------------------------|--|
| Type | Version | | | |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716, JS20 | Yes | MDS 9509 MDS 9506 MDS 9216A MDS 9216i MDS 9140 MDS 9513 3.0(2a) 3.0(3) 3.1(2a) MDS 9020 2.1(2) |
| 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 | MDS 9124 3.1(2a) Blade Center Cisco Embedded Switch 3.1(2a) |
| | 6.5 | IBM: eServer BladeCenter HS20, HS40 | | |
| Linux | RedHat AS 2.1 | IBM: FC2103, FC2104 | Yes | |
| | United Linux 1.0 (SLES 8) | | No | |
| | RedHat 7.3, 8, 9 | IBM: eServer BladeCenter HS20, HS40 | Yes | |
| | RedHat AS 2.1 | | | |
| | United Linux 1.0 (SLES 8) | | | |
| Solaris | 2.6, 7, 8, 9 | JNI: FCE-1473, FCE-6460 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F | Yes | |
| HP-UX | 11.0, 11i | HP: A5158A, A6795A, A6826A, A3591B | Yes | |
| VMware ESX | 2.0, 2.5.2 | IBM: eServer Blade Center HS20, HS40 Emulex: LP9002, LP9402, LP9802, LP10000 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F | | |

Table 1-22 DS4300 (FAStT 600 Single and Dual Controller), DS4300 Turbo

| Operating System | | Host Bus Adapter | RDAC Multipath Support | Switch Fabric |
|------------------|---|---|------------------------|--|
| Type | Version | | | |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716 | No | MDS 9509 MDS 9506 MDS 9216A MDS 9216i MDS 9140 MDS 9513 3.0(2a) 3.0(3) 3.1(2a) MDS 9020 2.1(2) MDS 9124 3.1(2a) Blade Center Cisco Embedded Switch 3.1(2a) |
| Windows NT | 4.0 (SP6a) | IBM: FC2102, FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F, QLA2310FL Emulex: LP9002, LP9402, LP9802 | Yes | |
| Windows 2000 | Server Advanced Server (SP3) | | | |
| Windows 2003 | Standard, Enterprise, Web Edition | | | |
| Netware | 6.0 | IBM: FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F, QLA2310FL | No | |
| Linux | RedHat AS 2.1, 3.0 RedHat 3.0 (xSeries) | IBM: FC2103, FC2104 QLogic: QLA2340L, QLA2342L, QLA2300F, QLA2310F, QLA2310FL | Yes | |
| | United Linux 1.0 (SLES 8) SLES 9 (pSeries) | | No | |
| Solaris | 2.6, 7, 8, 9 | JNI: FCE-1473, FCE-6460 QLogic: QLA2300F, QLA2340, QLA2342 | Yes | |
| HP-UX | 11.0, 11i | HP: A5158A, A6795A | Yes | |

Table 1-23 DS4100 (FAStT 100)

| Operating System | | Host Bus Adapter | RDAC Multipath Support | Switch Fabric |
|------------------|--------------------------------------|--|------------------------|--|
| Type | Version | | | |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716 | No | MDS 9509 MDS 9506 MDS 9216A MDS 9216i MDS 9140 MDS 9513 |
| Windows 2000 | Server Advanced Server (SP3) | IBM: FC2102, FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F, QLA2310FL Emulex: LP9002, LP9402, LP9802 | Yes | 3.0(2a) 3.0(3) 3.1(2a) |
| Windows 2003 | Standard, Enterprise, Web Edition | | No | |
| Linux | RedHat 3.0 | IBM: FC2103, FC2104 QLogic: QLA2340L, QLA2342L, QLA2300F, QLA2310F, QLA2310FL | Yes | MDS 9020 2.1(2) |
| | SLES 9 (pSeries) SLES 8 (xSeries) | | No | MDS 9124 3.1(2a) |
| | | | | Blade Center Cisco Embedded Switch 3.1(2a) |

**Note**

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>

Refer to the following URL for more IBM interop matrices information:

<http://www-03.ibm.com/servers/storage/support/san/mds9513/planning.html>

http://www.cisco.com/web/partners/pr67/pr30/pr220/partners_strategic_solution_concept_home.html

Table 1-24 IBM FAS*T* 200, 500

| Operating System | | Host Bus Adapter | RDAC Multipath Support | Switch Fabric |
|------------------|--|---|------------------------|----------------|
| Type | Version | Model | | |
| AIX | 5.1, 5.2, 5.3 | IBM: 6227, 6228, 6239, 5716, JS20 | No | MDS9500 |
| Windows NT | 4.0 (SP6a) | IBM: FC2103, FC2104 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F | Yes | MDS9216 |
| Windows 2000 | Server Advanced Server | QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F IBM: eServer Blade Center HS20, HS40 | | MDS9100 |
| Windows 2003 | Standard, Enterprise, Web Edition | | | 1.2(2a) |
| Linux | RedHat 7.3, 8, 9 | IBM: eServer Blade Center HS20 (8678) | | 1.3(2a) |
| | RedHat 3.0 (pSeries) RedHat 8.0 (xSeries) | IBM: eServer Blade Center HS20 (8832, 8678) QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F, FC2103, FC2104 | | 1.3(4a) |
| | SLES 9 (pSeries) SLE 8.0 (xSeries) | IBM: eServer Blade Center HS20 (8832) QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2300F, QLA2310F, FC2103, FC2104 | No | 2.0(2b) |
| Solaris | 2.6, 7, 8, 9 | JNI: FCE-1473, FCE-6460 QLogic: QLA2200F, QLA2340L, QLA2300F | Yes | 2.1(1b) |
| HP-UX | 11.0, 11i | HP: A5158A, A6795A | Yes | 2.1(2b) |
| VMware ESX | 2.0, 2.5.2 | IBM: eServer Blade Center HS20, HS40 | | 2.1(2d) |
| | | | | 3.0(2) |
| | | | | 3.0(2a) |
| | | | | 3.0(3) |
| | | | | 3.1(2a) |
| | | | | MDS9216i |
| | | | | 2.0(2b) |
| | | | | 2.1(1b) |
| | | | | 2.1(2b) |
| | | | | 2.1(2d) |
| | | | | 3.0(2) |
| | | | | 3.0(2a) |
| | | | | 3.0(3) |
| | | | | 3.1(2a) |
| | | | | MDS9020 |
| | | | | 2.1(2) |
| | | | | MDS9513 |
| | | | | 3.0(2) |
| | | | | 3.0(2a) |
| | | | | 3.0(3) |
| | | | | 3.1(2a) |
| | | | | MDS9124 |
| | | | | 3.1(2a) |
| | | | | Blade Center |
| | | | | Cisco Embedded |
| | | | | Switch |
| | | | | 3.1(2a) |

Table 1-25 IBM DS 8000, 6000 Series Distance Extension

| Cisco Product | Protocol | Enhanced Remote Mirror | | | Global Mirror FICON | Cisco Fabric |
|----------------------------------|----------|------------------------|---------------------|---------------------|---------------------|---|
| | | Metro Mirroring | Global Copy | Global Mirroring | | |
| IP Service Module (IPS 4, IPS 8) | FC-IP | Ver. 5.0.0 & higher | Ver. 5.0.0 & higher | Ver. 5.0.0 & higher | Ver. 5.0.0 & higher | MDS 9509 |
| MDS 9506 | | | | | | |
| MDS 9216A | | | | | | |
| MDS 9216i | FC | | | | | MDS 9216i |
| MPS-14/2 | | | | | | |
| MDS 9140 | | | | | | |
| MDS 9513 | | | | | | |
| Cisco ONS | | | | | | 3.0(2a) |
| Cisco CWDM | | | | | | 3.0(3) |
| | | | | | | 3.1(2a) |
| | | | | | | MDS 9020 |
| | | | | | | 2.1(2) |
| | | | | | | MDS 9124 |
| | | | | | | 3.1(2a) |
| | | | | | | Blade Center Cisco Embedded Switch |
| | | | | | | 3.1(2a) |

Table 1-26 IBM DS 4000 Series Distance Extension

| Cisco Product | Protocol | Volume Copy | RVM | Cisco Fabric |
|---------------|----------|-------------------------|-------------------------|---|
| Cisco CWDM | FC | ver. 8.3, 8.41 & higher | ver. 8.3, 8.41 & higher | MDS 9509 |
| | | | | MDS 9506 |
| | | | | MDS 9216A |
| | | | | MDS 9216i |
| | | | | MDS 9140 |
| | | | | MDS 9513 |
| | | | | 3.0(2a) |
| | | | | 3.0(3) |
| | | | | 3.1(2a) |
| | | | | MDS 9020 |
| | | | | 2.1(2) |
| | | | | MDS 9124 |
| | | | | 3.1(2a) |
| | | | | Blade Center Cisco Embedded Switch |
| | | | | 3.1(2a) |

Table 1-27 IBM ESS 2105 Series Distance Extension

| Cisco Product | Protocol | PPRC Sync | PPRC Long Distance | Async Cascade | | Cisco Fabric |
|----------------------------------|----------|---------------------|---------------------|---------------------|----------------|---|
| | | | | PPRC-XD | Async PPRC | |
| IP Service Module (IPS 8, IPS 4) | FC-IP | ver. 2.3.0 & higher | ver. 2.3.0 & higher | ver. 2.3.0 & higher | 2.4.0 & higher | MDS 9509 |
| MPS-14/2 | | | | | | MDS 9506 |
| MDS 9216i | | | | | | MDS 9216A |
| Cisco CWDM | FC | | | | | MDS 9216i |
| Cisco ONS | | | | | | MDS 9140 |
| | | | | | | MDS 9513 |
| | | | | | | 3.0(2a) |
| | | | | | | 3.0(3) |
| | | | | | | 3.1(2a) |
| | | | | | | MDS 9020 |
| | | | | | | 2.1(2) |
| | | | | | | MDS 9124 |
| | | | | | | 3.1(2a) |
| | | | | | | Blade Center Cisco Embedded Switch |
| | | | | | | 3.1(2a) |

Table 1-28 IBM SAN Volume Controller

| SVC version | Protocol | | | Cisco Fabric |
|-----------------|-------------------|-------------------|--|--|
| | FC | FC-IP | iSCSI | |
| V2.1.0 & higher | 2.1(2b) 3.0(2) | 2.1(2b) 3.0(2) | Windows 2000 (1.06 driver) Windows 2003 (1.06 driver) Red Hat AD 2.1, 3.0 (3.6.2 driver) | MDS9509 MDS9506 MDS9216 MDS9216i MDS9100 MDS9513 MDS9124 |

**Note**

Refer to the following URL for the complete IBM SAN Volume Controller Compatibility Matrix with Cisco MDS product family:

<http://www-1.ibm.com/support/docview.wss?rs=591&uid=ssg1S1002472>

HP

Table 1-29 HP XP12000

| Operating System | | Host Bus Adapter | Multipath Support | Switch Fabric |
|--|--|---|---|--|
| Type | Version | | | |
| OpenVMS | 7.2 & higher | HP: DS-KGPSA-CA, DS-KGPSA-DA Emulex: LP9802, LP10000DC | Native | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 |
| HP-UX | 11.0, 11.11 , 11.23 | HP: AB378A, A5158A, A6795A, A6826A, Mezzanine QLogic: QLA234x | SecurePath | 3.0(2a) 3.0(3) 3.1(2a) |
| Tru64 Unix | 5.1A, 5.1B | HP: DS-KGPSA-CA, DS-KGPSA-DA Emulex: LP9802, LP10000DC | Native | MDS9020 2.1(2) |
| AIX | 4.3.3, 5.1, 5.2, 5.3 | IBM: 5716, 6227, 6228, 6239 | MPIO/ODM | MDS9124 3.1(2) MDS9124e 3.1(2a) FICON 3.0(3) |
| 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 Emulex: LP11002-M4, LP1050DC, LP9802DC, LP8000 | | |
| 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+ SuSE 8 SP4+ SuSE 9 SP2+ | HP: Mezzanine, Balcony Qlogic: QLA234x, QLA 2462, QLE 2462, QMH2462 Emulex: LP11002, LPe1105 | Emulex Multipulse QLogic Path Failover | |
| Netware | 5.1 SP8 & higher | HP: Mezzanine QLogic: QLA234x | Native | |
| VMware ESX Server (XP 12000 not supported) | 2.1 & higher | HP: FCA2214, FCA2210, FCA2214DC, Mezzanine, Balcony | Native | MDS9500 MDS9100 MDS9200 1.3(4a) 2.0(1b) 2.1(2b) |

Table 1-30 HP XP128, XP1024

| Operating System | | Host Bus Adapter | Multipath Support | Switch Fabric |
|--|--|---|---|--|
| Type | Version | | | |
| OpenVMS | 7.2-2, 7.3-1, 8.2 | HP: DS-KGPSA-CA, DS-KGPSA-DA Emulex: LP9802, LP10000DC | Native | MDS9513 MDS9509 MDS9506 |
| HP-UX | 11.0, 11.11, 11.23 | HP: A5158A, A6795A, A6826A, AB378A, AB379A, Mezzanine QLogic: QLA2462, QLA234x | SecurePath | MDS9216A MDS9216i MDS9140 |
| Tru64 Unix | 5.1A, 5.1B | HP: DS-KGPSA-CA, DS-KGPSA-DA Emulex: LP9802, LP10000DC | Native | 3.0(2a) 3.0(3) 3.1(2a) |
| AIX | 4.3.3, 5.1, 5.2, 5.3 | IBM: 5716, 6227, 6228, 6239 | MPIO/ODM | MDS9020 |
| Windows 2000 | Advanced Server (SP3+) | HP: DS-KGPSA-CB, FCA2355, FCA2101, LP9802DC, LP1050DC, FCA2214, FCA2214-DC, Mezzanine, Balcony QLogic: QLA2462, QLA234x Emulex: LP1050DC, LP1050EX, LP11002-M4, LP9802DC, LP8000 | SecurePath | 2.1(2) |
| Windows 2003 | Enterprise Edition | HP: DS-KGPSA-CB, FCA2355, FCA2101, FCA2214, FCA2214-DC, Mezzanine, Balcony QLogic: QLA2462, QLA234x Emulex: LP1050DC, LP11002-M4, LP9802DC, LP8000 | Microsoft MPIO/DSM | MDS9124 3.1(2) MDS9124e 3.1(2a) |
| Windows NT | Enterprise 4.0 (SP6a) | HP: FCA2355, FCA2101, DS-KGPSA-CB | EOL | FICON 3.0(3) |
| 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+ SuSE 8 SP4+ SuSE 9 SP2+ | HP: BL20p Mezzanine, Balcony QLogic: QLA234x | Emulex Multipulse QLogic Path Failover | |
| Netware | 5.1 SP8 6.1 SP4 | HP: Mezzanine QLogic: QLA234x | Native | |
| VMware ESX Server (XP 12000 not supported) | 2.1, 2.1.1, 2.1.2, 2.5.2 | HP: FCA2214, FCA2210, FCA2214DC, Mezzanine | Native | MDS9500 MDS9100 MDS9200 1.3(4a) 2.0(1b) 2.1(2b) |

Table 1-31 HP XP48, XP512

| Operating System | | Host Bus Adapter | Multipath Support | Switch Fabric |
|--|--|---|---|--|
| Type | Version | | | |
| OpenVMS | 7.2-2, 7.3-1, 8.2 | HP: DS-KGPSA-CA, DS-KGPSA-DA Emulex: LP9802, LP10000DC | Native | MDS9513 MDS9509 MDS9506 |
| HP-UX | 11.0, 11.11, 11.23 | HP: A5158A, A6795A, A6826A, AB378A, AB379A, Mezzanine QLogic: QLA234x | SecurePath | MDS9216A MDS9216i MDS9140 |
| Tru64 Unix | 5.1A, 5.1B | HP: DS-KGPSA-CA, DS-KGPSA-DA Emulex: LP9802, LP10000DC | Native | 3.0(2a) 3.0(3) 3.1(2a) |
| AIX | 4.3.3, 5.1, 5.2, 5.3 | IBM: 5716, 6227, 6228, 6239 | MPIO/ODM | MDS9020 |
| Windows 2000 | Advanced Server (SP3+) | HP: DS-KGPSA-CB, FCA2355, FCA2101, LP9802DC, LP1050DC, FCA2214, FCA2214-DC, Mezzanine, Balcony QLogic: QLA2462, QLA234x Emulex: LP1050DC, LP1050EX, LP11002-M4, LP9802DC, LP8000 | SecurePath | 2.1(2) |
| Windows 2003 | Enterprise Edition | HP: AB378A, DS-KGPSA-CB, FCA2355, FCA2101, FCA2214, FCA2214-DC, Mezzanine, Balcony QLogic: QLA2462, QLA234x Emulex: LP1050DC, LP11002-M4, LP9802DC, LP8000 | Microsoft MPIO/DSM | MDS9124 3.1(2) MDS9124e 3.1(2a) |
| Windows NT | Enterprise 4.0 (SP6a) | HP: FCA2355, FCA2101, DS-KGPSA-CB | EOL | FICON 3.0(3) |
| 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+ SuSE 8 SP4+ SuSE 9 SP2+ | HP: Mezzanine, Balcony QLogic: QLA234x | Emulex Multipulse QLogic Path Failover | |
| Netware | 5.1 SP8 6.1 SP4 | HP: BL20p Mezzanine QLogic: QLA234x | Native | |
| VMware ESX Server (XP 12000 not supported) | 2.1, 2.1.1, 2.1.2, 2.5.2 | HP: FCA2214, FCA2210, FCA2214DC, Mezzanine | Native | MDS9500 MDS9100 MDS9200 1.3(4a) 2.0(1b) 2.1(2b) |

Table 1-32 HP EVA GL -- 3000 (HSV100, HSV101), 5000 (HSV200, HSV201)

| Operating System | | Host Bus Adapter | Multipath Support | Switch Fabric |
|---------------------------|---|--|---|---|
| Type | Version | | | |
| OpenVMS | 7.2-2, 7.3-1, 8.2 | HP: DS-KGPSA-CA, DS-KGPSA-DA Emulex: LP9802, LP10000DC QLogic: QLA234x | Native | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 |
| HP-UX | 11.0, 11.11, 11.23 | HP: A5158A, A6795A, A6826A, AB378A, AB379A, QLogic: QLA234x | SecurePath | 3.0(2a) 3.0(3) 3.1(2a) |
| Tru64 Unix | 5.1A, 5.1B | HP: DS-KGPSA-CA, DS-KGPSA-DA, LP9802, LP10000DC | Native | |
| AIX | 4.3.3, 5.1, 5.2, 5.3 | IBM: 5716, 6227, 6228, 6239 | MPIO/ODM | MDS9020 2.1(2) |
| 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 | MDS9124 3.1(2) MDS9124e 3.1(2a) |
| Windows 2003 | Enterprise Edition | HP: DS-KGPSA-CB, FCA2355, FCA2101, FCA2214, FCA2214-DC, Mezzanine, Balcony Emulex: LP1050DC, LP1050EX, LP11002-M4, LP8000, LP9802 QLogic: QLA2462, QLA234x | | |
| 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 | 2.1, 2.1.1, 2.1.2, 2.5.2 | HP: FCA2214, FCA2210, FCA2214DC, Mezzanine | Native | MDS9500 MDS9100 MDS9200 1.3(4a) 2.0(1b) 2.1(1b) 2.1(2b) |

Table 1-33 HP EVA XL -- 4000 (HSV200, HSV201), 6000 (HSV200, HSV201), 8000 (2Gb or 4Gb)(HSV210)

| Operating System | | Host Bus Adapter | Multipath Support | Switch Fabric |
|------------------------|---|---|---|---|
| Type | Version | | | |
| OpenVMS | 7.2-2, 7.3-1, 8.2 | HP: DS-KGPSA-CA, DS-KGPSA-DA Emulex: LP9802, LP10000DC QLogic: QLA234x | Native | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 |
| HP-UX | 11.0, 11.11, 11.23 | HP: A5158A, A6795A, A6826A, AB378A, AB379A QLogic: QLA234x | SecurePath | 3.0(2a) 3.0(3) 3.1(2a) |
| Tru64 Unix | 5.1A, 5.1B | HP: DS-KGPSA-CA, DS-KGPSA-DA, LP9802, LP10000DC | Native | |
| AIX | 4.3.3, 5.1, 5.2, 5.3 | IBM: 5716, 6227, 6228, 6239 | MPIO/ODM | MDS9020 2.1(2) |
| 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 | MDS9124 3.1(2) MDS9124e 3.1(2a) |
| Windows 2003 | Enterprise Edition | HP: DS-KGPSA-CB, FCA2355, FCA2101, FCA2214, FCA2214-DC, Mezzanine, Balcony Emulex: LP1050DC, LP1050EX, LP11002-M4, LP8000, LP9802 QLogic: QLA2462, QLA234x | | |
| 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 | 2.1, 2.1.1, 2.1.2, 2.5.x | HP: FCA2214, FCA2210, FCA2214DC, Mezzanine, Balcony | Native | MDS9500 MDS9100 MDS9200 1.3(4a) 2.0(1b) 2.1(1b) 2.1(2b) |

Table 1-34 HP MA8000 (HSG80)

| Operating System | | Host Bus Adapter | Multipath Support | Switch Fabric | |
|------------------|------------------------|--|-------------------|--|------------|
| Type | Version | | | | |
| OpenVMS | 7.2-2, 7.3-1, 8.2 | HP: DS-KGPSA-CA, DS-KGPSA-DA Emulex: LP9802, LP10000DC QLogic: QLA234x | | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 3.0(2a) 3.0(3) MDS9020 2.1(2) MDS9124 3.1(2) | |
| HP-UX | 11.0, 11.11, 11.23 | HP: A5158A, A6795A, A6826A Qlogic: QLA234x | | | |
| Tru64 Unix | 5.1A, 5.1B | HP: DS-KGPSA-CA, DS-KGPSA-DA, LP9802, LP10000DC | | | |
| AIX | 4.3.3, 5.1, 5.3 | IBM: 6227, 6228, 5716 | | | |
| Windows 2000 | Advanced Server (SP3+) | HP: DS-KGPSA-CB, FCA2355, FCA2101, LP9802DC, LP1050DC, FCA2214, FCA2214-DC, Mezzanine | | | SecurePath |
| Windows 2003 | Enterprise Edition | HP: DS-KGPSA-CB, FCA2355, FCA2101, FCA2214, FCA2214-DC, Mezzanine | | | |
| Windows NT | Enterprise 4.0 (SP6a) | HP: FCA2355, FCA2101, DS-KGPSA-CB | | | |
| Linux | RedHat AS 2.1 | HP: FCA2214, Mezzanine | | | |
| | SUSE 7 | HP: FCA2214 | | | |
| Solaris | 8, 9 | JNI: FCE-6410, FCX-6562, FCE-6460, LP9802 QLogic: QLA2310 JNI: FCE-1473 Sun: SG-XPCI2FC-QF2 | | | |
| Netware | 5.1 SP8 6.1 SP4 | HP: Mezzanine Qlogic: QLA234x | | | |

Table 1-35 HP MSA1000, MSA1500

| Operating System | | Host Bus Adapter | Multipath Support | Switch Fabric |
|----------------------------------|---|--|--|---|
| Type | Version | | | |
| HP-UX | 11.0, 11.11, 11.23 | HP: A5158A, A6795A, A6826A, AB378A, AB379A QLogic: QLA234x | Single Path for (Active/Passive) PVlink (Active/Active) | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 |
| 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) Microsoft MPIO/DM (Active/Active) | 3.0(2a) 3.0(3) 3.1(2a) MDS9020 2.1(2) |
| Windows 2003 | Enterprise Edition | HP: FCA2355, FCA2101, FCA2214, FCA2214-DC, DS-KGPSA-CB, Mezzanine, Balcony Emulex: LP8000, LP9002, LP9802 QLogic: QLA234x | | MDS9124 3.1(2) MDS9124e 3.1(2a) |
| Windows NT | Enterprise 4.0 (SP6a) | HP: FCA2355, FCA2101, DS-KGPSA-CB | | |
| 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 Failover | |
| VMware ESX Server (MSA1000 only) | 2.1, 2.1.1, 2.1.2, 2.5.2 | HP: FCA2214, FCA2210, FCA2214DC, Mezzanine QLogic: QLA234x | Native | MDS9500 MDS9100 MDS9200 1.3(4a) 2.0(1b) 2.1(1b) 2.1(2b) |

Table 1-36 HP VA7410, VA7400

| Operating System | | Host Bus Adapter | Multipath Support | Switch Fabric |
|------------------|-----------------------|--|-------------------|--|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP3) | HP: DS-KGPSA-CB, FCA2355, FCA2101, FCA2214, FCA2214-DC, LP1050, LP9802DC, LP10000DC | SecurePath | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 3.0(2a) 3.0(3) 3.1(2) MDS9020 2.1(2) MDS9124 3.1(2) |
| Windows 2003 | Enterprise Edition | | | |

Table 1-37 Boot from SAN matrix

| Operating System | | Host Bus Adapter | Storage | Switch Fabric |
|------------------|--|--|------------------|--|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP3 and higher) | HP: FCA2101, FCA2354, FCA2355, FCA2408, FCA2404, FCA2404DC, LP1050DC, LP10000, LP9802DC, Mezzanine | XP EVA MSA | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 3.0(2a) 3.0(3) 3.1(2a) |
| Windows 2003 | Enterprise Edition | | | |
| HPUX | 11.11, 11.23 | HP: A5158A, A6795A, A6826A Qlogic: QLA234x | XP EVA MSA | |
| Linux | RedHat AS 2.1, 3.0, 4.0, & higher | HP: FCA2214, FCA2214DC JNI: FCE-1473, FCE-6410, FCX-6562, FCE-6460 Emulex: LP9802, LP10000DC QLogic: QLA2310, QLA234x | EVA | MDS9020 2.1(2) MDS9124 3.1(2) MDS9124e 3.1(2a) |
| | United Linux 1.0 (SuSE ES 8, 9) & higher | | | |

Table 1-38 HP Host Server List

| Operating System | | Host Server |
|--------------------------|----------------------------|---|
| Type | Version | |
| HP-UX | 11.0, 11i, 11.23 | HP: rp2405, rp2430, rp5430, rp7405, rx2400, rx2600, rx5670 |
| AIX | 5.1, 5.2, 5.3 | IBM: eServers pSeries |
| Windows 2000 (32 bit) | Advanced Server (SP3) | HP: Proliant x86 Servers, Integrity Servers, Blade Servers |
| Windows 2003 (32 bit) | Enterprise Edition | |
| Linux (32 bit) | RedHat AS 2.1, 3.0, 4.0 | |
| | Suse 7, 8, 9 | |
| Linux (64 bit) | RedHat AS 2.1, 3.0, 4.0 | |
| Solaris | 8, 9,10 | SUN: SunFire SPARC III, IV family |
| OpenVMS | 7.2-2, 7.3-1 | HP: Alpha Server DS-10/ DS20-E/ ES-45/ ES-47 |
| Tru64 Unix | 5.1A, 5.1B | |

Table 1-39 Distance Extension

| Distance System | Maximum Distance | Network | Protocol | Storage System | Switch fabric |
|--|-------------------------------|----------------------|----------------------------------|---|--|
| Cisco 1000Base-CWDM | 50km | CWDM | Block I/O CA (Sync) | HP EVA GL (3.028) HP XL (5.031, 5.110, 6.0) | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 3.0(2a) 3.0(3) 3.1(2a) |
| | | | Block I/O CA (Sync, Async) | HP XP128/1024, XP48/512, XP12000 | |
| Cisco 15530 | 100km | DWDM | Block I/O CA (Sync) | HP EVA GL (3.028)) HP XL (5.031, 5.110, 6.0) | MDS9020 2.1(2) |
| | | | Block I/O CA (Sync, Async) | HP XP128/1024, XP48/512, XP12000 | |
| Cisco 15540 | 100km | DWDM | Block I/O CA (Sync) | HP EVA GL (3.028)) HP XL (5.031, 5.110, 6.0) | MDS9124 3.1(2) MDS9124e 3.1(2a) |
| | | | Block I/O CA (Sync, Async) | HP XP128/1024, XP48/512, XP12000 | |
| Cisco 15252 | 100km | DWDM | Block I/O CA (Sync) | HP EVA GL (3.028)) HP XL (5.031, 5.110, 6.0) | |
| | | | Block I/O CA (Sync, Async) | HP XP128/1024, XP48/512, XP12000 | |
| Cisco MDS IPS-8 Cisco MPS-14/2 Cisco MDS 9216i | See note after this table. | FC-IP (IPSec/IKE) | Block I/O CA (Sync) | HP EVA GL (3.028)) HP XL (5.031, 5.110, 6.0) | |
| | | | Block I/O CA (Sync, Async) | HP XP128/1024, XP48/512, XP12000 | |

**Note**

Supported distance is determined by HP field personnel and professional services based on customer's application requirements. EVA XL port should be set to FX for 4-Gbps speed mode.

**Note**

Refer to the following HP links for more information on interoperability support matrices:

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

http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00758729/c00758729.pdf?jumpid=reg_R1002_USEN

<http://h20000.www2.hp.com/bizsupport/TechSupport/DocumentIndex.jsp?contentType=SupportManual&lang=en&cc=us&docIndexId=179111&taskId=101&prodTypeId=329290&prodSeriesId=1844065>

http://h20000.www2.hp.com/bizsupport/TechSupport/DocumentIndex.jsp?contentType=SupportManual&locale=en_US&docIndexId=179911&taskId=101&prodTypeId=12169&prodSeriesId=406734

Engenio

Table 1-40 2882 Storage Controller

| Operating System | | Host Bus Adapter | Switch Fabric |
|------------------|-----------------------|------------------------------|---------------|
| Type | Version | | |
| Windows 2000 | Advanced Server (SP3) | QLogic: QLA2342 | MDS9500 |
| Linux | RedHat 7.2 | LSI: 44929, 7004 | MDS9216 |
| | Suse 7.3 | | MDS9100 |
| AIX | 5.1, 5.2, 5.3 | IBM: 6228, 6239, 5716 | 1.0(3a) |
| HPUX | 11.0, 11i | HP: A6795A | 1.1(2) |
| Solaris | 8, 9, 10 | LSI: 44929 | 1.2(2a) |
| Irix | 6.5.14 | QLogic: 2310 | 1.3(2a) |
| | | | 2.0(2b) |
| Netware | 6 (SP1) | QLogic: QLA2342 | 2.1(1b) |
| | | | 2.1(2b) |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | 3.0(3) |
| | | | 3.1(2a) |
| | | | 3.1(2a) |
| | | | MDS9216i |
| | | | 2.0(2b) |
| | | | 2.1(1b) |
| | | | 2.1(2b) |
| 3.0(2) | | | |
| 3.0(2a) | | | |
| 3.0(3) | | | |
| 3.0(3) | | | |
| 3.1(2a) | | | |
| MDS9513 | | | |
| 3.0(2) | | | |
| 3.0(2a) | | | |
| 3.0(3) | | | |
| 3.0(3) | | | |
| 3.1(2a) | | | |
| MD9020 | | | |
| 2.1(2) | | | |

Table 1-41 4884Storage Controller

| Operating System | | Host Bus Adapter | Switch Fabric |
|------------------|-----------------------|------------------------------|---------------|
| Type | Version | | |
| Windows 2000 | Advanced Server (SP3) | Qlogic: QLA2342 | MDS9500 |
| Linux | RedHat 7.2 | LSI: 44929, 7004 | MDS9216 |
| | Suse 7.3 | | MDS9100 |
| AIX | 5.1, 5.2, 5.3 | IBM: 6228, 6239, 5716 | 1.0(3a) |
| HPUX | 11.0, 11i | HP: A6795A | 1.1(2) |
| Solaris | 8, 9, 10 | LSI: 44929 | 1.2(2a) |
| | | | 1.3(2a) |
| Irix | 6.5.14 | QLogic: 2310 | 2.0(2b) |
| | | | 2.1(1b) |
| Netware | 6 (SP1) | Qlogic: QLA2342 | 2.1(2b) |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | 3.1(2a) |
| | | | MDS9216i |
| | | | 2.0(2b) |
| | | | 2.1(1b) |
| | | | 2.1(2b) |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| 3.1(2a) | | | |
| MDS9513 | | | |
| 3.0(2) | | | |
| 3.0(2a) | | | |
| 3.0(3) | | | |
| 3.1(2a) | | | |
| MDS9020 | | | |
| 2.1(2) | | | |

**Note**

Refer to the Engenio's website for more interoperability and compatibility information:

http://www.engenio.com/html/partners/compatible_matrix/interop.asp?Category=Switch&Vendor=Cisco&Program=0&Platform=0&OSVersion=0&Sort=Vendor&x=35&y=10

Table 1-42 5884 Storage Controller

| Operating System | | Host Bus Adapter | Switch Fabric |
|------------------|-----------------------|------------------------------|---------------|
| Type | Version | | |
| Windows 2000 | Advanced Server (SP3) | Qlogic: QLA2342 | MDS9500 |
| Linux | RedHat 7.2 | LSI: 44929, 7004 | MDS9216 |
| | Suse 7.3 | | MDS9100 |
| AIX | 5.1, 5.2, 2.3 | IBM: 6228, 6239, 5716 | 1.0(3a) |
| HPUX | 11.0, 11i | HP: A6795A | 1.1(2) |
| Solaris | 8, 9, 10 | LSI: 44929 | 1.2(2a) |
| Irix | 6.5.14 | QLogic: 2310 | 1.3(2a) |
| Netware | 6 (SP1) | Qlogic: QLA2342 | 2.0(2b) |
| | | | 2.1(1b) |
| | | | 2.1(2b) |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | 3.1(2a) |
| | | | MDS9216i |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | 3.1(2a) |
| | | | MDS9513 |
| MDS9020 | | | |
| 2.1(2) | | | |

Table 1-43 4774 Storage Controller

| Operating System | | Host Bus Adapter | Switch Fabric |
|------------------|-----------------------|------------------------------|---------------|
| Type | Version | | |
| Windows 2000 | Advanced Server (SP3) | Qlogic: QLA2342 | MDS9500 |
| Linux | RedHat 7.2 | LSI: 44929, 7004 | MDS9216 |
| | Suse 7.3 | | MDS9100 |
| AIX | 5.1, 5.2, 5.3 | IBM: 6228, 6239, 5716 | 1.0(3a) |
| HPUX | 11.0, 11i | HP: A6795A | 1.1(2) |
| Solaris | 8, 9, 10 | LSI: 44929 | 1.2(2a) |
| | | | 1.3(2a) |
| Irix | 6.5.14 | QLogic: 2310 | 2.0(2b) |
| | | | 2.1(1b) |
| Netware | 6 (SP1) | Qlogic: QLA2342 | 2.1(2b) |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | 3.0(3) |
| | | | 3.1(2a) |
| | | | MDS9216i |
| | | | 2.0(2b) |
| | | | 2.1(1a) |
| | | | 2.1(2b) |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| MDS9513 | | | |
| 3.0(2) | | | |
| 3.0(2a) | | | |
| 3.0(3) | | | |
| 3.1(2a) | | | |
| MDS9020 | | | |
| 2.1(2) | | | |

Sun Microsystems

Table 1-44 *StorEdge 9970V*

| Operating System | | Host Bus Adapter | Cisco Certified | Switch Fabric |
|------------------|----------|--|-----------------|---|
| Type | Version | | | |
| Solaris | 8, 9, 10 | Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 | Yes | MDS9500 MDS9216 MDS9100 1.3(4a) 2.0(2b) 2.1(1b) 2.1(2b) 3.0(2a) 3.0(3) MDS9216i 2.0(2b) 2.1(1b) 2.1(2b) 3.0(2a) 3.0(3) MDS9020 2.1(2) |

Table 1-45 *StorEdge T3, T3+*

| Operating System | | Host Bus Adapter | Cisco Certified | Switch Fabric |
|------------------|----------|--|-----------------|---|
| Type | Version | | | |
| Solaris | 8, 9, 10 | Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 | Yes | MDS9500 MDS9216 MDS9100 1.3(4a) 2.0(2b) 2.1(1b) 2.1(2b) 3.0(2a) MDS9216i 2.0(2b) 2.1(1b) 2.1(2b) 3.0(2a) MDS9020 2.1(2) |

Table 1-46 StorEdge FC Array A5200

| Operating System | | Host Bus Adapter | Cisco Certified | Switch Fabric |
|------------------|----------|---|-----------------|---|
| Type | Version | | | |
| Solaris | 8, 9, 10 | Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 | Yes | MDS9500 MDS9216 MDS9100 1.3(4a) 2.0(2b) 2.1(1b) 2.1(2b) 3.0(2a) MDS9216i 2.0(2b) 2.1(1b) 2.1(2b) 3.0(2a) MDS9020 2.1(2) |

Table 1-47 StorEdge 6120

| Operating System | | Host Bus Adapter | Cisco Certified | Switch Fabric |
|------------------|----------|---|-----------------|---|
| Type | Version | | | |
| Solaris | 8, 9, 10 | Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 | Yes | MDS9500 MDS9216 MDS9100 1.3(4a) 2.0(2b) 2.1(1b) 2.1(2b) 3.0(2a) MDS9216i 2.0(2b) 2.1(1b) 2.1(2b) 3.0(2a) MDS9020 2.1(2) |

Table 1-48 StorEdge 6130

| Operating System | | Host Bus Adapter | Cisco Certified | Switch Fabric |
|------------------|----------|---|-----------------|--|
| Type | Version | | | |
| Solaris | 8, 9, 10 | Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 | Yes | MDS9500 MDS9216 MDS9100 2.0(2b) 2.1(1b) 2.1(2b) 3.0(2a) MDS9216i 2.0(2b) 2.1(1b) 2.1(2b) 3.0(2a) MDS9020 2.1(2) |

Table 1-49 StorEdge 3510

| Operating System | | Host Bus Adapter | Cisco Certified | Switch Fabric |
|------------------|----------|---|-----------------|--|
| Type | Version | | | |
| Solaris | 8, 9, 10 | Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 | Yes | MDS9500 MDS9216 MDS9100 2.0(2b) 2.1(1b) 2.1(2b) 3.0(2a) MDS9216i 2.0(2b) 2.1(1b) 2.1(2b) 3.0(2a) MDS9020 2.1(2) |

NEC

Table 1-50 S2300

| Operating System | | Host Bus Adapter | Multipath | Switch Fabric |
|------------------|---------------------------------|---------------------------|-------------|--|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP3 or higher) | Emulex: LP952L | NEC SPS | MDS9500 MDS9216 MDS9216i MDS9100 1.3(4a) |
| 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 1-51 S1300

| Operating System | | Host Bus Adapter | Multipath | Switch Fabric |
|------------------|---------------------------------|---------------------------|-------------|--|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP3 or higher) | Emulex: LP952L | NEC SPS | MDS9500 MDS9216 MDS9216i MDS9100 1.3(4a) |
| 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 1-52 S2800

| Operating System | | Host Bus Adapter | Multipath | Switch Fabric |
|------------------|---------------------------------|---------------------------|-------------|--|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP3 or higher) | Emulex: LP952L | NEC SPS | MDS9500 MDS9216 MDS9216i MDS9100 1.3(4a) |
| 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 1-53 S2800 Distance Extension

| Cisco Product | Protocol | RDR Sync. | RDR Async | Cisco Fabric |
|----------------------------------|----------|------------|------------|--|
| IP Service Module (IPS 8, IPS 4) | FC-IP | ver. 2.3.0 | ver. 2.3.0 | MDS9500 MDS9216 MDS9216i MDS9100 1.3(4a) |
| Cisco CWDM | FC | | | |
| Cisco ONS | | | | |

Fujitsu

Table 1-54 Eternus 3000

| Operating System | | Host Bus Adapter | Multipath | Switch Fabric |
|------------------|-----------------------|--|-------------|---|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP9802, LP10000 QLogic: QLA2342 | GRMPD | MDS9500 MDS9216 MDS9216i MDS9100 2.0(3) |
| Windows 2003 | Enterprise Server | | | |
| 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 1-55 Eternus 6000

| Operating System | | Host Bus Adapter | Multipath | Switch Fabric |
|------------------|-----------------------|--|-------------|---|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP9802, LP10000 QLogic: QLA2342 | GRMPD | MDS9500 MDS9216 MDS9216i MDS9100 2.0(3) |
| Windows 2003 | Enterprise Server | | | |
| 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 | |

ADTX

Table 1-56 *ArrayMasStor L*

| Operating System | | Host Bus Adapter | Multipath | Switch Fabric |
|------------------|-----------------------|---|--------------|---|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP9802 QLogic: QLA2340 | Path Cruiser | MDS9500 MDS9216 MDS9216i MDS9100 2.0(2b) 2.1(1b) |
| Windows 2003 | Enterprise Server | | | |
| Linux | RedHat 7.1.14-3 | Emulex: LP9802 | No | |
| Solaris | 8, 9 | Sun: SG-XPCIIFC-QF2 | Veritas DMP | |

Infotrend

Table 1-57 EonStor F16F-R2A2

| Operating System | | Host Bus Adapter | Multipath | Switch Fabric |
|------------------|-----------------------|---|-----------|---|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP9002, LP9802 | No | MDS9500 MDS9216 MDS9100 MDS9216i 2.1(1b) 2.1(2b) 3.0(3) |
| Windows 2003 | Enterprise Server | Emulex: LP1050DC | | |
| Linux | RedHat 8.0 | Emulex: LP9002, 9802 QLogic: QLA2310 | | |

Table 1-58 EonStor 2510FS

| Operating System | | Host Bus Adapter | Multipath | Switch Fabric |
|------------------|-----------------------|---|-----------|---|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP9002, LP9802 | No | MDS9500 MDS9216 MDS9100 MDS9216i 2.1(1b) 2.1(2b) 3.0(3) |
| Windows 2003 | Enterprise Server | Emulex: LP1050DC | | |
| Linux | RedHat 8.0 | Emulex: LP9002, 9802 QLogic: QLA2310 | | |

3PAR

Table 1-59 InServ Storage Server E200

| Qualified Operating System | | Host Bus Adapter | Switch Fabric |
|----------------------------|--|--|---|
| Type | Version | | |
| Windows 2000 | SP4 | QLogic: QLA2310F(L), QLA 2302F, QLA2340, QLA2342, QLA2344, QLA2302, QLA2460, QLA2462, QLE2360, QLE2362, QLE2460, QLE2462, QLA2300F, QLA2440, QLE2440 Emulex: LP8000, LP9002(L,DC), LP9402, LP9802(DC), LP10000(DC),ExDC, LP1050, LP952, LP982, LP1050(DC,Ex), LPe1150, LPe11000, LPe11002 | MDS9500 MDS9216 MDS9216i 2.0(1b) 2.1(1a) 2.1(2b)\ 2.1(2e) 3.0(3) |
| Windows 2003 | SP1 (32 bit), X64, IA64 | | |
| Linux RH | AS 2.1, Enterprise 3.0, Enterprise 4.0 | | |
| Linux SUSE | SLES 9 | | |
| AIX | 5.1 | IBM: 6228, 6239 | MDS9100 2.1(1a) 2.1(2b)\ 2.1(2e) 3.0(3) |
| | 5.2 | IBM: 6228, 6239, 5716 | |
| | 5.3 | IBM: 5716 | |
| OnStor | 1.2.2, 1.2.3, 1.2.5, 1.2.6, 1.3.1 | Internal HBA | |
| HP-UX | 11i v1, 11iv2 | HP: A5158A, A6795A, A6826A, A9782A, A9784A, AB456A | |
| VMware ESX | 2.5.1, 2.5.2, 2.5.3 | QLogic: QLA2302, QLA2342, QLA2300, QLA2310, QLA2340, QLA2344, QLE2360, QLE2362 | |
| Egenera PAN Mgr | 4.0, 4.0.0.4, 4.0.1, 5.0 | Egenera supplied | |

Table 59 InServ Storage Server E200 (continued)

| Qualified Operating System | | Host Bus Adapter | Switch Fabric |
|----------------------------|----------------|--|--|
| Type | Version | | |
| Solaris | 8, 9, 10 SPARC | Sun: SG-XPCI1FC-QF2, SG-XPCI1FC-QF4, SG-XPCI2FC-QF2, SG-XPCI2FC-QF4, 6727A, 6799A, SG-XPCI1FC-EM4-Z, SG-XPCI2FC-EM4-Z, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 Emulex: LP8000, LP9002, LP9002DC, LP9402, LP10000, LP10000DC, LP9802, LP9802DC, LP11000, LP11002, LPe11000, LPe11002 QLogic: QLA2310FL, QLA2310F, QLA 2302F, QLA2340, QLA2340L, QLA2342, QLA2344, QLA2300, QCP2340, QCP2330, QCP2332, QSB2340, QLA2460, QLA2462, QLE2460, QLE2462, QSB2342, QCP2342 JNI: FC64-1063, FCI-1063, FCE6460, FCX-6562, FCX2-6562, FCE-1473, FCE2-1473 | MDS9500 MDS9216 MDS9216i 2.0(1b) 2.1(1a) 2.1(2b)\ 2.1(2e) 3.0(3) MDS9100 2.1(1a) 2.1(2b)\ 2.1(2e) 3.0(3) |
| | 10 x86 | Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCIE2FC-QB4-Z, SG-XPCI1FC-EM4-Z, SG-XPCI2FC-EM4-Z, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPI1FC-QF4, SG-XPCI2FC-QF4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 Emulex: LP10000, LP10000DC, LP11000, LP11002, LPe11000, LPe11002, LP10000ExDC QLogic: QLA2310FL, QLA2310F, QLA 2302F, QLA2340, QLA2340L, QLA2342, QLA2344, QLA2300, QLA2460, QLA2462, QLE2460, QLE2462, QLA2440, QLE2440 | |

Table 1-60 InServ Storage Server S400

| Qualified Operating System | | Host Bus Adapter | Switch Fabric |
|----------------------------|--|--|---|
| Type | Version | | |
| Windows 2000 | SP4 | QLogic: QLA2310F(L), QLA 2302F, QLA2340, QLA2342, QLA2344, QLA2302, QLA2460, QLA2462, QLE2360, QLE2362, QLE2460, QLE2462, QLA2300F, QLA2440, and QLE2440 Emulex: LP8000, LP9002(L,DC), LP9402, LP9802(DC), LP10000(DC),ExDC, LP1050, LP952, LP982, LP1050(DC,Ex), LPe1150, LPe11000, LPe11002 | MDS9500 MDS9216 MDS9216i 2.0(1b) 2.1(1a) 2.1(2b)\ 2.1(2e) 3.0(3) |
| Windows 2003 | SP1 (32 bit), X64, IA64 | | |
| Linux RH | AS 2.1, Enterprise 3.0, Enterprise 4.0 | | |
| Linux SUSE | SLES 9 | QLogic: QLA2310F(L), QLA 2302F, QLA2340, QLA2342, QLA2344, QLA2302, QLA2460, QLA2462, QLE2360, QLE2362, QLE2460, QLE2462 | MDS9100 2.1(1a) 2.1(2b)\ 2.1(2e) 3.0(3) |
| AIX | 5.1 | IBM: 6228, 6239 | |
| | 5.2 | IBM: 6228, 6239, 5716 | |
| | 5.3 | IBM: 5716 | |
| OnStor | 1.2.2, 1.2.3, 1.2.5, 1.2.6, 1.3.1 | Internal HBA | |
| HP-UX | 11i v1, 11iv2 | HP: A5158A, A6795A, A6826A, A9782A, A9784A, AB456A | |
| VMware ESX | 2.5.1, 2.5.2, 2.5.3 | QLogic: QLA2302, QLA2342, QLA2300, QLA2310, QLA2340, QLA2344, QLE2360, QLE2362 | |
| Egenera PAN Mgr | 4.0, 4.0.0.4, 4.0.1, 5.0 | Egenera supplied | |

Table 60 InServ Storage Server S400 (continued)

| Qualified Operating System | | Host Bus Adapter | Switch Fabric |
|----------------------------|----------------|--|--|
| Type | Version | | |
| Solaris | 8, 9, 10 SPARC | Sun: SG-XPCI1FC-QF2, SG-XPCI1FC-QF4, SG-XPCI2FC-QF2, SG-XPCI2FC-QF4, 6727A, 6799A, SG-XPCI1FC-EM4-Z, SG-XPCI2FC-EM4-Z, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 Emulex: LP8000, LP9002, LP9002DC, LP9402, LP10000, LP10000DC, LP9802, LP9802DC, LP11000, LP11002, LPe11000, LPe11002 QLogic: QLA2310FL, QLA2310F, QLA 2302F, QLA2340, QLA2340L, QLA2342, QLA2344, QLA2300, QCP2340, QCP2330, QCP2332, QSB2340, QLA2460, QLA2462, QLE2460, QLE2462, QSB2342, QCP2342 JNI: FC64-1063, FCI-1063, FCE6460, FCX-6562, FCX2-6562, FCE-1473, FCE2-1473 | MDS9500 MDS9216 MDS9216i 2.0(1b) 2.1(1a) 2.1(2b)\ 2.1(2e) 3.0(3) MDS9100 2.1(1a) 2.1(2b)\ 2.1(2e) 3.0(3) |
| | 10 x86 | Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCIE2FC-QB4-Z, SG-XPCI1FC-EM4-Z, SG-XPCI2FC-EM4-Z, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPI1FC-QF4, SG-XPCI2FC-QF4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 Emulex: LP10000, LP10000DC, LP11000, LP11002, LPe11000, LPe11002, LP10000ExDC QLogic: QLA2310FL, QLA2310F, QLA 2302F, QLA2340, QLA2340L, QLA2342, QLA2344, QLA2300, QLA2460, QLA2462, QLE2460, QLE2462, QLA2440, QLE2440 | |

Table 1-61 InServ Storage Server S800

| Qualified Operating System | | Host Bus Adapter | Switch Fabric |
|----------------------------|---------------------------------------|--|---|
| Type | Version | | |
| Windows 2000 | SP4 | QLogic: QLA2310F(L), QLA 2302F, QLA2340, QLA2342, QLA2344, QLA2302, QLA2460, QLA2462, QLE2360, QLE2362, QLE2460, QLE2462, QLA2300F, QLA2440, and QLE2440 Emulex: LP8000, LP9002(L,DC), LP9402, LP9802(DC), LP10000(DC),ExDC, LP1050, LP952, LP982, LP1050(DC,Ex), LPe1150, LPe11000, LPe11002 | MDS9500 MDS9216 MDS9216i 2.0(1b) 2.1(1a) 2.1(2b)\ 2.1(2e) 3.0(3) |
| Windows 2003 | SP1 (32 bit), X64, IA64 | | |
| Linux RH | AS 2.1, Enterprise 3.0 Enterprise 4.0 | | |
| Linux SUSE | SLES 9 | QLogic: QLA2310F(L), QLA 2302F, QLA2340, QLA2342, QLA2344, QLA2302, QLA2460, QLA2462, QLE2360, QLE2362, QLE2460, QLE2462 | MDS9100 2.1(1a) 2.1(2b)\ 2.1(2e) 3.0(3) |
| AIX | 5.1 | IBM: 6228, 6239 | |
| | 5.2 | IBM: 6228, 6239, 5716 | |
| | 5.3 | IBM: 5716 | |
| OnStor | 1.2.2, 1.2.3, 1.2.5, 1.2.6, 1.3.1 | Internal HBA | |
| HP-UX | 11i v1, 11iv2 | HP: A5158A, A6795A, A6826A, A9782A, A9784A, AB456A | |
| VMware ESX | 2.5.1, 2.5.2, 2.5.3 | QLogic: QLA2302, QLA2342, QLA2300, QLA2310, QLA2340, QLA2344, QLE2360, QLE2362 | |
| Egenera PAN Mgr | 4.0, 4.0.0.4, 4.0.1, 5.0 | Egenera supplied | |

Table 61 InServ Storage Server S800 (continued)

| Qualified Operating System | | Host Bus Adapter | Switch Fabric |
|----------------------------|----------------|--|--|
| Type | Version | | |
| Solaris | 8, 9, 10 SPARC | Sun: SG-XPCI1FC-QF2, SG-XPCI1FC-QF4, SG-XPCI2FC-QF2, SG-XPCI2FC-QF4, 6727A, 6799A, SG-XPCI1FC-EM4-Z, SG-XPCI2FC-EM4-Z, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 Emulex: LP8000, LP9002, LP9002DC, LP9402, LP10000, LP10000DC, LP9802, LP9802DC, LP11000, LP11002, LPe11000, LPe11002 QLogic: QLA2310FL, QLA2310F, QLA 2302F, QLA2340, QLA2340L, QLA2342, QLA2344, QLA2300, QCP2340, QCP2330, QCP2332, QSB2340, QLA2460, QLA2462, QLE2460, QLE2462, QSB2342, QCP2342 JNI: FC64-1063, FCI-1063, FCE6460, FCX-6562, FCX2-6562, FCE-1473, FCE2-1473 | MDS9500 MDS9216 MDS9216i 2.0(1b) 2.1(1a) 2.1(2b)\ 2.1(2e) 3.0(3) MDS9100 2.1(1a) 2.1(2b)\ 2.1(2e) 3.0(3) |
| | 10 x86 | Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCIE2FC-QB4-Z, SG-XPCI1FC-EM4-Z, SG-XPCI2FC-EM4-Z, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPI1FC-QF4, SG-XPCI2FC-QF4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 Emulex: LP10000, LP10000DC, LP11000, LP11002, LPe11000, LPe11002, LP10000ExDC QLogic: QLA2310FL, QLA2310F, QLA 2302F, QLA2340, QLA2340L, QLA2342, QLA2344, QLA2300, QLA2460, QLA2462, QLE2460, QLE2462, QLA2440, QLE2440 | |

XIOtech

Table 1-62 *Magnitude (Rel. 10.01/11.01), Magnitude 3D (Rel. 2.5/3.13), Magnitude 3D 3000 (Rel 4.1),*

| Operating System | | Host Bus Adapter | Switch Fabric |
|------------------|------------------------------------|--|---------------|
| Type | Version | | |
| Windows 2000 | Advanced Server (SP4) | QLogic: QLA2340, QLA2310, QLA2200 Emulex: LP9002L | MDS9500 |
| Windows 2003 | Standard and Enterprise Editions | | MDS9216 |
| Windows NT | 4.0 (SP6a) | QLogic: QLA2340, QLA2200, QLA2310F | 1.0(4) |
| MacOS | 10.3 | Apple: M9274G/B | 1.2(1a) |
| AIX | 4.3.3, 5.1 | Cambex: PC1000, PC2000 | 1.2(2a) |
| Linux | RedHat 8.0, AS 2.1, Enterprise 3.0 | QLogic: QLA 2340, QLA 2310F, QLA2200 | 1.3.(3) |
| | Suse United 1.0, SLES 9 | QLogic: QLA 2310F, QLA2340 | 1.3(4a) |
| HP-UX | 11, 11i | HP: A6795A Emulex: LP9002L | 2.0(3) |
| Netware | 5.1, 6, 6.5 | QLogic: QLA 2310F, QLA 2340, QLA 2200 | 2.1(2b) |
| VMware | ESX Server | QLogic: QLA2310F | 3.0(1) |
| Solaris | 7, 8, 9 | QLogic: QLA2310F, QLA2200, QLA 2202FS, QSB 2340 | 3.0(2a) |
| | | | 3.0(3) |
| | | | MDS9216i |
| | | | 2.0(3) |
| | | | 2.1(2b) |
| | | | 3.0(1) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | MDS9020 |
| | | | 2.1(2) |
| | | | MDS 9513 |
| | | | 3.0(1) |
| | | | 3.0(2a) |
| | | | 3.0(3) |

Table 1-63 Distance Extension

| Distance System | Maximum Distance | Network | Protocol | Storage System | Switch fabric |
|--|----------------------------|----------------------|-----------------------------|---|---|
| MDS IPS-8 MDS IPS-4 MPS-14/2 MDS9216i | See note after this table. | DWDM CWDM FCIP | Geo-Replication (Sync mode) | Magnitude 10.01, 11.01 Magnitude 3D 2.5, 3.13 Magnitude 3D 3000 4.1 | MDS9500 MDS9216 MDS9216i 1.3(3) 1.3(4a) 2.0(3) 2.1(2b) 3.0(1) 3.0(2a) 3.0(3) MDS9513 3.0(1) 3.0(2a) 3.0(3) |

**Note**

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 1-64 F825/F840/F880/FAS900 Data OnTap 6.5.2

| Operating System | | Host Bus Adapter | Switch Fabric |
|------------------|-----------------------|---|--|
| Type | Version | | |
| Windows 2000 | Advanced Server (SP3) | Emulex: LP9002L QLogic: QLA 2340 | MDS9500 MDS9216i MDS9216 |
| Windows 2003 | Enterprise Edition | | 1.3(4a) 2.1(1b) 2.1(2b) 3.0(1) 3.0(2a) |
| Solaris | 7, 8, 9 | | MDS9020 2.1(2) MD9513 3.0(1) 3.0(2a) |



Note

A Cisco MDS 9000 Family switch can support a clustered pair of F825, F880, and FAS900 Series storage appliances, and R150 NearStore systems. The switch must be zoned prior attaching the filer.

Pillar Data Systems

Table 1-65 Axiom Storage System 500

| Operating System | | Host Bus Adapter | Multipath (APM driver) | Switch Fabric |
|------------------|---|--|------------------------|---|
| Type | Version | | | |
| windows 2000 | Server with SP4 (x86); Advanced Server with SP4 (x86) | Qlogic: QLA2200, QLA2310, QLA2340/42/44, QLE2462 Emulex: LP952L, LP982, LP1050, LP9002/DC, LP9402DC, LP9802/DC, LP10000/DC, LP11002 | 2.0.5 | MDS9500 MDS9216i MDS9216A MDS9100 2.0(1b) 2.1(1a) 2.1(1b) 2.1(2e) 3.0(1) 3.0(2a) 3.0(1) |
| Windows 2003 | Standard Edition with SP1 (x86, x64); Enterprise Edition with SP1 (x86, x64, IA64) | Qlogic: QLA2310, QLA2340/42/44, QLE2462 Emulex: LP952L, LP982, LP1050, LP9002/DC, LP9402DC, LP9802/DC, LP10000/DC, LP11002 | | |
| Linux | RedHat ES 3.0 | Qlogic: QLA2340/2/4, QLE2462 | 2.0.4 | MDS9020 2.1(2) 2.1(3) |
| | SUSE 9 | Qlogic: QLA2340/42/44, QLA2460/62, QLE2462 Emulex: LP10000/DC | | |
| Solaris | 8, 9 | Qlogic: QLA2200, QLA2310, QLA2340/42/44, QCP2340/42 Emulex: LP9002/DC, LP9402DC, LP9802/DC, LP10000/DC | 01.04.05 | MDS9513 3.0(1) 3.0(2a) 3.0(1) |
| AIX | 5.2, 5.3 | IBM: 5716, 6228, 6239 | 2.0.6 | |
| ONStor | EverON 1.2.8.6 | Internal HBA | | |
| VMware ESX | 2.5.2 | Qlogic: QLA2310, QLA234x | | |

Apple Computer

Table 1-66 Xserve RAID

| Operating System | | Host Bus Adapter | Switch Fabric |
|------------------|-----------------------|----------------------------------|---|
| Type | Version | | |
| Windows 2000 | Advanced Server (SP4) | LSI: 44929O QLogic: QLA 2310F | MDS9500 MDS9216 MDS9100 |
| MacOS X Server | 10.3.2 | Apple: Dual FC HBA P/N M8940 G/D | 1.3(4a) 2.0(1b) 2.1(1b) 2.1(2b) 3.0(2a) MDS9216i 2.0(1b) 2.1(1b) 2.1(2b) 3.0(2a) |

ATTO

Table 1-67 ATTO Diamond V Class Array

| Operating System | | Host Bus Adapter | Switch Fabric |
|---------------------|--------------------|--------------------------------|---|
| Type | Version | | |
| Windows Server 2003 | Enterprise Edition | ATTO: FC3300, FC-21PS, FC-22XH | MDS9500 MDS9216 MDS9100 |
| Solaris | 9 | ATTO: FC-21PS | 1.3(4a) 2.0(1b) 2.1(1b) 2.1(2b) |
| MacOS X Server | 10.3.9 | ATTO: FC-21PS | MDS9216i 2.0(1b) 2.1(1b) 2.1(2b) |

Nexsan

Table 1-68 *ATABoy-2X*

| Qualified Operating System | | Host Bus Adapter | Switch Fabric |
|----------------------------|-----------------------|------------------|--|
| Type | Version | | |
| Windows 2000 | Advanced Server (SP3) | QLogic: QLA 2312 | MDS9500 MDS9200 MDS9100 MDS 9216i 1.2(1a) 1.2(2a) 2.1(1b) 2.1(2b) |
| Windows 2003 | | | |
| RedHat | 9 | | |
| RHEL | Update 3 | | |

Table 1-69 *ATAbeast*

| Qualified Operating System | | Host Bus Adapter | Switch Fabric |
|----------------------------|-----------------------|------------------|--|
| Type | Version | | |
| Windows 2000 | Advanced Server (SP3) | QLogic: QLA 2312 | MDS9500 MDS9200 MDS9100 MDS 9216i 1.2(1a) 1.2(2a) 2.1(1b) 2.1(2b) |
| Windows 2003 | | | |
| RedHat | 9 | | |
| RHEL | Update 3 | | |

Table 1-70 *SATABoy*

| Qualified Operating System | | Host Bus Adapter | Switch Fabric |
|----------------------------|-----------------------|------------------|--|
| Type | Version | | |
| Windows 2000 | Advanced Server (SP3) | QLogic: QLA 2312 | MDS9500 MDS9200 MDS9100 MDS 9216i 1.2(1a) 1.2(2a) 2.1(1b) 2.1(2b) |
| Windows 2003 | | | |
| RedHat | 9 | | |
| RHEL | Update 3 | | |



CHAPTER 2

HBA Interoperability Matrix

This chapter lists Host Bus Adapter (HBA) models tested by Cisco's Solution-Interoperability Engineering group (iLAB) and /or self-certified by OEMs or Partners.

| HBA Vendor | Page |
|------------------------|------|
| Emulex | 2 |
| QLogic | 3 |
| JNI | 4 |
| SUN | 5 |
| LSI | 6 |

Customer Order Number:

Emulex

Table 2-1 Emulex

| Operating System | | HBA Model | Switch Fabric |
|------------------|--|---|--|
| Type | version | | |
| Windows 2000 AS | SP3 and higher | LP8000, LP850, LP9002, LP9802, LP982 LP9802DC LP10000, LP10000DC, LP10000ExDC, LP1050, LP1050Ex LPe 11000, LPe 11002, LPe1150 LP11000, LP11002, LP1150 | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 up to 3.1.2(a) |
| Windows 2003 | SP1 | | |
| Linux | RedHat 7.3, 8, 2.1, 3.0, 4.0 & higher | LP9000, LP9802, LP982, LP9002DC LP10000, LP10000DC, LP10000ExDC, LP1050, LP1050Ex LPe 11000, LPe 11002, LPe1150 LP11000, LP11002, LP1150 LP1050(DC,Ex), LPe1150, LPe11000, LPe11002 | MDS 9124 3.1(2) |
| | SLES 8, 10 & higher | | |
| Netware | 6.0, 6.5 | LP9002, LP9002DC | |
| Solaris | 7, 8, 9, 10 | LP8000, LP9002, LP9802, LP9802DC LP9002S, LP9002S LP10000, LP10000DC, LP10000ExDC LPe 11000, LPe 11002 LP11000, LP11002 | |
| | 10 x86 | | |
| | | Sun: SG-XPCI1FC-QF2, SG-XPCI2FC-QF2, SG-XPCiE2FC-QB4-Z, SG-XPCI1FC-EM4-Z, SG-XPCI2FC-EM4-Z, SG-XPCIE1FC-EM4, SG-XPCIE2FC-EM4, SG-XPI1FC-QF4, SG-XPCI2FC-QF4, SG-XPCIE1FC-QF4, SG-XPCIE2FC-QF4, SG-XPCI1FC-EM2, SG-XPCI2FC-EM2 Emulex: LP10000, LP10000DC, LP11000, LP11002, LPe11000, LPe11002, LP10000ExDC | |

QLogic

Table 2-2 Qlogic

| Operating System | | HBA Model | Switch Fabric |
|------------------|--|--|---|
| Type | version | | |
| Windows 2000 AS | SP3 and higher | QLA2310F(L), QLA 2302F, QLA2340, QLA2342, QLA2344, QLA2302, QLA2460, QLA2462, QLE2360, QLE2362, QLE2460, QLE2462, QLE2464, QLA2462, QLA2200, QLA2300, QLA2310, QLA2340, QLA2342 | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 up to 3.1.2(a) MDS 9124 3.1(2) |
| Windows 2003 | SP1 | | |
| Linux | RedHat 7.3, 8, 2.1, 3.0, 4.0 & higher | QLA2462, QLA2300, QLA2310, QLA 2340, QLA 2462, QLA2310F(L), QLA 2302F, QLA2340, QLA2342, QLA2344, QLA2302, QLA2460, QLA2462, QLE2360, QLE2362, QLE2460, QLE2462, QLE2464 | |
| | SLES 7 United Linux 1.0 (SLES 8) & higher | | |
| Netware | 6.0, 6.5 | QLA2200, QLA2300, QLA2310, QLA2340, QLA2342, QLA2462, | |
| Solaris | 2.6, 7, 8, 9, 10 | QLA2200, QLA2340, QLA2342, QLA2310FL, QLA2310F, QLA 2302F, QLA2340, QLA2340L, QLA2342, QLA2344, QLA2300, QCP2340, QCP2330, QCP2332, QSB2340, QLA2460, QLA2462, QLE2460, QLE2462, QLE2464, QSB2342, QCP2342 | |

JNI

Table 2-3 *JNI*

| Operating System | | HBA Model | Switch Fabric |
|------------------|-------------------------------------|--|---|
| Type | version | | |
| Windows 2000 AS | SP3 and higher | FCE-6410, FCE-6460, Zentai 9400, Zentai 9500 | MDS9500 MDS9216 MDS9100 up to 2.1(2b) MDS9216i 2.0(1b) |
| Windows 2003 | SP1 | | |
| Linux | RedHat 7.3, 8, 2.1, 3.0 | FCE-6410, FCE-6460 | |
| | SLES 7 United Linux 1.0 (SLES 8) | | |
| Netware | 6.0, 6.5 | FCE-6410, FCE-6460 | |
| Solaris | 2.6, 7, 8, 9 | FCI-1063, FC64-1063, FCE-6460, FCE-1063, FCE-1473 | |

SUN

Table 2-4 Sun

| Operating System | | HBA Model | Switch Fabric |
|------------------|------------------|--|---|
| Type | version | | |
| Solaris | 2.6, 7, 8, 9, 10 | SG-XPCI1FC-QF2, SG-XPCI2FC-QF2 X6799A, X6727A, X6767A, SG-XPCI1FC-QF2, SG-XPCI1FC-QF4, SG-XPCI2FC-QF2, SG-XPCI2FC-QF4, 6727A, 6799A, SG-XPCI1FC-EM4-Z, SG-XPCI2FC-EM4-Z, SG-XPCIE1FC-EM4, SG-XPCIE1FC-EM4, SG-XPCIE1FC-QF4, SG-XPCIE1FC-QF4 | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 up to 3.1.2(a) MDS 9124 3.1(2) |

LSI

Table 2-5 LSI

| Operating System | | HBA Model | Switch Fabric |
|------------------|----------------|---------------------------------|--------------------------|
| Type | version | | |
| Windows 2000 | SP3 and higher | LSI44929O, ITI7004G2, LSI7102XP | MDS9500 |
| Windows 2003 | SP1 | | MDS9216 |
| Solaris | 2.6, 7, 8, 9 | | MDS9100 up to 3.0(2a) |
| | | | MDS9216i 2.0(1b) |
| | | | MDS9513 3.0(2a) |



Note

Refer to the LSI website for the latest matrix:
http://www.lsilogic.com/products/fibre_channel_hbas/lsi7104xp_lc.html.



CHAPTER 3

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.

| Vendor | Tape Library Model | Page |
|------------------|------------------------------------|------|
| IBM | IBM 3590 /3592 E11/E1A and H11/H1A | 3 |
| | IBM Ultrium 3584 UltraScalable | 4 |
| | IBM Ultrium 3583 Scalable | 5 |
| | IBM Ultrium 3582 | 6 |
| ADIC | Scalar 100 | 7 |
| | Scalar i2000 | 8 |
| | Scalar 1000 | 9 |
| | Scalar 10000 | 10 |
| StorageTek | L180 | 11 |
| | L700e | 12 |
| | L8500 | 13 |
| | SL500 | 13 |
| Quantum ATL | M2500 | 14 |
| | P7000 | 14 |
| | DX30 | 15 |
| HP | HP MSL5030 | 16 |
| | HP Ultrium 460 | 16 |
| Overland Storage | Neo Series | 17 |
| ATTO | FB 4500 | 19 |

Customer Order Number:

| Vendor | Tape Library Model | Page |
|-------------------|---|------|
| ATTO | FB 1290 | 19 |
| Crossroad Systems | Storage Routers 8000 /6000/10000 | 20 |
| | Storage Routers 4250 | 21 |
| Tape Acceleration | SAN-OS 2.x, 3.x Tape Acceleration Feature | 22 |

IBM

Table 3-1 IBM 3590 /3592 E11/E1A and H11/H1A

| Operating System | | Tape Drive Models | Switch Fabric |
|------------------|--|--|---------------|
| Type | Version | | |
| AIX | 5.1, 5.2, 5.3 | Native FC standalone or in a 3494 tape library or Silo | MDS9513 |
| Windows 2003 | Standard Edition Enterprise Edition | | MDS9509 |
| Windows 2000 | Server Advanced Server (SP3 or later) | | MDS9506 |
| | | | MDS9216A |
| Linux | RH 2.1 & higher | | MDS9216i |
| | SLES 7 & higher | | MDS9140 |
| Solaris | 2.6, 7, 8, 9, 10 | 3.0(2) | |
| HP-UX | 11.0, 11.11, 11.23 | 3.0(2a) | |
| | | 3.0(3) | |
| | | 3.1(2a) | |
| | | MDS9214 | |
| | | 3.1(2a) | |
| | | MDS9020 | |
| | | 2.1(2) | |
| | | Blade Center Embedded Switch | |
| | | 3.1(2a) | |

Table 3-2 IBM Ultrium 3584 UltraScalable

| Operating System | | Tape Drive Models | Switch Fabric |
|------------------|--|---------------------------------|---------------|
| Type | Version | | |
| AIX | 5.1, 5.2, 5.3 | IBM: LTO-3 FC LTO-2 FC | MDS9513 |
| Windows 2003 | Standard Edition Enterprise Edition | | MDS9509 |
| Windows 2000 | Server | | MDS9506 |
| | Advanced Server (SP3 or later) | | MDS9216A |
| Linux | RH 2.1 & higher | | MDS9216i |
| | SLES 7 & higher | | MDS9140 |
| Solaris | 2.6, 7, 8, 9, 10 | | 3.0(2) |
| HP-UX | 11.0, 11.11, 11.23 | | 3.0(2a) |
| OS/400 | V5R2, V5R3 | 3.0(3) | |
| | | 3.1(2a) | |
| | | MDS9214 | |
| | | 3.1(2a) | |
| | | MDS9020 | |
| | | 2.1(2) | |
| | | Blade Center Embedded Switch | |
| | | 3.1(2a) | |

Table 3-3 IBM Ultrium 3583 Scalable

| Operating System | | Tape Drive Models | IBM iSCSI Support | Switch Fabric |
|------------------|--|---|-------------------|--|
| Type | Version | | | |
| AIX | 5.1, 5.2, 5.3 | Native FC LTO-2, LTO-3 or Integrated SDG Module | No | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 3.0(2) 3.0(2a) 3.0(3) 3.1(2a) |
| Windows 2003 | Standard Edition Enterprise Edition | | Yes | |
| Windows 2000 | Server Advanced Server (SP3 or later) | | | |
| Linux | RH 2.1 & higher | | | |
| | SLES 7 & higher, 9, 10 | | No | |
| Solaris | 2.6, 7, 8, 9, 10 | | | |
| HP-UX | 11.0, 11.11, 11.23 | | | |
| OS/400 | V5R2, V5R3 | FC LTO-2, LTO-3 | | MDS9020 2.1(2) Blade Center Embedded Switch 3.1(2a) |

Table 3-4 IBM Ultrium 3582

| Operating System | | Tape Drive Models | IBM iSCSI Support | Switch Fabric |
|------------------|--|--------------------------|-------------------|---|
| Type | Version | | | |
| AIX | 5.1, 5.2 | Native FC LTO-2 LTO-3 | No | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 3.0(2) 3.0(2a) 3.0(3) 3.1(2a) MDS9214 3.1(2a) MDS9020 2.1(2) Blade Center Embedded Switch 3.1(2a) |
| Windows 2003 | Standard Edition Enterprise Edition | | Yes | |
| Windows 2000 | Server Advanced Server (SP3 or later) | | | |
| Linux | RH 2.1 & higher | | | |
| | SLES 7 & higher | | No | |
| Solaris | 2.6, 7, 8, 9, 10 | | | |
| HP-UX | 11.0, 11.11, 11.23 | | | |

ADIC

Table 3-5 Scalar 100

| Operating System | | Tape Drive Models | Switch Fabric |
|------------------|-----------------------|---|--|
| Type | Version | | |
| Windows NT | 4.0 (SP6a) | IBM: LTO-1, LTO-2, LTO-3 Qntm ATL: SDLT 220, 320 | MDS9513 |
| Windows 2000 AS | Advanced Server (SP3) | | MDS9509 |
| Windows 2003 | Enterprise | | MDS9506 |
| AIX | 5.1, 5.2, 5.3 | Sony: AIT-2, AIT-3 | MDS9216A |
| HPUX | 11.0, 11.11, 11.23 | | MDS9216i |
| Solaris 8 | 8, 9, 10 | SNC5100 | MDS9140 |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | 3.1(2) |
| | | | 3.1(2a) |
| | | | MDS9214 |
| | | | 3.1(2) |
| | | | MDS9020 |
| | | | 2.1(2) |
| | | | Blade Center Embedded Switch 3.1(2a) |

Table 3-6 Scalar i2000

| Operating System | | Tape Drive Models | Switch Fabric |
|------------------|-----------------------|-----------------------------|------------------------------|
| Type | Version | | |
| Windows NT | 4.0 (SP6a) | IBM: LTO-1, LTO-2, LTO-3 | MDS9513 |
| Windows 2000 | Advanced Server (SP3) | | MDS9509 |
| Windows 2003 | Enterprise | | MDS9506 |
| Solaris | 8, 9, 10 | | MDS9216A |
| | | | MDS9216i |
| | | | MDS9140 |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | 3.1(2a) |
| | | | MDS9214 |
| | | | 3.1(2a) |
| | | | MDS9020 |
| | | | 2.1(2) |
| | | | Blade Center Embedded Switch |
| | | | 3.1(2a) |

Table 3-7 Scalar 1000

| Operating System | | Tape Drive Models | Switch Fabric |
|------------------|-----------------------|-----------------------------|---------------------------------|
| Type | Version | | |
| Windows NT | 4.0 (SP6a) | IBM: LTO-1, LTO-2, LTO-3 | MDS9513 |
| Windows 2000 AS | Advanced Server (SP3) | | MDS9509 |
| Windows 2003 | Enterprise | Qntm ATL: SDLT 220, 320 | MDS9506 |
| AIX | 5.1, 5.2, 5.3 | | MDS9216A |
| HPUX | 11.0, 11.11, 11.23 | Sony: AIT-2, AIT-3 | MDS9216i |
| Solaris 8 | 8, 9, 10 | | MDS9140 |
| | | SNC5100 | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | 3.1(2a) |
| | | | MDS9214 |
| | | | 3.1(2a) |
| | | | MDS9020 |
| | | | 2.1(2) |
| | | | Blade Center Embedded Switch |
| | | | 3.1(2a) |

Table 3-8 Scalar 10000

| Operating System | | Tape Drive Models | Switch Fabric |
|------------------|-----------------------|-----------------------------|---------------------------------|
| Type | Version | | |
| Windows NT | 4.0 (SP6a) | IBM: LTO-1, LTO-2, LTO-3 | MDS9513 |
| Windows 2000 AS | Advanced Server (SP3) | | MDS9509 |
| Windows 2003 | Enterprise | Qntm ATL: | MDS9506 |
| AIX | 5.1, 5.2, 5.3 | SDLT 220, 320 | MDS9216A |
| HPUX | 11.0, 11.11, 11.23 | | MDS9216i |
| Solaris 8 | 8, 9, 10 | Sony: AIT-2, AIT-3 | MDS9140 |
| | | | 3.0(2) |
| | | SNC5100 | 3.0(2a) |
| | | | 3.0(3) |
| | | 3.1(2a) | |
| | | | MDS9214 |
| | | | 3.1(2a) |
| | | | MDS9020 |
| | | | 2.1(2) |
| | | | Blade Center Embedded Switch |
| | | | 3.1(2a) |

StorageTek

Table 3-9 L180

| Operating System | | Tape Drive Models | Switch Fabric |
|------------------|-----------------------------------|--|---------------------|
| Level | version | | |
| Windows 2000 | Advanced Server (SP2 or later) | STK: 9840B FC 9840B FC 9840C FC 9940A FC 9940B FC T10000 FC 2G T10000 FC 4G IBM: LTO Gen-2 FC LTO Gen-3 FC 2G LTO Gen-3 FC 4G HP: LTO Gen-2 FC LTO Gen-3 FC 2G LTO Gen-3 FC 4G | MDS9513 |
| Windows 2003 | Enterprise | | MDS9509 |
| AIX | 5.1, 5.2, 5.3 | | MDS9506 |
| HPUX | 11.0, 11.11, 11.23 | | MDS9216A |
| Solaris | 7, 8, 9, 10 | | MDS9216i |
| | | | MDS9140 |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | 3.1(2) ¹ |
| | | | MDS9214 |
| | | | 3.1(2) |
| | | | MDS9020 |
| | | | 2.1(2) |

1. SAN-OS 3.1(2) is available from Sun Microsystems through the Get-To-Yes process.

Table 3-10 L700e

| Operating System | | Tape Drive Models | Switch Fabric |
|------------------|--------------------------------|---|---------------------|
| Level | version | | |
| Windows 2000 | Advanced Server (SP2 or later) | 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 2G LTO Gen-3 FC 4G HP: LTO Gen-2 FC LTO Gen-3 FC 2G LTO Gen-3 FC 4G Quantum: SDLT-600 2G FC | MDS9513 |
| Windows 2003 | Enterprise | | MDS9509 |
| AIX | 5.1, 5.2, 5.3 | | MDS9506 |
| HPUX | 11.0, 11i | | MDS9216A |
| Solaris | 7, 8, 9, 10 | | MDS9216i |
| | | | MDS9140 |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | 3.1(2) ¹ |
| | | | MDS9214 |
| | | | 3.1(2) |
| | | | MDS9020 |
| | | | 2.1(2) |

1. SAN-OS 3.1(2) is available from Sun Microsystems through the Get-To-Yes process.

Table 3-11 L8500

| Operating System | | Tape Drive Models | Switch Fabric |
|------------------|--------------------------------|---|---------------------|
| Level | version | | |
| Windows 2000 | Advanced Server (SP2 or later) | STK: 9840A FC 9840B FC 9840C FC 9940A FC 9940B FC T10000 FC 2G T10000 FC 4G | MDS9513 |
| Windows 2003 | Enterprise | | MDS9509 |
| AIX | 5.1, 5.2, 5.3 | | MDS9506 |
| HPUX | 11.0, 11i | | MDS9216A |
| Solaris | 7, 8, 9, 10 | | MDS9216i |
| | | | MDS9140 |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | 3.1(2) ¹ |
| | | IBM: LTO Gen-2 FC LTO Gen-3 FC 4G | MDS9214 |
| | | | 3.1(2) |
| | | HP: LTO Gen-2 FC LTO Gen-3 FC 4G | MDS9020 |
| | | | 2.1(2) |
| | | Quantum: SDLT-600 2G FC | |

1. SAN-OS 3.1(2) is available from Sun Microsystems through the Get-To-Yes process.

Table 3-12 SL500

| Operating System | | Tape Drive Model | Switch Fabric |
|------------------|--------------------------------|---|---------------------|
| Level | version | | |
| Windows 2000 | Advanced Server (SP2 or later) | IBM: LTO Gen-2 FC LTO Gen-3 FC 4G | MDS9513 |
| Windows 2003 | Enterprise | | MDS9509 |
| AIX | 5.1, 5.2, 5.3 | Quantum: SDLT-600 2G FC SDLT-320 2G FC | MDS9506 |
| HPUX | 11.0, 11i | | MDS9216A |
| Solaris | 7, 8, 9, 10 | HP: LTO Gen-2 FC LTO Gen-3 FC 4G | MDS9216i |
| | | | MDS9140 |
| | | | 3.0(2) |
| | | | 3.0(2a) |
| | | | 3.0(3) |
| | | | 3.1(2) ¹ |
| | | | MDS9214 |
| | | | 3.1(2) |
| | | | MDS9020 |
| | | | 2.1(2) |

1. SAN-OS 3.1(2) is available from Microsystems through the Get-To-Yes process.

Quantum ATL

Table 3-13 M2500

| Operating System | | Host Bus Adapter | Tape Drive Models | Switch Fabric |
|------------------|-----------------------|------------------------------|---|---|
| Type | Version | Model | | |
| Windows NT | 4.0 (SP6a) | Emulex: LP8000, LP982 | Qntm ATL: SDLT 220/600 | MDS9513 MDS9509 MDS9506 |
| Windows 2000 | Advanced Server (SP3) | | | |
| Solaris | 8, 9, 10 | Emulex: LP9802 | bridge: ATTO FC420, FB4500 FB1290 | MDS9216A MDS9216i MDS9140 3.0(2) 3.0(2a) 3.0(3) 3.1(2) 3.1(2a) |
| | | JNI: FC64-1063 | | |
| | | | | MDS9214 3.1(2) |
| | | | | MDS9020 2.1(2) |

Table 3-14 P7000

| Operating System | | Host Bus Adapter | Tape Drive Models | Switch Fabric |
|------------------|-----------------------|--|-----------------------|---|
| Type | Version | | | |
| Windows NT | 4.0 (SP6a) | Emulex: LP8000, LP982 | Qntm ATL: DLT 8000 | MDS9513 MDS9509 MDS9506 |
| Windows 2000 | Advanced Server (SP3) | | | |
| Solaris | 8, 9,10 | Emulex: LP9802 JNI: FC64-1063 | IBM: LTO-1 FC | MDS9216A MDS9216i MDS9140 3.0(2) 3.0(2a) 3.0(3) 3.1(2) 3.1(2a) |
| | | | | |
| | | | | MDS9214 3.1(2) |
| | | | | MDS9020 2.1(2) |

Table 3-15 DX30

| Operating System | | Host Bus Adapter | Tape Drive Models | Switch Fabric |
|------------------|-----------------------|--|-------------------|--|
| Type | Version | | | |
| Windows NT | 4.0 (SP6a) | Emulex: LP8000 QLogic: QLA 2200 | Qntm ATL: SDLT | MDS9513 3.0(1) |
| Windows 2000 | Advanced Server (SP3) | | | MDS9500 MDS9216 MDS9100 |
| Solaris 8 | 8 | Emulex: LP8000 | | 2.0(2b) 2.1(1b) 2.1(2b) 3.0(1) |
| AIX 4.3.3 | 4.3.3 | IBM: 6228 | | MDS9216i 2.0(1b) 2.0(2b) 2.1(1b) 2.1(2b) 3.0(1) |
| | | | | MDS9020 2.1(2) |

HP

Table 3-16 HP MSL5030

| Operating System | | Host Bus Adapter | Tape Drive Models | Switch Fabric |
|------------------|-----------------------|----------------------|-------------------------------------|--|
| Level | version | Models | | |
| Windows 2000 | Advanced Server (SP3) | HP: FCA2355, FCA2101 | HP: LTO-1 HP: NSR FC-SCSI bridge | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 3.0(2) 3.0(2a) 3.0(3) 3.1(2) 3.1(2a) MDS9214 3.1(2) MDS9020 2.1(2) |
| Solaris | 9 | HP: FCA2257P | | |

Table 3-17 HP Ultrium 460

| Qualified Operating System | | Host Bus Adapter | Tape Drive Models | Switch Fabric |
|----------------------------|-----------------------|----------------------|-------------------------|--|
| Level | version | Model | | |
| Windows 2000 | Advanced Server (SP3) | HP: FCA2355, FCA2101 | HP: Ultrium 460 FC tape | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 3.0(2) 3.0(2a) 3.0(3) 3.1(2) 3.1(2a) MDS9214 3.1(2) MDS9020 2.1(2) |

Overland Storage

Table 3-18 Neo Series

| Operating System | | Host Bus Adapter | Tape Drive Models | Switch Fabric |
|------------------|-----------------------|------------------------|---|--|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP3) | QLogic: QLA2300 | HP: LTO-1, LTO-2 Qntm ATL: SDLT320 | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i MDS9140 |
| | | Emulex: LP9802 | HP: LTO-1, LTO-2 Qntm ATL: SDLT320 | 3.0(2) 3.0(2a) 3.0(3) 3.1(2) 3.1(2a) MDS9214 3.1(2) MDS9020 2.1(2) |

SONY

Table 3-19 PetaSite

| Operating System | | Host Bus Adapter | Tape Drive Models | Switch Fabric |
|------------------|---------------------------------------|--|---------------------------------------|---------------|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP2) | Emulex: LP9802 | SONY: SDZ 100 SAIT SDZ 130 SAIT | MDS9513 |
| Solaris | 8, 9 | Emulex: LP8000, LP9002 QLogic: QLA2310, QLA2342 Sun: X6767A, X6727A | | MDS9509 |
| Irix | 6.5.18m, 6.5.19m, 6.5.21m & APD2.7 | SGI: PCI-FC-1P (QLA2200) QLogic: QLA2340 | | MDS9506 |
| HP-UX | 11i | HP: A5158A Emulex: LP9002 | | MDS9216A |
| Linux | RedHat 8 | QLogic: QLA2300 | | MDS9216i |
| | | | | MDS9140 |
| | | | | 3.0(2) |
| | | | | 3.0(2a) |
| | | | | 3.0(3) |
| | | | | 3.1(2) |
| | | | | 3.1(2a) |
| | | | | MDS9214 |
| | | | | 3.1(2) |
| | | | | MDS9020 |
| | | | | 2.1(2) |

ATTO

Table 3-20 *FB 4500*

| Operating System | | Host Bus Adapter | Tape Drive Models | Switch Fabric |
|------------------|-----------------------|-----------------------|-----------------------|---------------|
| Type | Version | Model | | |
| Windows NT | 4.0 (SP6a) | Emulex: LP8000, LP982 | Qntm ATL: SDLT 220 | MDS9513 |
| Windows 2000 | Advanced Server (SP3) | | | MDS9509 |
| | | MDS9506 | | |
| Solaris | 8, 9, 10 | Emulex: LP9802 | MDS9216A | MDS9216i |
| | | JNI: FC64-1063 | MDS9140 | 3.0(2) |
| | | | 3.0(2a) | 3.0(3) |
| | | | 3.1(2) | 3.1(2a) |
| | | | MDS9214 | 3.1(2) |
| | | | MDS9020 | 2.1(2) |

Table 3-21 *FB 1290*

| Operating System | | Host Bus Adapter | Tape Drive Models | Switch Fabric |
|------------------|-----------------------|-----------------------|-----------------------|---------------|
| Type | Version | | | |
| Windows NT | 4.0 (SP6a) | Emulex: LP8000, LP982 | Qntm ATL: DLT 8000 | MDS9513 |
| Windows 2000 | Advanced Server (SP3) | | | MDS9509 |
| | | | IBM: LTO-1 FC | MDS9506 |
| Solaris | 8,9,10 | Emulex: LP9802 | MDS9216A | MDS9216i |
| | | JNI: FC64-1063 | MDS9140 | 3.0(2) |
| | | | 3.0(2a) | 3.0(3) |
| | | | 3.1(2) | 3.1(2a) |
| | | | MDS9214 | 3.1(2) |
| | | | MDS9020 | 2.1(2) |

Crossroad Systems

Table 3-22 Storage Routers 8000 /6000/10000

| Operating System | | Host Bus Adapter | Model | Cisco Tested | Switch Fabric |
|------------------|---------|---------------------------------|-------------------------------------|--------------|--|
| Type | Version | | | | |
| Solaris | 8 | QLogic: QLA2200, QLA2342 | CR 8000 fw: 4.03.27 | Yes | MDS9513 3.0(1) |
| | | JNI: FCE 1473 | CR 10000 (set at 2G) 4.0.3.27 | | MDS9500 MDS9216 MDS9100 |
| | | JNI: FCE 1473 | CR 6000 | | 1.1(1) 1.2(1a) 1.3(4a) 2.0(1b) 2.0(2b) 2.1(1b) 2.1(2b) 3.0(1) |
| | | | | | MDS9020 2.1(2) |

Table 3-23 Storage Routers 4250

| Operating System | | Host Bus Adapter | Model | Cisco Tested | Switch Fabric |
|------------------|---------|------------------|--------------------------|--------------|--|
| Type | Version | | | | |
| Windows 2000 | AS | QLogic: QLA2200 | CR 4250 fw: 306 2009m | Yes | MDS9513 3.0(1) |
| | | Emulex: LP9002DC | | | MDS9500 MDS9216 MDS9100 1.1(1) 1.2(1a) 1.3(2a) 1.3(4a) 2.0(1b) 2.0(2b) 2.1(1b) 2.1(2b) 3.0(1) |
| | | | | | MDS9020 2.1(2) |

Tape Acceleration

Table 3-24 SAN-OS 2.x, 3.x Tape Acceleration Feature

| Tape Drive | Veritas Net Backup | Legato Networker | CA BrightStor | HP Data Protector | Commvault Galaxy | IBM TSM |
|-------------------|--------------------|------------------|---------------|-------------------|------------------|---------|
| IBM LTO-2 | ✓ | ✓ | ✓ | | ✓ | ✓ |
| IBM LTO-1 | ✓ | ✓ | ✓ | | ✓ | ✓ |
| IBM 3590/3592 | ✓ | ✓ | ✓ | | ✓ | ✓ |
| HP LTO-2 | ✓ | ✓ | ✓ | ✓ | | |
| HP LTO-1 | ✓ | ✓ | ✓ | ✓ | | |
| HP NSR Bridge | | | | ✓ | | |
| Crossroad Systems | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| STK T9840 | ✓ | ✓ | ✓ | | ✓ | |
| STK T9940 | ✓ | ✓ | ✓ | | ✓ | |
| EMC CDL | ✓ | ✓ | | | | ✓ |
| Sony SAIT | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Quantum SDLT | ✓ | ✓ | ✓ | | ✓ | ✓ |



CHAPTER 4

Fabric Services Interoperability Matrix

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

- [SANTap DVT Interoperability Support Matrix](#)
- [Network Accelerated Serverless Backup \(NASB\)](#)

Customer Order Number:

SANTap DVT Interoperability Support Matrix

| Storage Partner | Storage System Model | Page |
|------------------|--|------|
| HDS | TagmaStore Universal Storage Platform (USP), Adaptable Modular Storage, Lightning, and Thunder, | 3 |
| IBM | ESS 2105 model 800, ESS 2105 model F10/F20, DS 8000 Series, DS400 (FAStT 700), DS4500 (FAStT 900) | 4 |
| HP | HP XP12000, HP XP128, XP1024, HP XP48, XP512, HP EVA GL -- 3000 (HSV100, HSV101), 5000 (HSV200, HSV201, HP EVA XL -- 4000 (HSV200, HSV201), 6000 (HSV200, HSV201), 8000 (2Gb or 4Gb)(HSV210) | 5 |
| EMC ¹ | Symmetrix DMX, DMX3, CX500, CX700 | 6 |

1. For EMCSANTap/RecoverPoint support, use the EMC e-Lab Navigator web tool.

HDS

Table 4-1 TagmaStore Universal Storage Platform (USP), Adaptable Modular Storage, Lightning, and Thunder

| Operating System | | Host Bus Adapter | HDLM Multipath Support | Switch Fabric SAN-OS/SSI |
|------------------|-----------------------|--|------------------------|---|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 QLogic: QLA2340, QLA2342, QLA2344 | Yes | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i 3.0(1)/3.0.1 3.0(2)/3.0.2m 3.0(3)/3.0.3i |
| Windows 2003 | Enterprise Edition | Emulex: LP10000, LP10000DC, LP1050, LP1050DC, LP9802, LP9802DC, LP982, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000, LP8000, LP850 QLogic: QLA2340, QLA2342, QLA2344 | | |
| Netware | 6.5 SP5 | QLogic: QLA2300F, QLA2310F, QLA2340, QLA2342, QLA2344 | | |
| HPUX | 11.0, 11i | HP: A5158A, A6795A | | |
| Solaris | 7, 8, 9, 10 | Emulex: LP10000, LP9802, LP9002, LP9002L, LP9002DC, LP9402DC, LP952L, LP9000 JNI: FCE-1473, FCE-6410, FCE2-6410, FCE2-6412, FCE-6460N SUN: SG-XPCI1FC-JF2, SG-XPCI2FC-JF2, X6727A, X6799A | | |
| Linux | RedHat AS 3.0 SLES 9 | Emulex: LP9000, LP952L, LP9002, LP9002L, LP9002DC, LP9402DC, LP9802 QLogic: QLA2340, QLA2342, QLA2344 | | |



Note

Refer to the following link for SAN-OS Release Compatibility Matrix for Storage Service Module:
http://www.cisco.com/en/US/products/ps5989/products_device_support_table09186a0080485272.html

IBM

Table 4-2 *ESS 2105 model 800, ESS 2105 model F10/F20, DS 8000 Series, DS400 (FAStT 700), DS4500 (FAStT 900)*

| Operating System | | Host Bus Adapter | SDD, RDAC Multipath Support | Switch Fabric SN-OS/SSI |
|------------------|---|--|-----------------------------|--|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP2 or later) Data Center | Emulex: LP9002L, LP9002DC, LP8000, LP9802 QLogic: QLA2200F, QLA2340L, QLA2342L, QLA2310F, QLA2310FL | Yes | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i 3.0(1)/3.0.1 3.0(2a)/3.0.2i 3.0(3)/3.0.3i |
| Windows 2003 | Standard Enterprise | IBM: FC2104 (FC2/133-24P0960), eServer Blade-Center HS20 (8678 and 8832) | | |



Note

Refer to the following link for SAN-OS Release Compatibility Matrix for Storage Service Module:

http://www.cisco.com/en/US/products/ps5989/products_device_support_table09186a0080485272.html

HP

Table 4-3 HP XP12000,HP XP128, XP1024, HP XP48, XP512,HP EVA GL -- 3000 (HSV100, HSV101), 5000 (HSV200, HSV201, HP EVA XL -- 4000 (HSV200, HSV201), 6000 (HSV200, HSV201), 8000 (2Gb or 4Gb)(HSV210)

| Operating System | | Host Bus Adapter | SecurePath Multipath Support | Switch Fabric SAN-OS/SSI |
|------------------|------------------------|---|------------------------------|--|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP3+) | HP: DS-KGPSA-CB, FCA2355, FCA2101, LP9802DC, LP1050DC, FCA2214, FCA2214-DC, Mezzanine, Balcony QLogic: QLA2462, QLA234x Emulex: LP1050DC, LP1050EX, LP11002-M4, LP9802DC, LP8000 | Yes | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i 3.0(1)/3.0.1 3.0(2a)/3.0.2i 3.0(3)/3.0.3i |
| Windows 2003 | Enterprise Edition | HP: DS-KGPSA-CB, FCA2355, FCA2101, FCA2214, FCA2214-DC, Mezzanine, Balcony Qlogic: QLA2462, QLA234x Emulex: LP11002-M4, LP1050DC, LP9802DC, LP8000 | | |



Note

Refer to the following link for SAN-OS Release Compatibility Matrix for Storage Service Module:

http://www.cisco.com/en/US/products/ps5989/products_device_support_table09186a0080485272.html

EMC

Table 4-4 Symmetrix DMX, DMX3, CX500, CX700

| Operating System | | Host Bus Adapter | PowerPath Multipath Support | Switch Fabric SAN-OS/SSI |
|------------------|-----------------------|-----------------------------------|-----------------------------|---|
| Type | Version | | | |
| Windows 2000 | Advanced Server (SP4) | Emulex: LP9802, LP9802DC | Yes | MDS9513 MDS9509 MDS9506 MDS9216A MDS9216i 3.0(2a)/3.0.2j |
| Windows 2003 | Enterprise Edition | | | |
| AIX | 5.2, 5.3 | IBM: 6239 | | |
| HPUX | 11.23 | HP: 6826A | | |
| Solaris | 9, 10 | Emulex: LP10000, LP10000DC | | |

Network Accelerated Serverless Backup (NASB)

| Software Partner | Severless Backup Application | Page |
|-------------------------------------|--|------|
| Computer Associates | CA Brightstor ARCserv Version 11.1 | 8 |
| CommVault | CommVault Qinetix 5.9.0 (SP1) | 9 |
| EMC Legato | Legato NetWorker 7.2 | 10 |

Computer Associates

Table 4-5 CA Brightstor ARCserv Version 11.1

| Operating Systems | Tape Library Model | Tape Drives Supported | SAN-OS/SSI Code Version |
|---------------------------------------|-----------------------|-----------------------|---|
| Windows 2000 (Advanced Server SP4) | ADIC Scalar 100 | IBM LTO-1 | 2.1(1b) / 2.1(1f) 2.1(2b) / 2.1(2) 3.0(1) / 3.0(1), 3.0(2) 3.0(2) / 3.0(2) |
| | IBM Stand Alone Drive | IBM 3590 | |
| | STK 180 | 9840B | |
| | Quantum LP4000 | SDLT/Internal Bridge | |
| | SONY SAIT | SONY SAIT | |



Note

Refer to the following Computer Associates website to obtain the full application compatibility matrix:

<http://supportconnectw.ca.com/public/storage/ascdls.asp>

CommVault

Table 4-6 *CommVault Qinetix 5.9.0 (SP1)*

| Operating Systems | Tape Library Model | Tape Drives Supported | SAN-OS/SSI Code Version |
|---------------------------------------|--------------------|-----------------------|--|
| Windows 2000 (Advanced Server SP4) | IBM 3584 | IBM LTO-2 | 2.1(2b) / 2.1(2) 3.0(1) / 3.0(1), 3.0(2) 3.0(2) / 3.0(2) |
| | IBM 3583 | IBM LTO-2 | |
| | STK L700 | IBM LTO-2 | |
| | | HP LTO-2 | |
| | | HP LTO-3 | |
| | | STK 9940B | |
| | | SDLT 600 | |



Note

Refer to the following CommVault website to obtain the full application compatibility matrix:
http://www.commvault.com/compatibility_matrix.asp

EMC Legato

Table 4-7 *Legato NetWorker 7.2*

| Operating Systems | Tape Library Model | Tape Drives Supported | SAN-OS/SSI Code Version |
|---|--|--------------------------------|--|
| Windows 2000 (Advanced Server SP4) Windows 2003 (SP1) | VirtualTape Library/CLARiiON Disk Library | ADIC SCALAR 100 / DLT 7000 | 2.1(2b) / 2.1(2) 3.0(1) / 3.0(1), 3.0(2) 3.0(2) / 3.0(2) |
| | | ADIC SCALAR 100 / DLT 8000 | |
| | | ADIC SCALAR 100 / SDLT T320 | |
| | | ADIC SCALAR 100 / TD1 | |
| | | ADIC SCALAR 100 / TD2 | |
| | ADIC Scalar 24 | TD1 | |
| | TD2 Stand Alone Drive | TD2 | |
| | IBM Ultrium 3581 | TD2/TD3 | |
| | Quantum LP4000 | SDLT/Internal Bridge | |
| | SONY SAIT | SONY SAIT | |



Note

Refer to the following EMC Legato website to obtain the full application compatibility matrix:

http://www.legato.com/support/websupport/compat_guides/index.htm





CHAPTER 5

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 Devices, page 5-2](#)
- [Switch Interoperability Matrix, page 5-3](#)

Customer Order Number:

Cisco Devices

Table 5-1 Cisco System MAN/WAN Device Status

| Vendor | MAN/WAN Device | Protocol | Qualified |
|---------------|---|-------------|-----------|
| Cisco Systems | Storage Router 5420, 5428, 5428-2 | FC, iSCSI | Yes |
| Cisco Systems | ONS 1553/15540/15252/15454 | FC | |
| Cisco Systems | Cisco 1000Base cWDM GBICs + Add/Drop Modules | FC | |
| Cisco Systems | IPS-4, IPS-8, MPS-14/2, MDS9216i | iSCSI, FCIP | |
| Cisco Systems | Cisco 7000 Router w/Port Adapter Module (PAM) | FC | |

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

Table 5-2 *Switch Interoperability Matrix*

| Switch Vendor | Switch Models | Firmware Version | Cisco SAN-OS Version | InterOp Mode | |
|---------------|---------------|------------------|----------------------|-------------------------------------|---------|
| Brocade | 2400, 2800 | 2.6.0j | 1.2(1b) | 1, 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) | | |
| | 3800 | 3800 | | 2.1(1a) | 1, 2, 3 |
| | | | 3.02k | 1.2(1a) | 1, 2 |
| | | | 3.1.1 | | |
| | | | 3.1.1c | 1.2(1b) | |
| | | | 3.1.2 | 1.3(4a) | |
| | | | 3.1.3a | 2.0(1b) | 1, 2, 3 |
| | | | | 2.1(1a) | |
| | | | 3.1.3a | 3.0(1) 3.0(2a),3.0(2), 3.0(3) | |
| | | | 3.2.1b | 3.0(1) 3.0(2a),3.0(2), 3.0(3) | 1 |
| | | | 3.1.3a | 3.1(2) | 1, 2, 3 |

| Switch Vendor | Switch Models | Firmware Version | Cisco SAN-OS Version | InterOp Mode |
|---------------|-----------------------------------|---------------------------------------|------------------------------|--------------|
| Brocade | 3900 | 4.0.2d | 1.2(1a) | 1 |
| | | 4.1.1 | | |
| | | 4.1.2b | 1.2(1b) | |
| | | 4.2.0b | 1.3(4a) | 1, 3 |
| | | 4.2.2a | 2.0(1b) | |
| | | | 2.1(1a) 3.0(2a) 3.0(3) | |
| | 4.4.0f | 3.0(1) 3.0(2) 3.0(2a) 3.0(3) | | |
| | 3900 | 4.4.0f | 3.1.2 | 1, 2, 3 |
| | 48000, 3900, 3850, 4100, 12000 | 5.0.3, 5.0.3b, 5.0(3) | 3.0(1) 3.0(2) | 1, 3 |
| | | 5.1.0, 5.1.0d, 5.0(5a) | 3.0(2a) 3.0(3) | |
| | | 5.0.1d | | |
| 3900 | 5.0.1d | 3.1.2 | 1, 2, 3 | |
| 24000 | 5.1.0d | 3.1.2 | 1, 2, 3 | |
| Qlogic | SANbox2 | 1.4.0.43-0 | 1.3(4a) | Native |
| | SAN box 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) | |

| Switch Vendor | Switch Models | Firmware Version | Cisco SAN-OS Version | InterOp Mode |
|---------------|------------------------|------------------|----------------------|-----------------------------|
| 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 | 1.3(4a) | |
| | | 6.01 | | |
| | | 6.02 | 2.0(1b) | |
| | | 7.0 | 2.1(1a) | |
| | | 7.1.0.5 | | |
| | 4500, 6140 | 7.1.0.5 | 3.0(1) | 1, 4 |
| | | 8.1.0.14 | 3.0(2a), 3.1(2) | |
| 9.00/9.01 | | 3.0(3), 3.1(2) | | |
| Inrange | FC/9000 | 04.00.04.06 | 1.3(4a) | No InterOp setting required |

| Switch Vendor | Switch Models | Firmware Version | Cisco SAN-OS Version | InterOp Mode |
|-----------------------------------|---------------------------|-------------------------------------|----------------------|--------------|
| Brocade | 2400, 2800 | 2.6.0j | 1.2(1b) | 1, 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 |
| | 3800 | 3.02k | 1.2(1a) | 1, 2 |
| | | 3.1.1 | | |
| | | 3.1.1c | 1.2(1b) | |
| | | 3.1.2 | 1.3(4a) | |
| | | 3.1.3a | 2.0(1b) | 1, 2, 3 |
| | | | 2.1(1a) | |
| | 3.1.3a 3.2.1b | 3.0(1) 3.0(2a),3.0(2), 3.0(3) | | |
| | 3900 | 4.0.2d | 1.2(1a) | 1 |
| | | 4.1.1 | | |
| | | 4.1.2b | 1.2(1b) | |
| | | 4.2.0b | 1.3(4a) | 1, 3 |
| | | 4.2.2a | 2.0(1b) | |
| | | | 2.1(1a) | |
| | | | 3.0(2a) 3.0(3) | |
| | 4.4.0f | 3.0(1) | | |
| 48000, 3900, 3850, 4100, 12000 | 5.0.3, 5.0.3b, 5.0(3) | 3.0(2) 3.0(2a) | | |
| | 5.1.0, 5.1.0d, 5.0(5a) | 3.0(3) | | |
| | 5.0.1d | | | |

| Switch Vendor | Switch Models | Firmware Version | Cisco SAN-OS Version | InterOp Mode |
|---------------|------------------------|------------------|----------------------|-----------------------------|
| Qlogic | SANbox2 | 1.4.0.43-0 | 1.3(4a) | Native |
| | SAN box 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) | |
| 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 | 1.3(4a) | |
| | | 6.01 | | |
| | | 6.02 | 2.0(1b) | |
| | | 7.0 | 2.1(1a) | |
| | 7.1.0.5 | | | |
| | 4500, 6140 | 7.1.0.5 | 3.0(1) | 1, 4 |
| | | 8.1.0.14 | 3.0(2a) | |
| 9.00/9.01 | | 3.0(3) | | |
| Inrange | FC/9000 | 04.00.04.06 | 1.3(4a) | No InterOp setting required |

**Note**

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.

**Note**

Cisco MDS interop mode 2 supports nondisruptive connectivity to Brocade Silkworm 2800 and 3800 switches family with Core-PID set to 0.

**Note**

Cisco MDS interop mode 3 supports nondisruptive connectivity of all Brocade Silkworm switches including 3900 and 12000 switch family with Core-PID set to 1. We recommend that you use Cisco Fabric Manager for all MDS interop mode types with Brocade for zone administration.

**Note**

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

Table 5-3 MDS Interoperability with IBM eServer BladeCenter

| | 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 | 3.0(2a) & higher | 3.0(2a) & higher | 3.0(2a) & higher | 3.1(2) |
| McData 6-port 2/4G FC Switch Module (Standard Mode) | 5.5.1.10 | 3.0(2a) & higher (default Mode) | 3.0(1) & higher (default Mode) | 3.0(2a) & higher (default Mode) | 3.1(2) (default Mode) |
| 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) | | | | | |
| Brocade Enterprise SAN Switch Module (Native 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 3) | 3.0(2a) (InterOp Mode 3) | 1.3(4a), 2.0(2b), 2.1(1a) 3.0(1), 3.0(2), 3.0(2a) (InterOp Mode 3) | NA |
| Brocade Entry SAN Switch Module (Native Mode) | | | | | |
| Brocade 4G 6-port SAN Switch Module (InterOp Mode) | 5.0.3a | 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) (InterOp Mode 1) |

Switch Interoperability Matrix

| | 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 4G 6-port SAN Switch Module (Native Mode) | 5.0.3a | 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) (InterOp Mode 3) |

**Note**

Refer to the following URL for full IBM SAN Volume Controller compatibility information with Cisco MDS 9000 Family switches:

<http://www-1.ibm.com/support/docview.wss?rs=591&uid=ssg1S1002472>



CHAPTER 6

iSCSI Interoperability

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

- [EMC, page 6-2](#)
- [IBM, page 6-3](#)
- [HDS, page 6-5](#)
- [HP, page 6-6](#)
- [ADTX, page 6-7](#)



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, IPS-4, MSP-14/2 |
|--------------------------------|------------------|--|
| Proxy mode initiator | Yes | MDS 9500, 9216, MDS9216i 1.3(3), 1.3(4a), 2.0(1b), 2.1(2b), 2.12(d), 3.0(2a), 3.1(2) |
| Transparent mode initiator | Yes | |
| 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 AS, Enterprise | SUSE Enterprise |
|--------------------------|------------------------------|------------------------|
| | 3.6.2 | 10 |
| 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 | Multipath Support |
|--------------------------|---------------------|---------------------|--------------------|--------------------------|
| | B.11.11.03a | 1.1 | 3.3.5 | |
| 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 | 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, IPS-8, IPS-4, MSP-14/2 |
|--------------------------------|-----------|---|
| Proxy mode initiator | Yes | MDS 9500, MDS 9216, MDS 9216i 1.3(2a), 1.3(4a), 2.0(1b), 2.1(1b), 2.1(2b), 3.0(2a), 3.0(3), 3.1(2a) |
| Transparent mode initiator | Yes | |
| 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 2.1, 3.0, AS, Enterprise |
|-------------------|-----------------------------------|
| | 3.4.2/3.6.2 |
| ESS 2105-800 | Yes |
| ESS 2105-F20 | Yes |
| DS4000 | Yes |

Table 6-7 OSM Drivers

| IBM Storage Types | HP: HPUX 11i | IBM: AIX 5.2 | Solaris 8/9/10 | Multipath Support |
|-------------------|--------------|--------------|----------------|-------------------|
| | B.11.11.03a | 1.1 | 3.3.5 | |
| ESS 2105-800 | Yes | Yes | Yes | No |
| ESS 2105-F20 | Yes | Yes | Yes | No |
| DS4000 | No | No | Yes | No |

Table 6-8 Microsoft Drivers

| IBM Storage Types | Windows 2000 | Windows 2003 | Multipath Support |
|-------------------|----------------|----------------|-------------------|
| | 1.06 and Prior | 1.06 and Prior | |
| ESS 2105-800 | Yes | Yes | No |
| ESS 2105-F20 | Yes | Yes | No |
| DS4000 | Yes | Yes | No |

Table 6-9 IBM SAN Volume Controller (SVC)

| IBM Storage Types | Windows 2000 | Windows 2003 | Linux RH 7.3, 2.1, 3.0 | Heterogeneous SAN Switch Support | Multipath Support |
|--------------------------|---------------------|---------------------|-------------------------------|---|--------------------------|
| | 1.06 | 1.06 | 3.6.2 | | |
| ESS 2105-800 | Yes | Yes | Yes | Brocade and McDATA Inter-VSAN Routing (IVR) is supported | No |
| ESS 2105-F20 | Yes | Yes | Yes | | No |
| DS4000 | Yes | Yes | Yes | | No |

HDS

Table 6-10 MDS iSCSI Feature Support

| IPS Advanced Features | Supported | Switch Fabric, IPS-8, IPS-4, MSP-14/2 |
|--------------------------------|-----------|--|
| Proxy mode initiator | Yes | MDS 9513, MDS 9500, 9216, 9216i |
| Transparent mode initiator | Yes | 1.3(3c), 1.3(4a), 2.0(1b), 2.1(1b), 2.1(2b), 2.1(2d), 2.1(2e), 3.0(1), 3.0(2a), 3.0(3), 3.1(2) |
| 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 AS, Enterprise |
|------------------------|-------------------------|
| | 3.4.2/3.4.4 |
| Lightning 9900v, 9900 | No |
| TagmaStore | No |
| Thunder 9500v, AMS 500 | No |
| Thunder 9200 | No |

Table 6-12 OSM Drivers

| HDS Storage Types | HP: HPUX 11i | IBM: AIX 5.2/5.3 | Solaris 8/9/10 | Novell: Netware 6.0/6.5 | Multipath Support |
|------------------------|----------------|------------------|----------------|-------------------------|-------------------|
| | B.11.11.03a, d | 1.0 | 3.3.5/1.0 | 1.0.3/4 | |
| Lightning 9900v, 9900 | Yes | No | Yes | Yes | No |
| Thunder 9500v, AMS 500 | Yes | No | Yes | Yes | No |
| TagmaStore | Yes | No | Yes | Yes | No |

Table 6-13 Microsoft Drivers

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

Table 6-14 MDS iSCSI Feature Support

| IPS Advanced Features | Supported | Switch Fabric, IPS-8, IPS-4, MSP-14/2 |
|--------------------------------|-----------|--|
| Proxy mode initiator | Yes | MDS 9513, 9509, 9216, 9216i 1.2(1b), 1.3(4a), 2.0(1b), 2.1(1b), 2.1(2d), 3.0(1), 3.0(3), 3.1(2a) |
| Transparent mode initiator | Yes | |
| 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 AS, Enterprise |
|-----------------------|--------------|-------------------------|
| | 8, 10 | 3.6.0.2 |
| XP12000, XP1024, XP48 | | Yes |
| EVA 3000, EVA 5000 | | Yes |
| MA8000 (HSG80) | | Yes |

Table 6-16 OSM Drivers

| HP Storage Types | HP HPUNIX 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 | |
| XP12000, XP1024, XP48 | Yes | Yes | No | Yes | No |
| EVA 3000, EVA 5000 | 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 | |
| XP12000, XP1024, XP48 | Yes | Yes | Yes (2.00+) |
| EVA 3000, EVA 5000 | 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, IPS-8, IPS-4, MSP-14/2 |
|--------------------------------|-----------|---------------------------------------|
| Proxy mode initiator | Yes | MDS 9500, 9216, 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 |
| | | | |

