

IBM System Storage™ DS8000 series



Interoperability Matrix

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About this Document

This document lists interoperable environments and configurations for the IBM System Storage DS8000 series.

The document is for informational and planning purposes only and may change at anytime. This version supersedes and replaces all previous versions. The latest version of this document is available at:

<http://www.ibm.com/servers/storage/disk/ds8000/index.html>

Not all combinations created from interoperable components are supported, nor will they necessarily function properly together. The customer is responsible for confirming that a specific configuration (i.e. server model, operating system level, patches, host adapter, and fabric product combination) is a valid and supported configuration by each of the vendors whose products are included in the configuration.

This document is not intended to be the sole resource for configuration information, requirements, and prerequisites. Refer to DS8000 series publications, vendor documentation, or your IBM Sales Representative or IBM Business Partner for additional information.

End-of-Service / End-of-Support

Throughout this document, this symbol – @ – indicates that the product vendor has announced that they no longer provide support for the product. If problems are encountered with existing installations, you may be required to update your configuration to a supported level before problem determination can take place.

Request for Price Quotations (RPQ)

If a desired configuration is not represented in this document, a RPQ should be submitted to IBM to request approval. To submit a RPQ, contact your local IBM Storage Specialist or Business Partner.

What's New

This version is dated June 29, 2007 and has been updated as noted below. It replaces the version dated April 30, 2007. Unless stated otherwise, these items require DS8000 LMC bundle version 62.42.xx.x or later.

Operating Systems, Path Management, and Clustering

- HP-UX 11iv3 (11.31) with MC/Serviceguard 11.17
- HP-UX 11iv3 native Multi-path
- z/VM Version 5 Release 3
- AIX 5.2 ML10 and AIX 5.3 ML6
- SUN Solaris 10 u3
- Sun Clustering 3.2
- Linux Red Hat RHEL 4.5 for System p/i/x
- Linux Red Hat RHEL 5 for System p and i
- Linux Novell SLES 10 SP1 for System p/i/x
- SFRAC 5.0 for AIX 5.2 & 5.3
- HP TRU64 5.1B4

SAN Fabric Support

- BladeCenter 39Y9284
- BladeCenter 39Y9280

Servers

- X Series Servers 3105, 3200, 3250, 3400, 3455, 3500, 3550, 3650, 3655, 3755
- System p (POWER6) p570 (9117-MMA)
- N5600 G10 (2868-G10)
- N5600 G20 (2868-G20)
- N5300 G10 (2869-G10)
- N5300 G20 (2869-G20)

Host Adapters

- FC 5773
- FC 5774
- IBM BladeCenter 39Y9306

DS8000 SERIES INTEROPERABILITY SUMMARY

For convenience, the following tables summarize the interoperable environments and configurations for the DS8000 series. Refer to the individual server pages for additional information, including prerequisites and limitations.

Table 1: Open Systems

	DS8100 Model 921 & Turbo Model 931	DS8300 Model 922 & Turbo Model 932	DS8300 Model 9A2 & Turbo Model 9B2	Fibre Channel	Clustering	SAN Boot Support	Subsystem Device Driver (SDD)	DS Application Program Interface (API)	DS Command Line Interface (DS CLI)
Fujitsu Primepower	✓	✓	✓	✓		✓	✓		
Hewlett-Packard (HP-UX)	✓	✓	✓	✓	✓	✓	✓		✓
Hewlett-Packard AlphaServer (OpenVMS)	✓	✓	✓	✓	✓	✓			✓
Hewlett-Packard AlphaServer (Tru64 UNIX)	✓	✓	✓	✓	✓	✓			✓
IBM System i (AIX)	✓	✓	✓	✓	✓	✓	✓		✓
IBM System i (OS/400, i5/OS)	✓	✓	✓	✓	✓	✓			✓
IBM System i (Linux)	✓	✓	✓	✓		✓	✓		
IBM System p (i5/OS)	✓	✓	✓	✓	✓	✓			✓
IBM System p (Linux)	✓	✓	✓	✓		✓	✓		
IBM System p, RS/6000, and Cluster 1600 (AIX)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Linux (x86, x64, EM64, AMD64, iA64)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Intel Servers (NetWare)	✓	✓	✓	✓	✓		✓		✓
AMD & Intel Servers (VMware)	✓	✓	✓	✓		✓			
Windows (x86, x64, EM64, AMD64, iA64)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Apple Macintosh (OSX)	✓	✓	✓	✓					
SGI Origin Servers (IRIX)	✓	✓	✓	✓					
Sun (Solaris)	✓	✓	✓	✓	✓	✓	✓		✓

Table 2: IBM System z

	DS8100 Model 921 & Turbo Model 931	DS8300 Model 922 & Turbo Model 932	DS8300 Model 9A2 & Turbo Model 9B2	ESCON		Fibre Channel Protocol (FCP)		FICON
z/OS	✓	✓	✓	✓				✓
z/VM	✓	✓	✓	✓		✓		✓
VSE/ESA	✓	✓	✓	✓				✓
z/VSE	✓	✓	✓	✓		✓		✓
Transaction Processing Facility (TPF)	✓	✓	✓	✓				✓
Linux	✓	✓	✓	✓		✓		✓

DS8000 Licensed Machine Code (LMC)

This document contains references to minimum DS LMC levels. In many cases, the minimum level listed does not represent the latest available LMC level.

Customers are encouraged to keep their DS8000 series at the latest LMC level to take advantage of quality, reliability, and serviceability enhancements and to receive problem determination and fix support.

All items listed in this version of the document require DS8000 series LMC level 5.2.410.xx (bundle version 6.2.410.xx), or later, unless otherwise noted.

Host Systems Attachment Guide

The IBM System Storage DS8000 Host Systems Attachment Guide should be referenced to obtain detailed information on attaching servers to the DS8000 series.

Host Adapters

This document contains only limited information regarding host adapter driver levels and other prerequisites. Host adapter firmware, driver, and fix level information is documented in the Fibre Channel Host Bus Adapter (HBA) Support Matrix. This matrix can be found at:

<http://www.ibm.com/servers/storage/support/config/hba/index.wss>

Additionally, review host adapter vendor documentation and web pages to obtain information regarding host adapter configuration planning, hardware and software requirements, driver levels, and release notes.

ATTO:	http://www.attotech.com/
Emulex:	http://www.emulex.com/ts/dds.html
AMCC/JNI:	http://www.jni.com/
QLogic:	http://www.qlogic.com/support/oem_detail_all.asp?oemid=22

SAN Fabric Products

Fabric product vendor documentation and web pages should be reviewed to obtain information regarding configuration planning, hardware and software requirements, firmware and driver levels, and release notes.

IBM:	http://www.ibm.com/storage/ibmsan/products/sanfabric.html
Cisco:	http://www.cisco.com/go/ibm/storage

Channel Extension Technology Products

Channel extension technology product vendor documentation and web pages should be reviewed to obtain information regarding configuration planning, hardware and software requirements, firmware and driver levels, and release notes.

ADVA:	http://www.advaoptical.com
Cisco:	http://www.cisco.com/go/ibm/storage
CIENA:	http://www.ciena.com/products/transport/shorthaul/cn2000/index.asp
Huawei:	http://www.huawei.com
Nortel:	http://www.nortelnetworks.com

IBM System Storage SAN Volume Controller

The IBM System Storage SAN Volume Controller is supported with the DS8100 and DS8300 and requires SVC code levels 1.2.1.1 and 2.1.0, or later. The SAN Volume Controller is not interoperable with DS Copy Services. Refer to the following web pages for specific interoperability information on the SAN Volume Controller: <http://www.ibm.com/storage/support/2145>

IBM TotalStorage SAN File System

The IBM TotalStorage SAN File System supports the DS8100 and DS8300. For more information on support, please refer to the following link: <http://www.ibm.com/support/docview.wss?rs=575&uid=ssg1S1002299>

IBM System Storage Multipath Subsystem Device Driver (SDD)

The SDD is designed to provide load balancing and enhanced data availability capability in configurations with more than one I/O path between the host server and the DS8000 series system. Load balancing can reduce or eliminate I/O bottlenecks that occur when many I/O operations are directed to common devices via the same I/O path. SDD also helps eliminate a potential single point of failure by automatically rerouting I/O operations when a path failure occurs, thereby supporting enhanced data availability capability. The SDD is provided with the DS8000 series at no additional charge.

Refer to the individual server pages within this document for operating system level requirements and for DS8000 series LMC prerequisites. Refer to the IBM System Storage Multipath Subsystem Device Driver User's Guide for additional information.

Additional SDD information is also available at: <http://www.ibm.com/servers/storage/support/software/sdd/downloading.html>

IBM System Storage DS Open API (Application Program Interface)

The DS Open API supports routine LUN management activities, such as LUN creation, mapping, and masking, and the management of point in time copy and remote mirroring. It supports these activities through the use of a standard interface as defined by the Storage Networking Industry Association (SNIA) Storage Management Initiative Specification (SMI-S). It is implemented through the IBM System Storage Common Information Model Agent (CIM Agent) for the DS8000 series, a middleware application that provides a CIM-compliant interface. The DS Open API and CIM Agent are provided with the DS8100 and DS8300 at no additional charge.

- The DS API coordinates with Microsoft Volume Shadow (VSS) Copy Service and the DS8000 series FlashCopy function to create a consistent, point-in-time shadow copy of a Windows 2003 Server volume or group of volumes. This ensures consistency for VSS aware applications.
- The DS API also coordinates with Microsoft Virtual Disk Service (VDS). Microsoft VDS is a software interface that manages block storage virtualization. This interface module makes it possible for the DS8000 series to interoperate with applications that utilize the VDS Application Programming Interface in a Windows 2003 environment.

Refer to the individual server pages within this document for operating system level requirements and for DS8000 series LMC prerequisites. While the CIM Agent is available for only selected operating system environments, it can be used to manage all LUNs within an DS8000 series.

Refer to the IBM System Storage DS Open Application Programming Interface Reference for additional information.

IBM System Storage DS Command Line Interface (CLI)

The DS CLI is a single CLI that has the ability to perform a full set of commands for both configuration and copy services activities. The DS CLI is provided with the DS8000 series at no additional charge.

Refer to the individual server pages within this document for operating system level requirements and for DS8000 series LMC prerequisites. Refer to the IBM System Storage DS Command-Line Interface User's Guide for additional information.

IBM TotalStorage Continuous Availability

IBM TotalStorage Continuous Availability for Windows (formerly IBM TotalStorage Geographically Dispersed Clusters for Microsoft Cluster Server) is designed to allow Microsoft Cluster installations to span geographically dispersed sites and help protect clients from site disasters or storage subsystem failures. It is designed to enable a tier 7 disaster recovery solution and provide high availability for applications and data running in Windows clustered server environments by extending the distance that cluster nodes and storage can be separated, mirroring data between DS8000 series systems. Support for IBM TotalStorage Continuous Availability is available via an IBM services contract to implement and customize the solution for your environment. Contact your local IBM representative or Business Partner and request IBM RPQ.

IBM TotalStorage Productivity Center for Replication

IBM TotalStorage Productivity Center (TPC) for Replication V3.1 provides optional management of DS8000 series business continuance solutions, including FlashCopy and Remote Mirror and Copy functions. IBM TPC for Replication Two Site BC V3.1 also provides disaster recovery management support in a two-site DS8000 configuration. This management support is available with the IBM TPC for Replication software program (purchased separate from the DS8000 series).

IBM System Storage FlashCopy

IBM System Storage FlashCopy is designed to provide a point-in-time copy capability for DS8000 series logical volumes. FlashCopy creates a physical point-in-time copy of the data, with minimal interruption to applications, and makes it possible to access both the source and target copies immediately. FlashCopy is an optional capability, and is available with the point in time features on the DS8000 series.

Remote Mirror and Copy Solutions

The DS8000 series supports several hardware-based remote mirror and copy solutions. They are optional capabilities of the DS8000 series and are available with the remote mirror and copy features on the DS8000 series.

IBM supports the following remote mirror and copy solutions. Refer to Table 3 for DS8000 series model support and prerequisites.

IBM System Storage Metro Mirror

Metro Mirror is designed to provide real time mirroring between two systems that can be located up to 300 km from each other. It is a synchronous copy solution where write operations are completed on both copies (local and remote site) before they are considered to be done.

Extending distances beyond 300 km is also possible. However, due to network configuration variability, the customer must work with the channel extender vendor to determine the appropriate configuration to meet their performance requirements. IBM support approval for these longer distances can be requested by submitting a Request for Price Quotation (RPQ). The RPQ should include information on distance between sites, the channel extension technology, the type of telecom line, the amount of network bandwidth, the DS8100 or DS8300 system capacity, and a general description of the workload.

IBM System Storage Global Copy

Global Copy is a non-synchronous long-distance copy option for data migration and backup. With a non-synchronous operation, the distance between the primary and secondary DS8000 series system will have only a minimal effect on the application response time. Therefore, Global Copy can operate at very long distances.

IBM System Storage Global Mirror

Global Mirror is a high performance, asynchronous remote-mirroring copy solution. It is designed to provide a two-site disaster recovery and backup solution at virtually unlimited distances. Since the distance between the primary and secondary DS8000 series system has little impact to host applications at the primary site, the remote site can be located at distances from the local site well beyond those supported with Metro Mirror. The distances are typically limited only by the capabilities of the network and channel extension technologies.

IBM System Storage Metro/Global Mirror (MGM)

The Metro and Global Mirror function utilizes synchronous mirroring (Metro Mirror), from a local A- site to a metro distance B-site and asynchronous mirroring (Global Mirror) from an intermediate B-site to a remote C-site. This function, referred to as Metro/Global Mirror, is designed to provide planned and unplanned outage three-site enterprise disk data replication - which can help meet rigorous three-site business resiliency needs of the enterprise data center. Metro/Global Mirror can support synchronous replication at distances up to 303 KM using IBM System Storage Metro Mirror, and can maintain the asynchronous third site for out of region recovery, at a data currency that can be within 3-5 seconds (bandwidth permitting), using IBM System Storage Global Mirror.

IBM System Storage Remote Mirror and Copy Solutions for z/OS

The DS8000 series supports the following remote mirror and copy solutions for the z/OS environment:

IBM System Storage z/OS Global Mirror

This is a combined hardware and software business continuance solution for the System z environment providing asynchronous mirroring between systems at two sites located global distances apart. z/OS Global Mirror is an optional capability of the DS8000 series and is available with the remote mirror for z/OS features on the DS8000 series. Refer to Table 4 for DS8000 series model support and MC prerequisites.

IBM System Storage z/OS Metro/Global Mirror (3-site z/OS Global Mirror and Metro Mirror)

This mirroring capability utilizes z/OS Global Mirror to mirror primary site data to a location that is a long distance away and also uses Metro Mirror to mirror primary site data at a location within the metropolitan area. This enables a 3-site high availability and disaster recovery z/OS solution for even greater protection from unplanned outages. z/OS Metro/Global Mirror is an optional capability of the DS8000 series, and is available with the remote mirror for z/OS and remote mirror and copy features on the DS8000 series. Refer to Table 4 for DS8000 series model support and LMC prerequisites for z/OS Global Mirror and Table 3 for DS8000 series model support and LMC prerequisites for Metro Mirror.

Remote Mirror and Copy Channel Extension, DWDM, and Network Connectivity

Distances beyond 300 km will require the use of channel extension technology, and the channel extender vendor will determine the maximum distance supported. The vendor should be contacted for its distance capability, line quality requirements, and WAN attachment capabilities.

IBM supports the use of the following products, in Table 3, with remote mirror and copy. Additionally, the product vendors should also be consulted regarding hardware and software prerequisites when using their products in a DS8000 series remote mirror and copy configuration. IBM is not responsible for third-party products.

When using remote mirror and copy with channel extenders, IBM supports the use of remote mirror and copy over all the network technologies that are currently supported by the channel extender products, including Fibre Channel, Ethernet/IP, ATM-OC3, and T1/T3. Evaluation, qualification, approval, and support of remote mirror and copy configurations using channel extender products are the sole responsibility of the channel extender vendor. The vendor should be contacted for its distance capability, line quality requirements, as well as SAN and WAN attachment capabilities.

Table 3: Remote mirror and copy over Fibre Channel (FCP)

	Metro Mirror	Global Copy	Global Mirror	Metro/Global Mirror (MGM)
DS8100 Model 921 and Turbo Model 931	✓	✓	✓	✓
DS8300 Model 922 and Turbo Model 932	✓	✓	✓	✓
DS8300 Model 9A2 and Turbo Model 9B2	✓	✓	✓	✓
ADVA FSP 2000	✓	✓	✓	✓
CIENA CN 2000™ Storage Extension Platform	✓	✓	✓	✓
Cisco IP Storage Service Modules	✓	✓	✓	✓
Cisco CWDM Distance Solution	✓	✓	✓	✓
Cisco ONS 15530 / 15540 / 15454	✓	✓	✓	✓
CNT Edge Storage Router	✓	✓	✓	✓
CNT UltraNet Storage Director-eXtended	✓	✓	✓	✓
Huawei OptiX Metro 6040 / 6100 (WDM)	✓	✓	✓	✓
Huawei OptiX Metro OSN 1500 / 2500 / 3500 / 7500	✓	✓	✓	✓
IBM 2005 Model R18	✓	✓	✓	✓
IBM 2027 Models R04 and R16 ²	✓	✓	✓	✓
IBM 2109 Model A16	✓	✓	✓	✓
IBM 2109 Model M48 ¹	✓	✓	✓	✓
Nortel Networks OPTera Metro 5200	✓	✓	✓	✓
Nortel OM3500	✓	✓	✓	✓

¹ IBM 2109 Model M48 requires Fibre Channel Routing Blade.

² Both the IBM 2027 R04 and R16 require direct attach support only.

z/OS Global Mirror Channel Extension, DWDM, and Network Connectivity

Distances beyond 3 km for ESCON, and 10 km for FICON will require the use of channel extension technology, and the channel extender vendor will determine the maximum distance supported. The vendor should be contacted for its distance capability, line quality requirements, and SAN and WAN attachment capabilities.

IBM supports the use of the following products, in Table 4, with z/OS Global Mirror. The product vendors should also be consulted regarding hardware and software prerequisites when using their products in a DS8000 Series System z/OS Global Mirror configuration. IBM is not responsible for third-party products.

When using z/OS Global Mirror with channel extenders, IBM supports the use of z/OS Global Mirror over all the network technologies that are currently supported by the channel extender products, including Fibre Channel, Ethernet/IP, ATM-OC3, and T1/T3. Evaluation, qualification, approval, and support of z/OS Global Mirror configurations using channel extender products are the sole responsibility of the channel extender vendor. The vendor should be contacted for its distance capability, line quality requirements, as well as SAN and WAN attachment capabilities.

Table 4: z/OS Global Mirror

	z/OS Global Mirror - ESCON	z/OS Global Mirror - FICON
DS8100 Model 921 and Turbo Model 931	✓	✓
DS8300 Model 922 and Turbo Model 932	✓	✓
DS8300 Model 9A2 and Turbo Model 9B2	✓	✓
ADVA FSP 2000	Not Available	✓
CIENA CN 2000™ Storage Extension Platform	Not Available	✓
Cisco ONS 15530 / 15540 / 15454	✓	✓
Cisco CWDM	Not Available	✓
Cisco IP Storage Service Modules ²	Not Available	✓
CNT (INRANGE) 9811 Storage Networking System	✓	Not Available
CNT UltraNet Edge Storage Router	Not Available	✓
CNT UltraNet Storage Director (USD)	✓	Not Available
CNT UltraNet Storage Director eXtended (USD-X) ¹	✓	✓
IBM 2029 Fiber Saver	✓	Not Available
Nortel Networks OPTera Metro 5200	✓	✓
Nortel OM3500	Not Available	✓

¹ Requires firmware level 3.2.1

² Maximum distance is 300 km

HEWLETT-PACKARD SERVERS – HP-UX

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
HP Server <ul style="list-style-type: none"> • rp2400 series • rp3400 series • rp4400 series • rp5400 series • rp7400 series • rp8400 series • Superdome 	HP-UX <ul style="list-style-type: none"> • 11i @ <ul style="list-style-type: none"> • PVLINKS • MC/Serviceguard 11.12, 11.13, and 11.14 • 11iv2 (11.23) <ul style="list-style-type: none"> • PVLINKS • MC/Serviceguard 11.16 	Hewlett-Packard <ul style="list-style-type: none"> • A5158A • A6685A ¹ • A6795A • A6826A • A9782A • A9784A • AB378A • AB379A 	Cisco <ul style="list-style-type: none"> • MDS 9020, 9120, 9124, 9140 • MDS 9216, 9216A, 9216I • MDS 9506, 9509, 9513 CNT (Inrange) <ul style="list-style-type: none"> • FC/9000-64, -128, - 256 • 2042-N16 IBM <ul style="list-style-type: none"> • 2005 Model B16, B32, B64 • 2005 Models H08, H16 • 2026 Model E12, 224 • 2026 Models 12E, 16E, 416 • 2026 Models 32E, 432 • 2027 Models 140, 232 • 2027 Models R04, R16, 256 • 2045 Model N16 • 2109 Model A16 • 2109 Models F16, F32 • 2109 Model M12 • 2109 Model M14 • 2109 Model M48 • 2109 Models S08, S16 • 3534 Model F08 McDATA <ul style="list-style-type: none"> • ED-5000 • ES-3016, ES-3032 • Intrepid <ul style="list-style-type: none"> • 6064, 6140 • Sphereon <ul style="list-style-type: none"> • 3216, 3232 • 4300, 4500
HP 9000 Enterprise Servers <ul style="list-style-type: none"> • K-Class • L-Class • N-Class • V-Class 	<ul style="list-style-type: none"> • 11iv3 (11.31) <ul style="list-style-type: none"> • MC/Serviceguard 11.17 		
Itanium II Servers <ul style="list-style-type: none"> • rx1600 series • rx2600 series • rx4600 series • rx5600 series • rx7600 series • rx8600 series • Superdome 			

¹ Supported with K-Class servers only.

General notes:

This Interoperability file will be sunseting, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Not available for HP-UX.

DS CLI: Available for HP-UX 11i, 11iV2 and 11iV3.

SDD:

- Available for HP-UX 11i and 11iV2. HP-UX 11iV3 is not supported with SDD.
- Available for MC/Serviceguard.
- Multi-path support is natively available in HP-UX (PVLINKS) for HP-UX 11i and 11iV2.
- Multi-Path for HP-UX 11iV3 is natively supported with the Operating System.
- SAN Boot not supported

HEWLETT-PACKARD SERVERS – OPENVMS

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
AlphaServer <ul style="list-style-type: none">• 800• 1200• 4000, 4000A• 4100• 8200, 8400• DS10, DS20, DS20E• ES40, ES45, ES47, ES80• GS60, GS60E, GS140• GS80, GS160, GS320• GS1280	OpenVMS <ul style="list-style-type: none">• 7.3• 7.3-1• 7.3-2• 8.2 OpenVMS itanium <ul style="list-style-type: none">• 8.2, 8.2.1	StorageWorks <ul style="list-style-type: none">• KGPSA-CA (FCA2354)• KGPSA-DA (FCA2384)• KGPSA-EA• FCA 2684	IBM <ul style="list-style-type: none">• 2109 Model F16• 2109 Model F32• 2109 Models S08 and S16• 3534 Model F08
Itanium Server ¹ <ul style="list-style-type: none">• RX2600• RX7620			

¹ Itanium servers require 8.2 Operating System and above.

HEWLETT-PACKARD SERVERS - OPENVMS

General notes:

This Interoperability file will be sunseting, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Not available for HP OpenVMS.

DS CLI: Available for HP OpenVMS.

SDD: Not available for HP OpenVMS.

HEWLETT-PACKARD SERVERS – TRU64 UNIX

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
AlphaServer <ul style="list-style-type: none">• 800• 1200• 2100• 4000, 4000A• 4100• 8200, 8400• DS10, DS20, DS20E• ES40, ES45, ES47, ES80• GS60, GS60E, GS140• GS80, GS160, GS320• GS1280	Tru64 UNIX <ul style="list-style-type: none">• 5.0A<ul style="list-style-type: none">• TruCluster 5.0A• 5.1<ul style="list-style-type: none">• TruCluster 5.1• 5.1A<ul style="list-style-type: none">• TruCluster 5.1A• 5.1B<ul style="list-style-type: none">• TruCluster 5.1B• 5.1B3<ul style="list-style-type: none">• TruCluster 5.1B3• 5.1B4<ul style="list-style-type: none">• TruCluster 5.1B4	StorageWorks <ul style="list-style-type: none">• KGPSA-CA (FCA2354)• KGPSA-DA (FCA2384)• KGPSA-EA	IBM <ul style="list-style-type: none">• 2109 Model F16• 2109 Model F32• 2109 Models S08, S16• 3534 Model F08

General notes:

This Interoperability file will be sunseting, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Not available for HP Tru64 UNIX.

DS CLI: Available for HP Tru64 UNIX.

SDD:

- Not available for HP Tru64 UNIX.
- Multi-path support is natively available in Tru64 UNIX.

SAN Boot support:

- The DS8000 can be used as a boot device on servers running Tru64 UNIX 5.0A and 5.1. Refer to the *IBM System Storage DS8000 Host Systems Attachment Guide* for additional information.

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
System i	AIX ³	System i	Cisco
<ul style="list-style-type: none"> • 270 • 820, 830, 840 • 800, 810, 825, 870, 890 	<ul style="list-style-type: none"> • Version 5 • 5.2 ML5 • 5.3 ML1 	<ul style="list-style-type: none"> • FC 0611 ³ • FC 0612 ¹ • FC 0625 ³ • FC 0626 ¹ • FC 0629 ³ • FC 0646 ³ • FC 2766 • FC 2787 • FC5759 ⁴ • FC 5760 ⁴ 	<ul style="list-style-type: none"> • MDS 9020, 9120, 9124, 9140 • MDS 9216, 9216A, 9216I • MDS 9506, 9509, 9513
System i5	OS/400		CNT (Inrange)
<ul style="list-style-type: none"> • 520, 550, 570, 595 	<ul style="list-style-type: none"> • Version 5 • V5R2 		<ul style="list-style-type: none"> • FC/9000-64, -128, -256 • 2042-N16
	i5/OS		IBM
	<ul style="list-style-type: none"> • Version 5 • V5R3 • V5R4 		<ul style="list-style-type: none"> • 2005 Model B16, B32, B64 • 2005 Models H08, H16 • 2026 Models E12, 224 • 2026 Models 12E, 16E, 416 • 2026 Models 32E, 432 • 2027 Models 140, 232 • 2027 Models R04, R16, 256 • 2045 Model N16 • 2109 Model A16 • 2109 Model F16 • 2109 Model F32 • 2109 Model M12, M14, M48 • 2109 Models S08, S16 • 3534 Model F08
	Red Hat Enterprise Linux ^{1, 2}		
	<ul style="list-style-type: none"> • 3 U7, U8 • 4 U2, U3, 4.4, 4.5 • 5 		
	SUSE ^{1, 2}		
	<ul style="list-style-type: none"> • SLES 9 SP2, SP3 • Linux Enterprise 10, SP1 		
			McDATA
			Intrepid
			<ul style="list-style-type: none"> • 6064, 6140
			Sphereon
			<ul style="list-style-type: none"> • 3216, 3232 • 4300, 4500

¹ Linux is supported on the System i5 only.

² Refer to the following link for details on Linux kernel levels:
http://www.ibm.com/support/docview.wss?rs=540&context=ST52G7&dc=D430&uid=ssg1S4000107&loc=en_US&cs=utf-8&lang=en

³ AIX 5.2 ML5 (or later), 5.3 ML1 (or later) and Linux supported with System i5.

⁴ Host adapters require i5/OS V5R3 or V5R4 running on Regatta and System i5 servers with AIX.

General notes:

This Interoperability file will be sunseting, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent):

- Not available.

DS CLI:

- Available for System i AIX, OS/400 V5R2, i5/OS V5R3, and V5R4 platforms.

SAN Boot support:

- Requires IOP 2847 and V5R3 M5 or later for i5servers. See the IBM System i Redbook for more information.

SDD:

- Not available. Multipath support is provided in i5/OS V5R3.
- Available when running the System i5 platforms with supported AIX, SUSE SLES 9, Red Hat Enterprise Linux 3, 4 (32-bit, x64-bit) operating systems.

Device Mapper Multipath (DMM):

- Available for SUSE Linux Enterprise 10 and Red Hat RHEL 5. For more information, refer to: http://www.ibm.com/support/docview.wss?rs=540&context=ST52G7&dc=D430&uid=ssg1S4000107&loc=en_US&cs=utf-8&lang=en#DM

SAN Boot Support:

- The DS8100 and DS8300 models are supported as a boot device on System i5 platforms that support Fibre Channel boot capability. SAN Boot Support is available for AIX and Linux operating systems with SDD. Refer to the *IBM System Storage DS8000 Host Systems Attachment Guide* for additional information.

Path Control Module (SDDPCM):

- Available for System i5 platforms running AIX 5.2 ML5 (or later) and AIX 5.3 ML1 (or later) with latest released maintenance levels. (Default PCM not supported).

IBM SYSTEM P AND RS/6000 SERVERS

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
System p <ul style="list-style-type: none"> 610 Models 6C1, 6E1 615 Models 6C3, 6E3 620 Models 6F0, 6F1 630 Models 6C4, 6E4 640 Model B80 650 Model 6M2 655 Model 651 660 Models 6H0, 6H1, 6M1 670 Model 671 680 Model S85 690 Model 681 	AIX⁵ <ul style="list-style-type: none"> Version 5 <ul style="list-style-type: none"> 5.1 ML7 <ul style="list-style-type: none"> VERITAS Volume Manager with DMP 4, VERITAS Cluster Server 4, 5.2 ML5 <ul style="list-style-type: none"> VERITAS Volume Manager with DMP 4, 5, VERITAS Cluster Server 4, 5, SFRAC 5.0 5.3 ML1 <ul style="list-style-type: none"> VERITAS Volume Manager with DMP 4, 5, VERITAS Cluster Server 4, 5, SFRAC 5.0 	System p and RS/6000 <ul style="list-style-type: none"> FC 1905 FC 1910 FC 1957 FC 1977 FC 5716 FC 5758 FC 5759 FC 5773³ FC 5774³ FC 6228 FC 6239 	Cisco² <ul style="list-style-type: none"> MDS 9020, 9120, 9124, 9140 MDS 9216, 9216A, 9216I MDS 9506, 9509, 9513 CNT (Inrange) <ul style="list-style-type: none"> FC/9000-64, -128, -256 2042-N16 IBM <ul style="list-style-type: none"> 2005 Models B16, B32, B64 2005 Models H08, H16 2026 Models E12, 224 2026 Models 12E, 16E, 416 2026 Models 32E, 432 2027 Models 140, 232 2027 Models R04, R16, 256 2045 Model N16 2109 Model A16 2109 Models F16, F32 2109 Models M12, M14, M48 2109 Models S08, S16 3534 Model F08
System p5 <ul style="list-style-type: none"> A50, 510, 520, 550, 560, 570, 590, 595 710, 720 	HACMP <ul style="list-style-type: none"> 5.1.0, 5.2.0, 5.3.0, 5.4 	BladeCenter¹ <ul style="list-style-type: none"> IBM <ul style="list-style-type: none"> 13N2203 26R0884 39Y9186 48P7061 	
System p (POWER6)³ <ul style="list-style-type: none"> System p570 (9117-MMA) 	i5/OS⁷ <ul style="list-style-type: none"> V5R3 		
IBM BladeCenter¹ <ul style="list-style-type: none"> BladeCenter JS20 <ul style="list-style-type: none"> 8842 BladeCenter JS21¹ <ul style="list-style-type: none"> 8844, 7988 	IBM Virtual I/O Server (VIOS)⁶ <ul style="list-style-type: none"> 1.1 		
RS/6000 <ul style="list-style-type: none"> 7013: S70, S7A 7015: S70, S7A 7017: S70, S7A, S80 7025: F50, F80, H70 7026: H50, H70, H80, M80 7043: 270 7044: 170, 270 	Red Hat Enterprise Linux⁴ <ul style="list-style-type: none"> 3 U7, U8 <ul style="list-style-type: none"> VxVM/VCS 5.0⁸ 4 U2, U3, 4.4, 4.5 5 		
	SUSE⁴ <ul style="list-style-type: none"> SLES 8 @ SLES 9 SP2, SP3 <ul style="list-style-type: none"> VxVM/VCS 5.0⁸ Linux Enterprise 10, SP1 		
			IBM BladeCenter¹ <ul style="list-style-type: none"> P/N 02R9080 P/N 48P7062
			McDATA <ul style="list-style-type: none"> ED-5000 ES-3016, ES-3032 Intrepid <ul style="list-style-type: none"> 6064, 6140 Sphereon <ul style="list-style-type: none"> 3216, 3232 4300, 4500

¹ BladeCenter is supported with AIX 5.2 ML5 (or later), and Linux operating systems only. For more information on BladeCenter SAN support, refer to the following website: <http://www.ibm.com/servers/eserver/serverproven/compat/us/>

² Supports the IP Storage Service Module for iSCSI on Cisco MDS fabric products. Refer to the following link for more details: <ftp://service.boulder.ibm.com/storage/san/cisco/ipStorServMod.pdf>

³ The POWER6 IBM System p is supported with the following: AIX 5.2 ML10, AIX 5.3 ML6, Linux SLES 10 sp1, and Red Hat 4.5. FC 5773 and 5774 are only available on the POWER6 IBM System p when using I/O draw 7414-G30.

⁴ Refer to the following link for details on Linux kernel levels: http://www.ibm.com/support/docview.wss?rs=540&context=ST52G7&dc=D430&uid=ssg1S4000107&loc=en_US&cs=utf-8&lang=en

⁵ Refer to the most current APARs for AIX 5.2 ML5 (or later) and AIX 5.3 ML1 (or later).

⁶ Refer to the following link for details on IBM VIOS: <http://www14.software.ibm.com/webapp/set2/sas/f/vios/home.html>

⁷ The i5/OS operating systems are only supported with System p5 servers, and System i host adapter FC2787.

⁸ Fencing is currently not supported.

IBM SYSTEM P AND RS/6000 SERVERS

General Notes:

This Interoperability file will be sunseting, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Available for AIX 5.1 ML7 (or later).

DS CLI: Available for AIX 5.1 ML7 (or later), 5.2 ML5 (or later), 5.3 ML1 (or later), HACMP 5.1.0, 5.2.0, 5.3.0, and 5.4.0, and i5/OS operating systems.

DS Copy Services: HACMP running with Remote Mirror and Copy functions (including HACMP-XD) is supported.

SDD:

- Available for AIX 5.1 ML7 (or later), 5.2 ML5 (or later), and 5.3 ML1 (or later).
- Available for SUSE SLES 8, SLES 9, Red Hat RHEL 3, and 4 (32-bit and x64-bit).
- Available for HACMP-XD
- Not available with i5/OS operating systems.
- Available for coexistence with Veritas Volume Mgr 4.0 with AIX 5.2 and 5.3

Device Mapper Multipath (DMM):

- Available for SUSE Linux Enterprise 10 and Red Hat RHEL 5. For more information, refer to: http://www.ibm.com/support/docview.wss?rs=540&context=ST52G7&dc=D430&uid=ssg1S4000107&loc=en_US&cs=utf-8&lang=en#DM

SAN Boot support:

- The DS8100 and DS8300 models are supported as a boot device on RS/6000, System p, and System p5 servers that support Fibre Channel boot capability. Boot Support is available for AIX and Linux operating systems with SDD. Boot support is not available for SDD with BladeCenter JS20. Refer to the *IBM System Storage DS8000 Host Systems Attachment Guide* for additional information.

Path Control Module (SDDPCM):

- Available for AIX 5.2 ML5 (or later) and AIX 5.3 ML1 (or later) with latest released maintenance levels.

IBM SYSTEM P AND RS/6000 SERVERS

Table 5: AIX and HACMP Support Matrix

	DS8100 Model 921 & Turbo Model 931	DS8300 Model 922 & Turbo Model 932	DS8300 Model 9A2 & Turbo Model 9B2	SDD	SDD PCM
AIX 5.1 ML7 with HACMP 5.1.0	✓	✓	✓	✓	--
AIX 5.2 ML5 with HACMP 5.1.0	✓	✓	✓	✓	--
AIX 5.1 ML7 with HACMP 5.2.0	✓	✓	✓	✓	✓ ¹
AIX 5.2 ML5 with HACMP 5.2.0	✓	✓	✓	✓	✓ ¹
AIX 5.2 ML5 with HACMP 5.4	✓	✓	✓	✓	✓ ¹
AIX 5.3 ML1 with HACMP 5.2.0	✓	✓	✓	✓	✓ ¹
AIX 5.2 ML7 with HACMP 5.3.0	✓	✓	✓	✓	✓ ¹
AIX 5.3 ML3 with HACMP 5.3.0	✓	✓	✓	✓	✓ ¹
AIX 5.3 ML3 with HACMP 5.4.0	✓	✓	✓	✓	✓ ¹

Table 6: AIX Clustering for System p servers

	DS8100 Model 921 & Turbo Model 931	DS8300 Model 922 & Turbo Model 932	DS8300 Model 9A2 & Turbo Model 9B2	SDD	SDD PCM
AIX 5.1 ML7 with:					
• PSSP 3.4, 3.5	✓	✓	✓	✓	--
• GPFS 2.2					
AIX 5.2 ML5 with:					
• GPFS 2.2, 2.3 or 3.1	✓	✓	✓	✓	✓
• RVSD 3.5 or 4.1					
AIX 5.3 ML1 with:					
• CSM 1.3.n	✓	✓	✓	✓	✓
• GPFS 2.3 or 3.1					
• RVSD 4.1					

¹ Enhanced concurrent mode volume groups only. HACMP-XD is not supported with SDD PCM.

IBM CLUSTER 1600 SERVERS

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
System p <ul style="list-style-type: none">• 610 Models 6C1, 6E1• 615 Models 6C3, 6E3• 620 Models 6F0, 6F1• 630 Models 6C4, 6E4• 640 Model B80• 650 Model 6M2• 655 Model 651• 660 Models 6H0, 6H1, 6M1• 670 Model 671• 680 Model S85• 690 Model 681	AIX ¹ <ul style="list-style-type: none">• Version 5<ul style="list-style-type: none">• 5.1 ML7• 5.2 ML5• 5.3 ML1	IBM RS/6000 <ul style="list-style-type: none">• FC 5716• FC 5758• FC 5759• FC 6228• FC 6239	Cisco <ul style="list-style-type: none">• MDS 9020, 9120, 9124, 9140• MDS 9216, 9216A, 9216I• MDS 9506, 9509, 9513 CNT (Inrange) <ul style="list-style-type: none">• FC/9000-64, -128, -256• 2042-N16 IBM <ul style="list-style-type: none">• 2005 Models B16, B32, B64• 2005 Models H08, H16• 2026 Models E12, 224• 2026 Models 12E, 16E, 416• 2026 Models 32E, 432• 2027 Models 140, 232• 2027 Models R04, R16, 256• 2045 Model N16• 2109 Model A16• 2109 Models F16, F32• 2109 Model M12, M14, M48• 2109 Models S08, S16• 3534 Model F08 McDATA <ul style="list-style-type: none">• ED-5000• ES-3016, ES-3032• Intrepid<ul style="list-style-type: none">• 6064, 6140• Sphereon<ul style="list-style-type: none">• 3216, 3232• 4300, 4500

¹ Refer to the most current APARs for AIX 5.2 ML5 (or later) and AIX 5.3 ML1 (or later).

General Notes:

This Interoperability file will be sunset, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Available for AIX 5.1 ML7 (or later).

DS CLI: Available for AIX 5.1 ML7 (or later), 5.2 ML5 (or later) and 5.3 ML1 (or later).

SDD:

- Available for AIX 5.1 ML7 (or later), 5.2 ML5 (or later) and 5.3 ML1 (or later).

SAN Boot support:

- The DS8100 and DS8300 are supported as a boot device on IBM Cluster 1600 servers that support Fibre Channel boot capability. Refer to the *IBM System Storage DS8000 Host Systems Attachment Guide* for additional information.

Path Control Module (SDDPCM):

- Available for AIX 5.1 ML7 (or later), 5.2 ML5 (or later) and 5.3 ML1 (or later). MPIO with latest released maintenance levels.

IBM CLUSTER 1600 SERVERS

Table 7: AIX Clustering for IBM Cluster 1600 Servers

	DS8100 Model 921 & Turbo Model 931	DS8300 Model 922 & Turbo Model 932	DS8300 Model 9A2 & Turbo Model 9B2	SDD	SDDPCM
AIX 5.1 ML7 with:					
• GPFS 2.2	✓	✓	✓	✓	--
• PSSP 3.4					
• RVSD 3.5					
AIX 5.2 ML5 with:					
• GPFS 2.2, 2.3 or 3.1	✓	✓	✓	✓	✓
• PSSP3.4, 3.5					
• RVSD 3.5 or 4.1					
AIX 5.3 ML1 with:					
• GPFS 2.3 or 3.1	✓	✓	✓	✓	✓
• CSM 1.3.n					
• RVSD 4.1					

IBM SYSTEM Z AND S/390 SERVERS

ESCON

Servers	Operating Systems	Host Adapters	Fabric Support
System z z800	z/OS	All ESCON host adapter features offered on the servers are supported.	IBM <ul style="list-style-type: none"> 9032 Model 002 9032 Model 003 9032 Model 005
<ul style="list-style-type: none"> IBM 2066 	<ul style="list-style-type: none"> Version 1 Release 4 Version 1 Release 5 		
System z z890	<ul style="list-style-type: none"> Version 1 Release 6 Version 1 Release 7 Version 1 Release 8 		
<ul style="list-style-type: none"> IBM 2086 			
System z z900 and z990 ¹			
<ul style="list-style-type: none"> IBM 2064 IBM 2084 	z/OS.e <ul style="list-style-type: none"> Version 1 Release 4 Version 1 Release 5 Version 1 Release 6 Version 1 Release 7 Version 1 Release 8 		
z9 BC			
<ul style="list-style-type: none"> IBM 2096 			
z9 EC			
<ul style="list-style-type: none"> IBM 2094 			
S/390 Parallel Enterprise Server	z/VM <ul style="list-style-type: none"> Version 4 Release 4 Version 5 Release 1 Version 5 Release 2 Version 5 Release 3 		
<ul style="list-style-type: none"> IBM 9672 Generation 3 IBM 9672 Generation 4 IBM 9672 Generation 5 IBM 9672 Generation 6 			
ES/9000	z/VSE <ul style="list-style-type: none"> Version 3 Release 1 Version 4 Release 1 		
<ul style="list-style-type: none"> IBM 9021 IBM 9121 IBM 9221 			
ES/3090	VSE/ESA <ul style="list-style-type: none"> Version 2 Release 7 		
<ul style="list-style-type: none"> IBM 3090 	Transaction Processing Facility (TPF) <ul style="list-style-type: none"> Version 4 Release 1 		
S/390 Multiprise 3000 Enterprise Server	Red Hat Enterprise Linux		
<ul style="list-style-type: none"> IBM 7060 	<ul style="list-style-type: none"> 3 4 U2, U3 		
S/390 Multiprise 2000 Enterprise Server	SUSE		
<ul style="list-style-type: none"> IBM 2003 	<ul style="list-style-type: none"> SLES 8 SLES 9 SP2, SP3 SLES 10 		

¹ z990 requires driver level 55.

IBM SYSTEM Z AND S/390 SERVERS

FICON

Servers	Operating Systems	Host Adapters	Fabric Support
System z z800	z/OS	System z	Cisco
• IBM 2066	• Version 1 Release 4	• FC 2315	• MDS 9216
	• Version 1 Release 5	• FC 2318	• MDS 9506, 9509, 9513
System z z890	• Version 1 Release 6	• FC 2319	
• IBM 2086	• Version 1 Release 7	• FC 2320	CNT (Inrange)
	• Version 1 Release 8	• FC 3319 ¹	• FC/9000-64, -128, -256
System z z900 and z990 ²		• FC 3320 ¹	• 2042-N16
• IBM 2064	z/OS.e	• FC 3321	
• IBM 2084	• Version 1 Release 4	• FC 3322	IBM
	• Version 1 Release 5	• FC 3323	• 2005 Model B32, B64
z9 BC	• Version 1 Release 6	• FC 3324	• 2026 Models 32E, 432
• IBM 2096	• Version 1 Release 7		• 2027 Models 140, 232
	• Version 1 Release 8		• 2027 Models R16, 256
z9 EC		S/390	• 2045 Model N16
• IBM 2094	z/VM	• FC 2314	• 2109 Model F32
	• Version 4 Release 4	• FC 2316	• 2109 Model M12, M14, M48
S/390 Parallel Enterprise Server	• Version 5 Release 1		
• IBM 9672 Generation 5	• Version 5 Release 2		McDATA
• IBM 9672 Generation 6	• Version 5 Release 3		• ED-5000
			• Intrepid
	z/VSE		• 6064, 6140
	• Version 3 Release 1		• Sphereon
	• Version 4 Release 1		• 3232
	VSE/ESA		
	• Version 2 Release 7		
	Transaction Processing Facility (TPF)		
	• Version 4 Release 1		
	Red Hat Enterprise Linux		
	• 3		
	• 4 U2, U3		
	SUSE		
	• SLES 8		
	• SLES 9 SP2, SP3		
	• SLES 10		

¹ FC 3319 and FC 3320 Host Adapters are supported only on the IBM System z 890 and IBM System z 990 Servers.

² z990 requires driver level 55.

IBM SYSTEM Z AND S/390 SERVERS

Fibre Channel Protocol (FCP)

Servers	Operating Systems	Host Adapters	Fabric Support
System z z800 <ul style="list-style-type: none"> IBM 2066 	z/VM <ul style="list-style-type: none"> Version 4 Release 4 Version 5 Release 1 	System z <ul style="list-style-type: none"> FC 2315 FC 2318 	Cisco <ul style="list-style-type: none"> MDS 9216, 9216A, 9216I MDS 9506, 9509, 9513
System z z890 <ul style="list-style-type: none"> IBM 2086 	<ul style="list-style-type: none"> Version 5 Release 2 Version 5 Release 3 	<ul style="list-style-type: none"> FC 2319 FC 2320 	CNT (Inrange) <ul style="list-style-type: none"> FC/9000-64, -128, -256 2042-N16
System z z900 and z990 ² <ul style="list-style-type: none"> IBM 2064 IBM 2084 	z/VSE <ul style="list-style-type: none"> Version 3 Release 1 Version 3 Release 1.1 Version 4 Release 1 	<ul style="list-style-type: none"> FC 3319¹ FC 3320¹ FC 3321 FC 3322 FC 3324 	IBM <ul style="list-style-type: none"> 2026 Models 32E, 432 2045 Model N16 2109 Model F16 2109 Models S08, S16
z9 BC <ul style="list-style-type: none"> IBM 2096 	Red Hat Enterprise Linux <ul style="list-style-type: none"> 4.4 		
z9 EC <ul style="list-style-type: none"> IBM 2094 	SUSE <ul style="list-style-type: none"> SLES 8 Submarine SLES 9, SP2, SP3 		McDATA <ul style="list-style-type: none"> Intrepid 6064

¹ FC 3319 and FC 3320 Host Adapters are supported only on the IBM System z 890 and IBM System z 990 Servers.

² z990 requires driver level 55.

General Notes:

This Interoperability file will be sunseting, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Not available for System z.

DS CLI: Not available for System z.

Fibre Channel Protocol (FCP):

- Multi-path support is available with LVM.
- Multi-path support for RHEL 4.4 and SLES 9 sp3 is available with DMM.

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Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
Enterprise <ul style="list-style-type: none"> 220R, 250, 420R, 450 3000, 4000, 5000, 6000 3500, 4500, 5500, 6500 10000 	Solaris <ul style="list-style-type: none"> 8 <ul style="list-style-type: none"> Sun Cluster 3.1 MPxIO 4.4.2 thru 4.4.11² VERITAS Volume Manager with DMP⁴ <ul style="list-style-type: none"> 3.5, 4.0, 4.1 VERITAS Cluster Server <ul style="list-style-type: none"> 3.5, 4.0, 4.1 9¹ <ul style="list-style-type: none"> Sun Cluster 3.1 MPxIO 4.4.2 thru 4.4.11² VERITAS Volume Manager with DMP⁴ <ul style="list-style-type: none"> 3.5, 4.0, 4.1, 5.0 VERITAS Cluster Server <ul style="list-style-type: none"> 3.5, 4.0, 4.1, 5.0 SF RAC 4.1, 5.0 10 u1, u2, u3⁵ <ul style="list-style-type: none"> Sun Cluster 3.1, 3.2⁷ MPxIO (Driver Bundled with OS)² VERITAS Volume Manager with DMP <ul style="list-style-type: none"> 4.1, 5.0 VERITAS Cluster Server <ul style="list-style-type: none"> 4.1, 5.0 SF RAC 4.1, 5.0 	AMCC/JNI ³ <ul style="list-style-type: none"> FCX-6562 / FCX2-6562 FCE-1473-N FCE-6460-N Emulex <ul style="list-style-type: none"> LP9002L / LP9002DC LP9002S LP9402DC LP9802 LP10000 / LP10000DC LP11000 LP11002 QLogic <ul style="list-style-type: none"> QLA2310F/QLA2310FL QLA2340/L / QLA2342/L QLA2460 QLA2462 Sun <ul style="list-style-type: none"> 6727A 6757A 6767A (SG-XPCI1FC-QF2) 6768A (SG-XPCI2FC-QF2) 6799A SG-XPCI1FC-EM2 SG-XPCI1FC-EM4-Z SG-XPCI2FC-EM2 SG-XPCI2FC-EM4-Z SG-XPCI1FC-QL2 SG-XPCI2FC-QL2 SG-XPCI1FC-QF4 SG-XPCI2FC-QF2-Z SG-XPCI2FC-QF4 	Cisco <ul style="list-style-type: none"> MDS 9020, 9120, 9124, 9140 MDS 9216, 9216A, 9216I MDS 9506, 9509, 9513 CNT (Inrange) <ul style="list-style-type: none"> FC/9000-64, -128, -256 2042-N16 IBM <ul style="list-style-type: none"> 2005 Models B16, B32, B64 2005 Models H08, H16 2026 Models E12, 224 2026 Models 12E, 16E, 416 2026 Models 32E, 432 2027 Models 140, 232 2027 Models R04, R16, 256 2045 Model N16 2109 Model A16 2109 Models F16, F32 2109 Model M12, M14, M48 2109 Models S08, S16 3534 Model F08 McDATA <ul style="list-style-type: none"> ED 5000 ES-3016, ES-3032 Intrepid <ul style="list-style-type: none"> 6064, 6140 Sphereon <ul style="list-style-type: none"> 3216, 3232 4300, 4500
Netra <ul style="list-style-type: none"> 1125 			
SPARCcenter / SPARCserver <ul style="list-style-type: none"> 1000, 1000E 2000, 2000E 			
Sun Fire <ul style="list-style-type: none"> V120, V210, V240, V250 V280R V440, V480, V490 V880, V890, V1280 3800 4800, 4810, 6800, 6900 12000, 15000 E20K, E25K E2900, E4900, E6900 T1000, T2000 			
Ultra <ul style="list-style-type: none"> 1, 2, 5, 10, 20, 30, 60, 80 			
Opteron ⁶ <ul style="list-style-type: none"> x4100, x4200, x4600 V20z & V40z 			

¹ The Sun filesystem requires patch 113454-14.

² MPxIO is supported with the Sun host adapters as well as generic adapter as supported by Sun. MPxIO 4.4.9 is not supported. MPxIO 4.4.10 and 4.4.11 are required for 4 node support.

³ Not interoperable with DS8100 or DS8300 Fibre Channel ports shared with remote mirror and copy configurations.

⁴ CDSDisk is supported with VERITAS VxVM 4.0 maintenance pack 2, or contact VERITAS Support for latest Hot Fix.

⁵ Sun Solaris 10 is not supported with AMCC / JNI host adapters.

⁶ Sun Solaris 10 OS support with Host Adapters LP10000DC and QLA2462 only.

⁷ Sun Cluster 3.2 is supported with 2 nodes. SCSI-3 reservations is recommended. A RPQ is required for 3 nodes and higher.

General Notes:

This Interoperability file will be sunset, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Not available for Solaris.

DS CLI: Available for Solaris 8, 9, and 10.

SAN Boot is supported with Solaris 8, 9 and 10.

SDD:

- Available for Solaris 8, 9, and 10
- Available for Solaris 10 with Opteron x64 Servers
- Available to coexist with Veritas Volume Manager 4.1 for Solaris 9 and 10
- Solaris 10 Container not supported.
- SDD is not supported in Sun Cluster environments.
- SDD does not support Sun adapters.
- SDD is not supported with SAN Boot.

X86 BASED SERVERS – NETWARE

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
Intel Pentium II Xeon and above <ul style="list-style-type: none"> 1.5 Ghz or faster 2 – 16 processors 512 MB RAM or higher 	Novell NetWare <ul style="list-style-type: none"> 5.1 SP 7 <ul style="list-style-type: none"> Cluster Services 1.01 6.0 <ul style="list-style-type: none"> Cluster Services 1.6 6.5 SP 3, 4, 5 <ul style="list-style-type: none"> Cluster Services 1.70, 1.80 OES SP1 	BladeCenter ¹ <ul style="list-style-type: none"> IBM <ul style="list-style-type: none"> 13N2203 26K4841 39Y9186 48P7061 Emulex <ul style="list-style-type: none"> LP1005DC 	Cisco <ul style="list-style-type: none"> MDS 9020, 9120, 9124, 9140 MDS 9216, 9216A, 9216I MDS 9506, 9509, 9513
IBM BladeCenter ¹ <ul style="list-style-type: none"> HS20 <ul style="list-style-type: none"> 8678 8832 8843 HS21 <ul style="list-style-type: none"> 8853 HS40 <ul style="list-style-type: none"> 8839 LS20² <ul style="list-style-type: none"> 8850 LS21 <ul style="list-style-type: none"> 7971 LS41 <ul style="list-style-type: none"> 7972 		Emulex <ul style="list-style-type: none"> LP9002L / LP9002DC LP9402DC LP9802 LP10000/10000DC LP11000 LP11002 	CNT (Inrange) <ul style="list-style-type: none"> FC/9000-64, -128, -256
		IBM Netfinity / System x <ul style="list-style-type: none"> P/N 19K1246 P/N 24P0960 	IBM <ul style="list-style-type: none"> 2005 Models H08, H16 2026 Models E12, 224 2026 Models 12E, 16E, 416 2026 Models 32E, 432 2027 Models 140, 232 2027 Models R04, R16, 256 2045 Model N16 2109 Models F16, F32 2109 Model M12, M14, M48 2109 Models S08, S16 3534 Model F08
		QLogic <ul style="list-style-type: none"> QLA2310F / QLA2310FL QLA2340/L / QLA2342/L QLA2460 QLA2462 	IBM BladeCenter ¹ <ul style="list-style-type: none"> P/N 02R9080 P/N 26K5601 P/N 26R0881 P/N 32R1812 P/N 32R1813 P/N 32R1833 P/N 48P7062
IBM System x Servers ¹ <ul style="list-style-type: none"> 100 206/206m 225/226 235/236 255 260/3800 306/306m 335/336 345/346 360/365 366/3850 440/445 450/455 460/3950/3950E 			McDATA <ul style="list-style-type: none"> ED-5000 ES-3016, ES-3032 Intrepid <ul style="list-style-type: none"> 6064, 6140 Sphereon <ul style="list-style-type: none"> 3216, 3232 4300, 4500

¹ For information on OS and HBA support, refer to the following link: <http://www.ibm.com/servers/eserver/serverproven/compat/us/>

² The IBM BladeCenter LS20 supports Novell 6.5, but does not support Novell Cluster Services.

General Notes:

This Interoperability file will be sunseting, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Not Available

DS CLI: Available with NetWare 5.1, 6.0, 6.5, and OES SP1.

SDD:

- Available with NetWare 5.1, 6.0, 6.5, and OES SP1.
- Clustering Support: Available with NetWare 5.1, 6.0, and 6.5.

X86, x64, AMD64 BASED SERVERS – VMWARE

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
<p>Intel Pentium II Xeon and above ¹</p> <ul style="list-style-type: none"> 1.5 Ghz or faster 2 – 16 processors 512 MB RAM or higher <p>AMD Chipset</p> <ul style="list-style-type: none"> 1.6 GHz or faster 512 MB RAM or higher 	<p>VMware</p> <ul style="list-style-type: none"> ESX 2.5.0 ESX 2.5.1 ³ <ul style="list-style-type: none"> Vmotion ³ ESX 2.5.2, 2.5.3 ³ <ul style="list-style-type: none"> Vmotion ³ ESX 3.0 ³ <ul style="list-style-type: none"> Vmotion ³ ESX 3.0.1 ³ <ul style="list-style-type: none"> Vmotion ³ <p>VMware guest support ²</p> <ul style="list-style-type: none"> Windows 2000 Windows 2003 R2 SUSE SLES 8, 9, 10 Red Hat Enterprise Linux 2.1, 3, 4 	<p>BladeCenter ⁴</p> <ul style="list-style-type: none"> IBM <ul style="list-style-type: none"> 13N2203 26K4841 26R0884 26R0890 39Y9186 39Y9306 48P7061 Emulex <ul style="list-style-type: none"> LP1005DC <p>Emulex</p> <ul style="list-style-type: none"> LP9402DC LP9802 LP9002 / LP9002DC LP10000 / 10000DC <p>IBM Netfinity / System x</p> <ul style="list-style-type: none"> P/N 19K1246 P/N 24P0960 <p>QLogic</p> <ul style="list-style-type: none"> QLA2310F / QLA2310FL QLA2340/L / QLA2342/L 	<p>Cisco</p> <ul style="list-style-type: none"> MDS 9120, 9140 MDS 9216, 9216A, 9216I MDS 9506, 9509 <p>IBM</p> <ul style="list-style-type: none"> 2026 Models E12, 224 2027 Models 140, 232 2027 Models R16, 256 2109 Models F16, F32 2109 Model M12 2109 Models S08, S16 3534 Model F08 <p>IBM BladeCenter ⁴</p> <ul style="list-style-type: none"> P/N 02R9080 P/N 26K5601 P/N 26K6477 P/N 26R0881 P/N 32R1790 P/N 32R1812 P/N 32R1813 P/N 32R1831 P/N 32R1835 P/N 39Y9280 P/N 39Y9284 P/N 48P7062 P/N 90P0165 <p>McDATA</p> <ul style="list-style-type: none"> ES-3016, ES-3032 Intrepid <ul style="list-style-type: none"> 6064, 6140 Sphereon <ul style="list-style-type: none"> 3216, 3232 4300, 4500
<p>IBM BladeCenter ⁴</p> <ul style="list-style-type: none"> HS20 <ul style="list-style-type: none"> 8678 8832 8843 HS21 <ul style="list-style-type: none"> 8853 HS40 <ul style="list-style-type: none"> 8839 LS20 <ul style="list-style-type: none"> 8850 LS21 <ul style="list-style-type: none"> 7971 LS41 <ul style="list-style-type: none"> 7972 <p>IBM System x Servers ⁴</p> <ul style="list-style-type: none"> 100, 206, 206m, 225, 226, 235, 236, 255, 260, 306, 325, 326, 326m, 335, 336, 345, 346, 360, 365, 366, 440, 445, 450, 455, 460, 3105, 3200, 3250, 3400, 3455, 3500, 3550, 3650, 3655, 3755, 3800, 3850, 3950, 3950E, 			

¹ For more information on server minimum requirements, refer to: http://www.vmware.com/products/server/esx_specs.html

² For more information on VMware guest support, refer to: http://www.vmware.com/support/pubs/vi_pubs.html

³ Supported via RPQ only.

⁴ For information on OS and HBA support, refer to the following link: <http://www.ibm.com/servers/eserver/serverproven/compat/us/>

X86, X64, AMD64 BASED SERVERS – VMWARE

General Notes:

This Interoperability file will be sunseting, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Not available with VMware.

DS CLI: Not available for VMware.

SDD: Not available for VMware.

SAN Boot is supported with ESX 2.5.n and ESX 3.n

X86, EM64T, IA64, AND AMD64 BASED SERVERS - LINUX

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
Intel Pentium II Xeon and above <ul style="list-style-type: none"> 1.5 Ghz or faster 2 – 16 processors 512 MB RAM or higher 	Red Hat Enterprise Linux ³ <ul style="list-style-type: none"> 2.1 3 U6, U7, U8 <ul style="list-style-type: none"> VERITAS Volume Manager with DMP 4.0 MP2, 4.1 ⁵ VERITAS Cluster Server <ul style="list-style-type: none"> 4.0 MP2, 4.1 ⁵ 4 (AS, ES) U2, U3, 4.4, 4.5 <ul style="list-style-type: none"> VERITAS Volume Manager with DMP <ul style="list-style-type: none"> 4.1 ⁵, 5.0 VERITAS Cluster Server <ul style="list-style-type: none"> 4.1 ⁵, 5.0 5 	BladeCenter ¹ <ul style="list-style-type: none"> IBM <ul style="list-style-type: none"> 13N2203 26K4841 26R0884 26R0890 39Y9186 39Y9306 48P7061 Emulex <ul style="list-style-type: none"> LP1005DC 	Cisco ² <ul style="list-style-type: none"> MDS 9020, 9120, 9124, 9140 MDS 9216, 9216A, 9216I MDS 9506, 9509, 9513
AMD Chipset <ul style="list-style-type: none"> 1.6 GHz or faster 512 MB RAM or higher 			CNT (Inrange) <ul style="list-style-type: none"> FC/9000-64, -128, -256 2042-N16
IBM BladeCenter ¹ <ul style="list-style-type: none"> HS20 <ul style="list-style-type: none"> 7981 8678 8832 8843 HS21 <ul style="list-style-type: none"> 8853 HS40 <ul style="list-style-type: none"> 8839 LS20 <ul style="list-style-type: none"> 8850 LS21 <ul style="list-style-type: none"> 7971 LS41 <ul style="list-style-type: none"> 7972 	SUSE ³ <ul style="list-style-type: none"> SLES 8 SP4 SLES 9 SP2, SP3 <ul style="list-style-type: none"> VERITAS Volume Manager with DMP <ul style="list-style-type: none"> 4.1 ⁶, 5.0 VERITAS Cluster Server <ul style="list-style-type: none"> 4.1 ⁶, 5.0 Linux Enterprise 10, sp1 	Emulex <ul style="list-style-type: none"> LP9002L / LP9002DC LP9402DC LP9802 LP10000/LP10000DC LP11000 (IBM P/N 42D0405) LP11002 (IBM P/N 42D0407) LPE11000 (IBM P/N 42C2069) LPE11002 (IBM P/N 42C2071) 	IBM <ul style="list-style-type: none"> 2005 Models B16, B32, B64 2005 Models H08, H16 2026 Models E12, 224 2026 Models 12E, 16E, 416 2026 Models 32E, 432 2027 Models 140, 232 2027 Models R04, R16, 256 2045 Model N16 2109 Model A16 2109 Models F16, F32 2109 Model M12, M14, M48 2109 Models S08, S16 3534 Model F08
IBM System x Servers ¹ <ul style="list-style-type: none"> 100, 206, 206m, 225, 226, 235, 236, 255, 260, 306, 325, 326, 326m, 335, 336, 345, 346, 360, 365, 366, 440, 445, 450, 455, 460, 3105, 3200, 3250, 3400, 3455, 3500, 3550, 3650, 3655, 3755, 3800, 3850, 3950, 3950E, 	Asianux 1.0 ³ <ul style="list-style-type: none"> Red Flag Linux DataCenter <ul style="list-style-type: none"> v4.1 ⁴ 	IBM Netfinity/ System x <ul style="list-style-type: none"> P/N 19K1246 P/N 24P0960 P/N 39M5894 P/N 39M5895 	IBM BladeCenter ¹ <ul style="list-style-type: none"> P/N 02R9080 P/N 26K5601 ¹ P/N 26K6477 P/N 26R0881 P/N 32R1790 P/N 32R1812 P/N 32R1813 P/N 32R1833 P/N 39Y9280 P/N 39Y9284 P/N 48P7062 P/N 90P0165
	Red Flag Linux Advanced Server ² <ul style="list-style-type: none"> v4.1 ⁴ 	QLogic <ul style="list-style-type: none"> QLA2310F / QLA2310FL QLA2340/L / QLA2342/L QLA2460 QLA2462 QLE2460(IBM P/N 39R6525) QLE2462 (IBM P/N 39R6527) 	McDATA <ul style="list-style-type: none"> ED-5000, ES-3016, ES-3032 Intrepid <ul style="list-style-type: none"> 6064, 6140 Sphereon

¹ For information on OS and HBA support, refer to the following link: <http://www.ibm.com/servers/eserver/serverproven/compat/us/>

² Supports the IP Storage Service Module for iSCSI on Cisco MDS fabric products. Refer to the following link for more details: <ftp://service.boulder.ibm.com/storage/san/cisco/ipStorServMod.pdf>

³ Refer to the following link for details on Linux kernel levels: http://www.ibm.com/support/docview.wss?rs=540&context=ST52G7&dc=D430&uid=ssg1S4000107&loc=en_US&cs=utf-8&lang=en

⁴ Supported with Qlogic adapters only.

⁵ Supported with x86-bit only.

⁶ Supported with x86-bit and x64-bit.

- 3216, 3232
- 4300, 4500

X86, EM64T, IA64, AND AMD64 BASED SERVERS - LINUX

General Notes:

This Interoperability file will be sunset, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Available with Red Hat Enterprise Linux 3.

DS CLI: Available with Red Hat Enterprise Linux 2.1, 3, 4, 5 SUSE SLES 8, 9 and SLES 10.¹

SDD:

- Available for 32-bit with Red Hat Enterprise Linux 2.1, 3, 4, SUSE SLES 8, SUSE SLES 9, Asianux, and Red Flag.
- Available for ia64-bit with Red Hat Enterprise Linux 3, and SUSE SLES 8.
- Available with AMD based servers 325, 326, and x86_64 with Red Hat Enterprise Linux 4 and SUSE SLES 9.

Device Mapper Multipath (DMM):

- Available for SUSE Linux Enterprise 10, 9 sp3 and RHEL 5, and 4.4. For more information, refer to : http://www.ibm.com/support/docview.wss?rs=540&context=ST52G7&dc=D430&uid=ssg1S4000107&loc=en_US&cs=utf-8&lang=en#DM

SAN Boot support:

- The DS8100 and DS8300 are supported as a boot device on Red Hat Enterprise Linux 2.1 and 3, 4, SUSE SLES 8, 9 and 10 which supports Fibre Channel boot capability. Refer to the *IBM System Storage DS8000 Host Systems Attachment Guide* for additional information.

¹ RHEL 4 & 5 require IBM Java to load DSCLI which can be obtained from this website: <http://www-128.ibm.com/developerworks/java/jdk/linux/download.html>

X86, X64, AND IA64 BASED SERVERS - WINDOWS

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
Intel Pentium II Xeon and above <ul style="list-style-type: none"> 1.5 Ghz or faster 2 – 16 processors 512 MB RAM or higher 	Microsoft Windows 2000 <ul style="list-style-type: none"> Server <ul style="list-style-type: none"> VERITAS Volume Manager ⁴ 4.2, 4.3 with DMP or SDD VERITAS Cluster Server 4.3 ⁴ Advanced Server including Cluster service <ul style="list-style-type: none"> VERITAS Volume Manager ⁴ 4.2, 4.3 with DMP or SDD VERITAS Cluster Server 4.3 ⁴ Datacenter Server including Cluster service 	BladeCenter ¹ <ul style="list-style-type: none"> IBM <ul style="list-style-type: none"> 13N2203 26K4841 26R0884 26R0890 39Y9186 39Y9306 48P7061 Emulex <ul style="list-style-type: none"> LP1005DC 	Cisco ¹ <ul style="list-style-type: none"> MDS 9020, 9120, 9124, 9140 MDS 9216, 9216A, 9216I MDS 9506, 9509, 9513
AMD Chipset <ul style="list-style-type: none"> 1.6 GHz or faster 512 MB RAM or higher 	Microsoft Windows 2003 SP1, R2, SP2 <ul style="list-style-type: none"> Standard Edition <ul style="list-style-type: none"> VERITAS Volume Manager ⁴ 4.2, 4.3 with DMP or SDD VERITAS Cluster Server 4.3 ⁴ Enterprise Edition including cluster service <ul style="list-style-type: none"> VERITAS Volume Manager ⁴ 4.2, 4.3, with DMP or SDD VERITAS Cluster Server 4.3 ⁴ VERITAS Volume Manager 5.0 with DMP or SDD DSM x64 VERITAS Cluster Server 5.0 with x64 MSCS with x64 Datacenter Edition including cluster service 	Emulex <ul style="list-style-type: none"> LP9002L / LP9002DC LP9402DC LP9802 LP10000/LP10000DC LP11000 (IBM P/N 42D0405) LP11002 (IBM P/N 42D0407) LPE11000 (IBM P/N 42C2069) LPE11002 (IBM P/N 42C2071) 	CNT <ul style="list-style-type: none"> FC/9000-64, -128, -256 2042-N16
IBM BladeCenter ¹ <ul style="list-style-type: none"> HS20 <ul style="list-style-type: none"> 7981 8678 8832 8843 HS21 <ul style="list-style-type: none"> 8853 HS40 <ul style="list-style-type: none"> 8839 LS20 <ul style="list-style-type: none"> 8850 LS21 <ul style="list-style-type: none"> 7971 LS41 <ul style="list-style-type: none"> 7972 		IBM Netfinity / System x <ul style="list-style-type: none"> P/N 19K1246 P/N 24P0960 P/N 39M5894 P/N 39M5895 	IBM <ul style="list-style-type: none"> 2005 Models B16, B32, B64 2005 Models H08, H16 2026 Model E12, 224 2026 Models 12E, 16E, 416 2026 Models 32E, 432 2027 Models 140, 232 2027 Models R04, R16, 256 2045 Model N16 2109 Models A16 ³, F16, F32 2109 Model M12, M14, M48 2109 Models S08, S16 3534 Model F08
IBM System x Servers ¹ <ul style="list-style-type: none"> 100, 206, 206m, 225, 226, 235, 236, 255, 260, 306, 325, 326, 326m, 335, 336, 345, 346, 360, 365, 366, 440, 445, 450, 455, 460, 3105, 3200, 3250, 3400, 3455, 3500, 3550, 3650, 3655, 3755, 3800, 3850, 3950, 3950E 		QLogic <ul style="list-style-type: none"> QLA2310F / QLA2310FL QLA2340L / QLA2342L QLA2460 QLA2462 QLE2460 (IBM P/N 39R6525) QLE2462 (IBM P/N 39R6527) 	IBM BladeCenter ¹ <ul style="list-style-type: none"> P/N 02R9080 P/N 26K5601 P/N 26K6477 P/N 26R0881 P/N 32R1790 P/N 32R1812 P/N 32R1813 P/N 32R1831 P/N 32R1835 P/N 39Y9280 P/N 39Y9284 P/N 48P7062 P/N 90P0165
			McDATA <ul style="list-style-type: none"> ED-5000 ES-3016, ES-3032 Intrepid <ul style="list-style-type: none"> 6064, 6140 Sphereon <ul style="list-style-type: none"> 3216, 3232 4300, 4500

¹ For information on OS and HBA support, refer to the following link: <http://www.ibm.com/servers/eserver/serverproven/compat/us/>

² Supported with the IP Storage Service Module for iSCSI on Cisco fabric products. Refer to the following link for more details: <ftp://service.boulder.ibm.com/storage/san/cisco/ipStorServMod.pdf>

³ The IBM 2109 Model A16 is supported with iSCSI on Windows 2000 and Windows 2003.

⁴ VERITAS Cluster Services clustering supports 2 nodes maximum.

X86, X64, AND IA64 BASED SERVERS - WINDOWS

Fibre Channel

General Notes:

This Interoperability file will be sunseting, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Available for Microsoft Windows 2000 and 2003.

DS CLI: Available for Microsoft Windows 2000 and Microsoft Windows Server 2003 (32-bit only).

SDD:

- Available for Microsoft Windows 2000 32-bit, Microsoft Windows Server 2003, sp1, 2, R2 for 32-bit and ia64-bit.
- Not supported on 64-bit AMD or EM64T servers.
- Not supported with IBM BladeCenter LS20, and BladeCenter HS20 8832. Storport drivers are not supported.

SAN Boot support:

- The DS8100 and DS8300 models are supported as a boot device on Windows 2000 (32-bit) or Windows Server 2003 (32-bit or ia64-bit) servers that support Fibre Channel boot capability. It is supported with host adapters QLA 23xx (32-bit or ia64-bit) and LP9xxx (32-bit support only). Refer to the *IBM System Storage DS8000 Host Systems Attachment Guide* for additional information
- Not available for IBM BladeCenter LS20, and BladeCenter HS20 8832.

SDD DSM:

- Available for Microsoft Windows 2003 SP1, 32-bit and x64 (AMD or EM64T servers). Requires Storport drivers.
- Available for IBM BladeCenter LS20, and BladeCenter HS20 8832.

Boot device support:

- The DS8100 and DS8300 models are supported as a boot device on Microsoft Windows 2003 SP1, 32-bit and x64 (AMD or EM64T servers). Refer to the *IBM System Storage DS8000 Host Systems Attachment Guide* for additional information.

X86, X64, AND IA64 BASED SERVERS - WINDOWS

Hewlett Packard Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
HP ProLiant 32-bit Servers <ul style="list-style-type: none"> DL 145 G2 DL 320 G3, G4 DL 360 G4, G4p DL 380 G4 DS 560 DL 580 G3 DL 740 ML 110 ML 150 G2 ML 310 G2, G3 ML 350 G4, G4p ML 370 G4 ML 570 G3 ML 580 G3 	Microsoft Windows 2000 <ul style="list-style-type: none"> Server <ul style="list-style-type: none"> VERITAS Volume Manager⁴ 4.2, 4.3 with DMP or SDD VERITAS Cluster Server 4.3⁴ Advanced Server including Cluster service <ul style="list-style-type: none"> VERITAS Volume Manager⁴ 4.2, 4.3 with DMP or SDD VERITAS Cluster Server 4.3⁴ Datacenter Server including Cluster service Microsoft Windows 2003 SP1, 2, R2, Standard Edition <ul style="list-style-type: none"> VERITAS Volume Manager² 4.2, 4.3 with DMP or SDD VERITAS Cluster Server 4.3² Enterprise Edition including cluster service <ul style="list-style-type: none"> VERITAS Volume Manager⁴ 4.2, 4.3, with DMP or SDD VERITAS Cluster Server 4.3⁴ VERITAS Volume Manager 5.0 with DMP or SDD DSM x64 VERITAS Cluster Server 5.0 with x64 MSCS with x64 Datacenter Edition including cluster service 	Emulex⁵ <ul style="list-style-type: none"> LP9002L / LP9002DC LP9402DC LP9802 LP10000 / LP10000DC LP11000 LP11002 LPE11000 LPE11002 HP ProLiant Blade System <ul style="list-style-type: none"> 300874-B21 354054-B21 361426-B21 381881-B21 394588-B21 QLogic⁵ <ul style="list-style-type: none"> QLA2310F / QLA2310FL QLA2340L / QLA2342L QLA2460 QLA2462 QLE2460 QLE2462 	Cisco¹ <ul style="list-style-type: none"> MDS 9120, 9124, 9140 MDS 9216, 9216A, 9216I MDS 9506, 9509, 9513 CNT <ul style="list-style-type: none"> FC/9000-64, -128, -256 2042-N16 IBM <ul style="list-style-type: none"> 2005 Models B16, B32, B64 2005 Models H08, H16 2026 Model E12, 224 2026 Models 12E, 16E, 416 2026 Models 32E, 432 2027 Models 140, 232 2027 Models R04, R16, 256 2045 Model N16 2109 Model A16³ 2109 Models F16, F32 2109 Model M12, M14, M48 2109 Models S08, S16 3534 Model F08 McDATA <ul style="list-style-type: none"> ED-5000 ES-3016, ES-3032 Intrepid <ul style="list-style-type: none"> 6064, 6140 Sphereon <ul style="list-style-type: none"> 3216, 3232 4300, 4500
HP ProLiant 64-bit Servers <ul style="list-style-type: none"> DL 385 DL 585 G1, G2 			
HP Integrity ia64-bit Servers <ul style="list-style-type: none"> RX7600 			
HP ProLiant 32-bit Blade System <ul style="list-style-type: none"> BL 20 p BL 30 p BL 40 p 			
HP ProLiant 64-bit Blade System <ul style="list-style-type: none"> BL 25 p BL 35 p BL 45 p 			

¹ Supported with the IP Storage Service Module for iSCSI on Cisco fabric products. Refer to the following link for more details:
<ftp://service.boulder.ibm.com/storage/san/cisco/ipStorServMod.pdf>

² Supports 32-bit only, and VERITAS Cluster Services clustering supports 2 nodes maximum.

³ The IBM 2109 Model A16 is supported with iSCSI on Windows 2003.

⁴ VERITAS Cluster Services clustering supports 2 nodes maximum.

⁵ HP equivalent adapters are supported for QLogic and Emulex.

X86, X64, AND IA64 BASED SERVERS - WINDOWS

Hewlett Packard – Fibre Channel

General Notes:

This Interoperability file will be sunseting, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Available for Microsoft Windows 2003.

DS CLI: Available for Microsoft Windows 2003 (32-bit only).

SDD:

- Available for Microsoft Windows Server 2003, sp1, 2, R2 for 32-bit and ia64-bit.
- Not supported on 64-bit AMD or EM64T servers.
- Storport drivers are not supported.

Boot device support:

- The DS8100 and DS8300 models are supported as a boot device on Windows Server 2003 (32-bit or ia64-bit) servers that support Fibre Channel boot capability. It is supported with host adapters QLA 23xx (32-bit or ia64-bit) and LP9xxx (32-bit support only). Refer to the *IBM System Storage DS8000 Host Systems Attachment Guide* for additional information.

SDD DSM:

- Available for Microsoft Windows 2003 SP1, 32-bit and x64 (AMD or EM64T servers). Requires Storport drivers.

SAN Boot support:

- The DS8100 and DS8300 models are supported as a boot device on Microsoft Windows 2003 SP1, 32-bit and x64 (AMD or EM64T servers). Refer to the *IBM System Storage DS8000 Host Systems Attachment Guide* for additional information.

ADDITIONAL STORAGE ATTACHMENT

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
Macintosh G4 and G5	OS X 10.3	Apple <ul style="list-style-type: none">• Fibre Channel PCI-X card• 065-5136 ATTO ¹ <ul style="list-style-type: none">• 3300• 3321	IBM <ul style="list-style-type: none">• 2109 Model F16• 2109 Model M12 McDATA <ul style="list-style-type: none">• Intrepid• 6064

General Notes:

This Interoperability file will be sunset, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Not available.

DS CLI: Not available.

SDD: Not available.

¹ Only one PCI slot on the G5 can be used with the ATTO Host Adapter.

FUJITSU PRIMEPOWER SERVERS

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
Primepower <ul style="list-style-type: none"> • 200, 250 • 400,450 • 650 • 800, 850 • 900 • 1000, 1500 • 2000, 2500 	Solaris <ul style="list-style-type: none"> • 8 • 9 • 10 	Emulex <ul style="list-style-type: none"> • LP9002DC • LP9002L • LP9402DC • LP9802 • LP10000 • LP10000DC QLogic <ul style="list-style-type: none"> • 2340 • 2342 	Cisco <ul style="list-style-type: none"> • MDS 9020, 9120, 9124, 9140 • MDS 9216, 9216A, 9216I • MDS 9506, 9509, 9513 CNT (Inrange) <ul style="list-style-type: none"> • FC/9000-64, -128, -256 IBM <ul style="list-style-type: none"> • 2005 Models H08, H16 • 2026 Models E12, 224 • 2026 Models 12E, 16E, 416 • 2026 Models 32E, 432 • 2027 Models 140, 232 • 2027 Models R04, R16, 256 • 2045 Model N16 • 2109 Models F16, F32 • 2109 Model M12, M14, M48 • 2109 Models S08, S16 • 3534 Model F08 McDATA <ul style="list-style-type: none"> • ED-5000 • ES-3016, ES-3032 • Intrepid <ul style="list-style-type: none"> • 6064, 6140 • Sphereon <ul style="list-style-type: none"> • 3216, 3232 • 4300, 4500

General Notes:

This Interoperability file will be sunseting, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Not available.

DS CLI: Not available.

SDD:

- Available for Solaris 8, 9, and 10
- Solaris 10 Container not supported.
- SDD is not supported in Sun Cluster environments.
- SDD does not support Sun adapters.
- SDD is not supported with SAN Boot.

Fibre Channel

Servers	Operating Systems	Fabric Support
N Series <ul style="list-style-type: none"> • N5200-G10 (2864-G10) • N5200-G20 (2864-G20) • N5300 G10 (2869 G10) • N5300 G20 (2869 G20) • N5500-G10 (2865-G10) • N5500-G20 (2865-G20) • N5600 G10 (2868-G10) • N5600 G20 (2868-G20) 	DataONTAP <ul style="list-style-type: none"> • 7.1 • 7.1.0.1 	Cisco <ul style="list-style-type: none"> • MDS 9120, 9140 • MDS 9216, 9216A, 9216I • MDS 9506, 9509 CNT <ul style="list-style-type: none"> • FC/9000-64, -128, -256 • 2042-N16 IBM <ul style="list-style-type: none"> • 2005 Models B16, B32 • 2005 Models H08, H16 • 2109 Models F16, F32 • 2109 Model M12, M14, M48 • 2109 Models S08, S16 • 3534 Model F08 McDATA <ul style="list-style-type: none"> • ED-5000 • ES-3016, ES-3032 • Intrepid <ul style="list-style-type: none"> • 6064, 6140 • Sphereon <ul style="list-style-type: none"> • 3216, 3232 • 4300, 4500

NETWORK ATTACHED STORAGE (NAS)

NAS Gateway	Fabric Support
NAS Gateway 500 <ul style="list-style-type: none">5198 Model 001	Cisco <ul style="list-style-type: none">MDS 9120, 9140, 9506, 9509. 9216 CNT <ul style="list-style-type: none">FC/9000-64FC/9000-128FC/9000-256 IBM <ul style="list-style-type: none">2109 Models F16, F322109 Model M123534 Model F08 McDATA <ul style="list-style-type: none">Intrepid 6064, 6140Sphereon 3216, 3232, 4300, 4500

Fibre Channel

Servers	Operating Systems	Host Adapters	Fabric Support
Origin Servers <ul style="list-style-type: none">• 200• 2100• 2200• 2400• 2800	IRIX <ul style="list-style-type: none">• 6.5.13• 6.5.14• 6.5.15• 6.5.16• 6.5.17• 6.5.18• 6.5.19• 6.5.20• 6.5.21• 6.5.22• 6.5.28	SGI <ul style="list-style-type: none">• PCI-FC-1P-OPT• PCI-FC-1P-OPT-A• PCI-FC-1POPT-B• PCX-FC-2POPT-B	IBM <ul style="list-style-type: none">• 2109 Model M12• 2109 Models S08, S16• 2109 Model F16• 3534 Model F08

General Notes:

This Interoperability file will be sunseting, please begin to use and familiarize yourself with the System Storage Interoperation Center (SSIC): <http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

DS Open API – (CIM Agent): Not available for SGI Servers.

DS CLI: Not available for SGI Servers.

SDD: Not available for SGI Servers.

APPENDIX A: DS8000 HOST ADAPTERS AND CABLES

Table 8: DS8000 series Host Adapter Features

Feature Number	Features Description	Supported Models	Minimum LMC Level
3111	2Gb SW FCP/FICON adapter	921 / 922 / 92E 931 / 932	5.0.0 5.2.2.00.x
3113	4Gb SW FCP/FICON adapter	921 / 922 / 92E 931 / 932	5.2.2.00.x 5.2.2.00.x
3121	2Gb SW FCP/FICON adapter - A	9A2 / 9AE 9B2	5.0.0 5.2.2.00.x
3123	4Gb SW FCP/FICON adapter - A	9A2 / 9AE 9B2	5.2.2.00.x 5.2.2.00.x
3131	2Gb SW FCP/FICON adapter - B	9A2 / 9AE 9B2	5.0.0 5.2.2.00.x
3133	4Gb SW FCP/FICON adapter - B	9A2 / 9AE 9B2 / 9BD / 9BE	5.2.0 5.2.0
3211	2Gb LW FCP/FICON adapter	921 / 922 / 92E 931 / 932	5.0.0 5.2.2.00.x
3213	4Gb LW FCP/FICON adapter	921 / 922 / 92E 931 / 932	5.2.2.00.x 5.2.2.00.x
3215	4Gb 10km LW FCP/FICON adapter	921 / 922 / 92E 931 / 932	5.2.2.00.x 5.2.2.00.x
3221	2Gb LW FCP/FICON adapter - A	9A2 / 9AE 9B2	5.0.0 5.2.2.00.x
3223	4Gb LW FCP/FICON adapter - A	9A2 / 9AE 9B2	5.2.2.00.x 5.2.2.00.x
3225	4Gb 10km LW FCP/FICON adapter - A	9A2 / 9AE 9B2	5.2.2.00.x 5.2.2.00.x
3231	2Gb LW FCP/FICON adapter - B	9A2 / 9AE 9B2	5.0.0 5.2.2.00.x
3233	4Gb LW FCP/FICON adapter - B	9A2 / 9AE 9B2	5.2.0 5.2.0
3235	4Gb 10km LW FCP/FICON adapter – B	9A2 / 9AE 9B2	5.2.0 5.2.2.00.x
3311	ESCON adapter	921 / 922 / 92E 931 / 932	5.0.0 5.2.2.00.x
3321	ESCON adapter - A	9A2 / 9AE 9B2	5.0.0 5.2.2.00.x
3331	ESCON adapter - B	9A2 / 9AE 9B2	5.0.0 5.2.2.00.x

Table 9: DS8000 series Fibre Channel / FICON Cable Features

Feature Number	Feature Description	Cable Length
1410	50 um Fibre cable (LC)	31 meters
1411	50 um Fibre cable (LC / SC)	31 meters
1412	50 um Fibre cable (jumper)	2 meters (pigtail)
1420	9 um Fibre cable (LC)	31 meters
1421	9 um Fibre cable (LC/SC)	31 meters
1422	9 um Fibre cable (jumper)	2 meters (pigtail)
1430	ESCON cable (MT-RJ)	31 meters
1431	ESCON cable (MT-RJ/DUP)	31 meters
1432	ESCON cable (jumper)	2 meters (pigtail)
1440	ESCON PL cable (MT-RJ)	31 meters
1441	ESCON PL cable (MT-RJ/DUP)	31 meters

APPENDIX B: HOST ADAPTERS AND CABLES

Table 10: DS8000 series Fibre Channel Host Adapters

Adapter	Description
AMCC/JNI FCX-6562	FibreStar PCI-X-to-Fibre Channel Host Bus Adapter (2Gb)
AMCC/JNI FCX2-6562	FibreStar PCI-X-to-Fibre Channel Host Bus Adapter (2Gb) (two ports)
AMCC/JNI FCE-1473-N	FibreStar 2Gb 64-bit SBus-to-Fibre Channel Host Bus Adapter
AMCC/JNI FCE-6460-N	FibreStar 2Gb 64-bit PCI-to-Fibre Channel Host Bus Adapter
Apple 065-5136	Apple PCI-X Fibre Channel Host Adapter
ATTO 3300	ATTO ExpressPCI Fibre Channel Host Adapter
ATTO 3321	ATTO ExpressPCI Fibre Channel Host Adapter
Emulex LP9002L	LightPulse Fibre Channel PCI Host Adapter (2Gb)
Emulex LP9002DC	Light Pulse Fibre Channel PCI Host Adapter (2Gb) (two ports)
Emulex LP9402DC	LightPulse Fibre Channel PCI-X Host Adapter (2Gb) (two ports)
Emulex LP9802	LightPulse Fibre Channel PCI-X Host Adapter (2GB)
Emulex LP10000	LightPulse Fibre Channel PCI-X Host Adapter (2Gb)
Emulex LP10000DC	LightPulse Fibre Channel PCI-X Host Adapter (2Gb) (two ports)
Emulex LP11000	LightPulse 4Gb Fibre Channel PCI-X Host Adapter
Emulex LP11002	LightPulse 4GB Fibre Channel PCI-X Host Adapter (two ports)
Emulex LPE11000	LightPulse 4Gb Fibre Channel PCI Express Host Adapter
Emulex LPE11002	LightPulse 4Gb Fibre Channel PCI Express Host Adapter (two ports)
Hewlett-Packard A5158A	PCI Tachlite Fibre Channel Adapter
Hewlett-Packard A6684A	HSC Tachlite Fibre Channel Adapter
Hewlett-Packard A6685A	HSC Tachlite Fibre Channel Adapter
Hewlett-Packard A6795A	PCI Tachlite 2Gb Fibre Channel Adapter
Hewlett-Packard A6826A	PCI 2Gb Fibre Channel Adapter
Hewlett-Packard A9782A	PCI-x 2Gb Fibre Channel Adapter
Hewlett-Packard AB378A	PCI-x 4gb Fibre Channel Adapter
Hewlett-Packard AB379A	PCI-x 4gb dual port Fibre Channel Adapter
Hewlett-Packard FC 2684	PCI-x 2gb Fibre Channel Adapter
IBM P/N 39R6525	Qlogic 4Gb FC (single port) PCIe HBA for IBM System x
IBM P/N 39R6527	Qlogic 4Gb FC (dual port) PCIe HBA for IBM System x
IBM P/N 42C2069	Emulex 4 Gb FC HBA PCI-E Controller Single Port (LPE11000)
IBM P/N 42C2071	Emulex 4 Gb FC HBA PCI-E Controller Dual Port (LPE11002)
IBM P/N 42D0405	Emulex 4 Gb FC HBA PCI-X Controller Single Port (LPA11000)
IBM P/N 42D0407	Emulex 4 Gb FC HBA PCI-X Controller Dual Port (LPA11002)
IBM System i FC 0612	Linux Direct Attachment (PCI Fibre Channel Disk Controller)
IBM System i FC 0626	Linux Direct Attachment (PCI-X Fibre Channel Disk Controller)
IBM System i FC 0629	PCI Fibre Channel Disk Controller (4 Gb)
IBM System i FC 2766	PCI Fibre Channel Disk Controller
IBM System i FC 2787	PCI-X Fibre Channel Disk Controller
IBM System i FC 5760	PCI Fibre Channel Disk Controller (4 Gb)
IBM Netfinity P/N 19K1246	Netfinity FASTT FC2/66 Fibre Channel Adapter
IBM Netfinity P/N 24P0960	Netfinity FASTT FC2/133 Fibre Channel Adapter

IBM System p FC 1905	4Gb Fibre Channel 1-port PCI-X DDR Adapter
IBM System p FC 1910	4Gb Fibre Channel 2-port PCI-X DDR Adapter
IBM System p FC 1957	2Gb Fibre Channel 1-port PCI-X Low Profile Adapter
IBM System p FC 1977	2Gb Fibre Channel 1-port PCI-X Adapter
IBM System p FC 5716	Fibre Channel Adapter 64-bit for PCI-x Bus (2 Gb)
IBM System p FC 5758	4Gb Fibre Channel 1-port PCI-X DDR Adapter
IBM System p FC 5759	4Gb Fibre Channel 2-port PCI-X DDR Adapter
IBM System p FC 5773	4Gb Fibre Channel 1-port PCI-E DDR Adapter
IBM System p FC 5774	4Gb Fibre Channel 2-port PCI-E DDR Adapter
IBM System p FC 6228	Fibre Channel Adapter 64-Bit for PCI Bus (2Gb)
IBM System p FC 6239	Fibre Channel Adapter 64-bit for PCI Bus (2Gb)
IBM System z FC 3319	FICON Express2 LX
IBM System z FC 3320	FICON Express2 SX
QLogic QLA2310F	66MHz PCI-X Fibre Channel Adapter
QLogic QLA2310FL	66MHz PCI-X Fibre Channel Adapter (low profile)
QLogic QLA2340/L	133MHz PCI-X Fibre Channel Adapter (low profile)
QLogic QLA2342/L	133MHz PCI-X Fibre Channel Adapter (two ports; low profile)
QLogic QLA2460	4Gb Fibre Channel to PCI-X 2.0 266 MHZ, multi-mode optic (1-port)
QLogic QLA2462	4Gb Fibre Channel to PCI-X 2.0 266 MHZ, multi-mode optic (2-ports)
QLogic QLE2460	4Gb Fibre Channel to x4 PCI Express, multi-mode optic (1-port)
QLogic QLE2462	4Gb Fibre Channel to x4 PCI Express, multi-mode optic (2-ports)
SGI PCI-FC-1P-OPT	Optical SW 1GB Fibre Channel Adapter
SGI PCI-FC-1P-OPT-A	Optical SW 1GB Fibre Channel Adapter
SGI PCI-FC-1POPT-B	Optical SW 2 GB Fibre Channel Adapter
SGI PCX-FC-2POPT-B	Optical SW 2GB Fibre Channel Adapter (two ports)
StorageWorks KGPSA-CA	64-bit / 33 MHz PCI-to-Fibre Channel Host Bus Adapter
StorageWorks KGPSA-DA	64-bit / 66MHz PCI 2Gb Fibre Channel Adapter
StorageWorks KGPSA-EA	PCI-x 2Gb Fibre Channel Adapter
Sun 6727A	64-Bit PCI-to-Fibre Channel Adapter (33MHz or 66 MHz) (dual port)
Sun 6757A	25 MHz SBus Fibre Channel Adapter (dual port)
Sun 6767A (SG-XPCI1FC-QF2)	66MHz PCI-X 2Gb Fibre Channel Adapter
Sun 6768A (SG-XPCI2FC-QF2)	133MHz PCI-X 2Gb Fibre Channel Adapter (two ports; low profile)
Sun 6799A	64-Bit PCI-to-Fibre Channel Adapter (33MHz or 66 MHz)
Sun SG-XPCI1FC-EM2	LightPulse Fibre Channel PCI-X Host Adapter (4Gb) (single port)
Sun SG-XPCI1FC-EM4-Z	PCI-X Fibre Channel Host Adapter (4Gb, single port)
Sun SG-XPCI1FC-EM2	LightPulse Fibre Channel PCI-X Host Adapter (4 Gb) (dual port)
Sun SG-XPCI2FC-EM4-Z	PCI-X FC Host Adapter (4 Gb, Dual port)
Sun SG-XPCI1FC-QL2	2Gb Fibre Channel to x4 PCI -X, multi-mode optic (single port)
Sun SG-XPCI2FC-QL2	2Gb Fibre Channel to x4 PCI -X, multi-mode optic (dual port)
Sun SG-XPCI2FC-QF2-Z	2Gb Fibre Channel to x4 PCI -X, multi-mode optic (dual port)
Sun SG-XPCI1FC-QF4	4Gb PCI-X Fibre Channel Host Adapter (single port)
Sun SG-XPCI2FC-QF4	4Gb PCI-X Fibre Channel Host Adapter (dual port)

APPENDIX C: SAN FABRIC PRODUCTS

Fibre Channel / FICON Intermix

The DS8000 series supports Fibre Channel / FICON intermix. With intermix, both FCP (Fibre Channel Protocol) and FICON upper level protocols can be supported within the same director when deployed independently by port.

For specific support, implementation details and operational information for using intermix, refer to the Fibre Channel Director websites.

Table 11: SAN Fabric Products

Product	IBM Machine Type and Model or Part Number	Description
Cisco MDS 9120	IBM 2061 Model 020	Cisco 9120 Multilayer Fabric Switch (2Gb, 20-port)
Cisco MDS 9124	IBM 2053 Model 424	Cisco 9124 Multilayer Fabric Switch (4Gb, 24-port)
Cisco MDS 9140	IBM 2061 Model 040	Cisco 9140 Multilayer Fabric Switch (2Gb, 40-port)
Cisco MDS 9216	IBM 2062 Model D01	Cisco 9216 Multilayer Fabric Switch (2Gb, 48-port)
Cisco MDS 9216A	IBM 2062 D1A / IBM 2054 D1A	Cisco 9216A Multilayer Fabric Switch (2Gb, multi-port)
Cisco MDS 9216I	IBM 2062 D1H / IBM 2054 D1H	Cisco 9216I Multilayer Fabric Switch (2Gb, multi-port)
Cisco MDS 9506	IBM 2062 Models D04 / T04	Cisco 9506 Multilayer Director (2Gb, 128-port)
Cisco MDS 9509	IBM 2062 Models D07 / T07	Cisco 9509 Multilayer Director (2Gb, 224-port)
Cisco MDS 9509	IBM 2054 E07	Cisco 9509 Multilayer Director (4Gb, 224-port)
Cisco MDS 9513	IBM 2054 E11 / IBM 2062 E11	Cisco 9513 Multilayer Director (4Gb, from 12 to 528 ports)
CNT (INRANGE) FC/9000-64	IBM 2042 Model 001	CNT (INRANGE) FC/9000 Fibre Channel Director (2Gb, 64-port)
CNT (INRANGE) FC/9000-128	IBM 2042 Model 128	CNT (INRANGE) FC/9000 Fibre Channel Director (2Gb, 128-port)
CNT (INRANGE) FC/9000-256	IBM 2042 Model 256	CNT (INRANGE) FC/9000 Fibre Channel Director (2Gb, 256-port)
CNT UMD	IBM 2042 Model N16	CNT Ultraset Multi-service Director (2Gb, 256-port)
IBM 2005 Model B16	2005B16	IBM TotalStorage SAN16B (4Gb, 8-, 12- & 16- port)
IBM 2005 Model B32	P/N 2005B32	IBM TotalStorage SAN32B-2 (4Gb, 32-port)
IBM 2005 Model B64	P/N 2005B64	IBM System Storage SAN Switch (4Gb 32, 48, and 64 ports)
IBM 2005 Model H08	P/N 2005H08	IBM TotalStorage SAN Switch H08 (2Gb, 8-port)
IBM 2005 Model H16	P/N 2005H16	IBM TotalStorage SAN Switch H16 (2Gb, 16-port)
IBM 2005 Model R18	2005R18	IBM System Storage SAN Router SAN18B-R (4Gb, 16ports, GbE 2 ports)
IBM 2026 Model 12E		IBM TotalStorage SAN Switch HVEC Model (4Gb, 12-port)
IBM 2026 Model 16E		IBM TotalStorage SAN Switch HVEC Model (4Gb, 16-port)
IBM 2026 Model 416	SAN416M-2	IBM TotalStorage SAN Switch (4Gb, 16-port)
IBM 2026 Model 32E		IBM TotalStorage SAN Switch HVEC Model (4Gb, 32-port)
IBM 2026 Model 432	SAN432M-2	IBM TotalStorage SAN Switch (4Gb, 32-port)
IBM 2026 Model 224	P/N 2026224	IBM TotalStorage SAN24M-1 (2Gb, 24-port)
IBM 2026 Model E12		IBM TotalStorage SAN12 (2 Gb, 12-port)
IBM 2027 Model 140	P/N 2027140	IBM TotalStorage SAN140M (2/4 Gb, 140-port)
IBM 2027 Model 232	P/N 2027232	IBM TotalStorage SAN32M-1 (2Gb, 32-port)
IBM 2027 Model 256	SAN256M	IBM TotalStorage SAN256M (10Gb ISL capable, 2/4 GB 256 port)
IBM 2027 Model R04	SAN04M-R	IBM SAN router 4 ports (iFCP x2 and iSCSI x2)
IBM 2027 Model R16	SAN16M-R	IBM SAN Router 12 + 4 ports
IBM 2045 Model N16	P/N 2045N16	IBM TotalStorage SAN256N (2Gb, 256-port)
IBM 2109 Model A16	P/N 2109A16	IBM TotalStorage SAN Switch (2Gb, 16-port, 1GbE 2 Ports)

Product	IBM Machine Type and Model or Part Number	Description
IBM 2109 Model F16	P/N 2109F16	IBM TotalStorage SAN Switch F16 (2Gb, 16-port)
IBM 2109 Model F32	P/N 2109F32	IBM TotalStorage SAN Switch F32 (2Gb, 32-port)
IBM 2109 Model M12	P/N 2109M12	IBM TotalStorage SAN Switch M12 (2Gb, 64-port)
IBM 2109 Model M14	P/N 2109M14	IBM TotalStorage SAN Switch M14 (2Gb, 128-port)
IBM 2109 Model M48	P/N 2109M48	IBM TotalStorage SAN Switch M48 (4Gb, 256 port)
IBM 2109 Model S08	P/N 2109S08	IBM TotalStorage SAN Switch S08 (1Gb, 8-port)
IBM 2109 Model S16	P/N 2109S16	IBM TotalStorage SAN Switch S16 (1Gb, 16-port)
IBM 3534 Model F08	P/N 3534F08	IBM TotalStorage SAN Switch F08 (2Gb, 8-port)
IBM eServer BladeCenter	P/N 48P7062	BladeCenter 2 Pt Fibre Channel Switch Module
IBM eServer BladeCenter	P/N 02R9080	BladeCenter HS20 Optical Pass Thru Module
IBM eServer BladeCenter	P/N 90P0165	BladeCenter Internal Brocade Switch
McDATA ED-5000	IBM 2032 Model 001	McDATA ED-5000 Fibre Channel Director
McDATA ES-3016	IBM 2031 Model 016	McDATA ES-3016 Fabric Switch (1Gb, 16-port)
McDATA ES-3032	IBM 2031 Model 032	McDATA ES-3016 Fabric Switch (1Gb, 32-port)
McDATA Intrepid 6064	IBM 2032 Model 064	McDATA Intrepid 6064 Director (2Gb, 64-port)
McDATA Intrepid 6140	IBM 2032 Model 140	McDATA Intrepid 6140 Director (2Gb, 140-port)
McDATA Sphereon 3216	IBM 2031 Model 216	McDATA Sphereon 3216 Fabric Switch (2Gb, 16-port)
McDATA Sphereon 3232	IBM 2031 Model 232	McDATA Sphereon 3232 Fabric Switch (2Gb, 32-port)
McDATA Sphereon 4300	IBM 2034 Model 212	McDATA Sphereon 4300 Fabric Switch (2Gb, 12-port)
McDATA Sphereon 4500	IBM 2031 Model 224	McDATA Sphereon 4500 Fabric Switch (2Gb, 24-port)

APPENDIX D: REVISION HISTORY

April 30, 2007

Unless stated otherwise, these items require DS8000 LMC level 5.2.410.xx (bundle version 6.2.410.xx), or later.

Systems, Path Management, and Clustering

- Microsoft Windows 2003 SP2
- z/Linux SLES 10 with ESCON AND FICON
- GPFS 3.1 with AIX 5.2 AND 5.3 for System p
- SUN Solaris 8 and 9 MPxIO 4.4.2 thru 4.4.11 levels
- SUN Solaris 10 MPxIO driver support within OS bundle
- SAN boot support for System i added to Table 1
- Footnote for 2027 R04 & R16 - both require direct attach support only for Remote mirror and copy services

Fabric Support

- IBM 2026 Model 12E for HP-UX, System i, System p, Sun, Windows, Linux, Netware, and Fujitsu Primepower

Servers

- Opteron Servers x4600, V20z & V40z with Solaris 10

Host Adapters

- SUN SG-XPCI2FC-QL2 for Solaris 8, 9, and 10

March 16, 2007

Unless stated otherwise, these items require DS8000 LMC level 5.2.410.xx (bundle version 6.2.410.xx), or later.

Operating Systems, Path Management, and Clustering

- Red Hat Enterprise Linux 5.0
- DMM Support for Red Hat Enterprise Linux 5 and 4.4
- DMM Support for SuSE SLES 9 sp3
- DCLI Support for Red Hat Enterprise Linux 5, 4.4,
- DCLI Support for SuSE SLES 9, and SLES 10
- HP Open VMS Operating System 8.2 for Alpha Servers
- HP Open VMS Operating System 8.2.1 for Itanium Servers
- z/VSE Version 4 Release 1 for ESCON, FICON AND FCP
- Veritas Volume Manager 5.0 and Cluster Server 5.0 for Microsoft Windows 2003 with SDD DSM and DMP support
- Veritas Volume Manager and Cluster Server 5.0 for RHEL 3.0 and SLES 9 on P5 LoP
- Solaris 9 & 10 Veritas Volume Manager 4.1 SDD coexistence
- SDD Support for Solaris 10 with Opteron x64 Servers

Fabric Support

- Cisco ONS 15454
- Cisco MDS 9124 for HP-UX, System i & p, Sun, Windows, Linux, Netware, and Fujitsu Primepower

Servers

- Opteron Servers 4100 & 4200 with Solaris 10
- Hewlett Packard RX7620 Itanium Server
- VMware support for x64 and AMD64 based Servers

Host Adapters

- Hewlett Packard AB378 and AB379 for HP UX
- Hewlett Packard FC2684 for HP Open VMS Alpha
- FC0611 and FC5759 for System I support

December 20, 2006

Unless stated otherwise, these items require DS8000 LMC level 5.2.400.xx (bundle version 6.2.400.xx), or later.

General – PLEASE READ

- IBM System Storage is excited to announce Release 1 of the System Storage Interoperation Center (SSIC). IBM has created a single repository to display IBM Enterprise Disk Interoperability information. There are over 23,000 Interoperation configurations

for IBM Enterprise Disk systems. This Interoperability file will be sunset and we ask that you please begin using and familiarizing yourself with the SSIC website. See the SSIC link as follows:

<http://www.ibm.com/servers/storage/support/config/ess/index.jsp>

Operating Systems, Path Management, and Clustering:

- IBM BladeCenter LS41 7972 (NetWare, VMware, Windows, and Linux)
- Linux support for IBM BladeCenter HS20 (7981), and HS21 (8853)
- NetWare support for Cluster Services 1.80
- NetWare support for IBM BladeCenter HS20 (8843), HS21 (8853), LS20 (8850), and LS21 (7971)
- Sun Solaris 9 and 10 support for SF RAC 5.0
- VMware support for IBM BladeCenter HS20 (8878, 8832, 8843), HS21 (8853), HS40 (8839), LS20 (8850), and LS21 (7971)

- Windows support for IBM BladeCenter HS20 (7981), and HS21 (8853)

Servers:

- Hewlett Packard Windows – ProLiant 64-bit DL 385

Host Adapters:

- Fujitsu support for Emulex adapters LP9002DC and LP9402DC
- IBM P/N 39R6525 and 39R6527 (for QLogic) – Linux and Windows
- IBM P/N 42C2069, 42C2071, 42D0405, and 42D0407 (for Emulex) – Linux and Windows

Operating Systems, Path Management, and Clustering (cont.):

- VMware ESX 3.0.1 (includes Vmotion support via RPQ)
- VMware guest support for SUSE SLES 10
- VMware guest support for Red Hat Enterprise Linux 4

October 31, 2006

Unless stated otherwise, these items require DS8000 LMC level 5.2.400.xx (bundle version 6.2.400.xx), or later.

Operating Systems, Path Management, and Clustering

- IBM DS CLI support for HACMP 5.3.0 and 5.4.0
- IBM System z FCP support for RedHat Enterprise Linux 4.4
- IBM System z z/OS Version 1 Release 8
- IBM System z z/OS.e Version 1 Release 8
- SGI IRIX 6.5.28
- Sun Solaris support for VERITAS SFRAC 5.0

Host Adapters

- Emulex LightPulse 4Gb Fibre Channel PCI Express Adapters LPE11000 and LPE11002 (Linux and Windows)
- IBM BladeCenter 4Gb SFF 26R0886 and 39Y9186 (Linux, NetWare, and Windows)
- IBM System z FC 3323

Servers

- IBM BladeCenter LS21 7971 (Linux and Windows)
- Sun Servers E2900, E4900, and E6900

Fabric Support

- IBM BladeCenter 4Gb Switch Module P/N 26R0881, P/N 32R1812, P/N 32R1813, and P/N 32R1833 (Linux, NetWare, and Windows)
- IBM 2005 R18 support for Global Copy

September 8, 2006

Unless stated otherwise, these items require DS8000 LMC level 5.2.200.x (bundle version 6.2.200.x), or later.

Operating Systems, Path Management, and Clustering

- AIX 5.2 and 5.3 support for VERITAS Volume Manager 5.0 and Cluster Server 5.0 (System p)
- IBM System p and i support for HACMP V5.4 (AIX and Linux)
- IBM System i5 V5R4 support for IBM System Storage DS CLI
- Linux Red Hat Enterprise Linux 3 U7 and U8 (IBM System i, IBM System p, Linux)
- Linux Red Hat Enterprise Linux 4.0 U4.4 (IBM System i, IBM System p, Linux)
- Linux Red Hat Enterprise Linux 4.0 support for VERITAS Volume manager 5.0 and Cluster Server 5.0 (Linux x86_64)

- Sun Solaris 9 and 10 support for SF Oracle RAC 5.0
- Sun Solaris 9 and 10 support for VERITAS Volume Manager 5.0 and Cluster Server 5.0
- SUSE SLES 9 support for VERITAS Volume Manager 5.0 and Cluster Server 5.0 (Linux x86_64)

Servers

- Sun T1000 and T2000 servers

Fabric Support

- Cisco MDS 9513 (HP-UX, IBM System i, IBM System p, IBM Cluster 1600, IBM System z, Linux, NetWare, Sun, Windows, Fujitsu)
- IBM 2005 Model B64 (HP-UX, IBM System i, IBM System p, IBM Cluster 1600, IBM System z, Linux, Sun, Windows)

- Sun adapters SG-XPCI1FC-EM4-Z, SG-XPCI1FC-QF4, SG-XPCI2FC-EM4-Z, SG-XPCI2FC-QF4
- VMware support for Emulex LP9002 / LP9002DC, and LP10000 / 10000DC

Host Adapters

- IBM System i FC 0629

August 22, 2006

August 2, 2006. Unless stated otherwise, these items require DS8000 LMC level 5.2.200.x (bundle version 6.2.200.x), or later.

General

- Introduce the IBM DS8000 Turbo Models 931, 932, 9B2
- IBM DS8000 support for 4Gb FCP/FICON Adapters
- 3-Site Metro/Global Mirror
- TotalStorage Productivity Center (TPC) for Replication

August 2, 2006

Unless stated otherwise, these items require DS8000 LMC level 5.0.500, or later.

General

- NetWare Novell 6.0 general support (RPQ support removed)
- Support for new Host Adapters and Fabric on Fujitsu

Operating Systems, Path Management, and Clustering

- Device Mapper Multipath (DMM) support with SUSE Linux Enterprise Linux 10 (System i, System p, Linux)
- Hewlett Packard Windows 2000
 - Includes support for VERITAS Volume Manager and VERITAS Cluster Server
- Fujitsu Solaris 9 and 10 support
- NetWare Novell 6.5 SP 4 and SP 5
- SUSE Linux Enterprise 10 (System i, System p, Linux)
- VMware ESX 3.0 (includes Vmotion RPQ support)

Channel Extension and Network Connectivity

- IBM 2005 Model R16 Channel Extension for Metro Mirror and Global Mirror
- IBM 2109 Model M48 Channel Extension for Metro Mirror and Global Mirror
- Huawei Channel Extension OptiX Metro 6040, and 6100
- Huawei Channel Extension OptiX Metro OSN 1500, 2500, 3500, 7500

Fabric Support

- IBM 2005 Models H08 and H16 on NetWare
- IBM 2109 Models M14 and M48 on NetWare