Cisco MDS 9000 Family Release Notes for Storage Services Interface Image Release 3.2(3j)

Release Date: April 17, 2008

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This document describes the caveats and limitations for the Storage Service Interface (SSI) software for the Cisco MDS Storage Services Module (SSM).Use this document in conjunction with the documents listed in the "Related Documentation" section on page 12.

Note Release notes are sometimes updated with new information on restrictions and caveats. Refer to the following website for the most recent version of the *Cisco MDS 9000 Family Release Notes*: http://www.cisco.com/en/US/products/ps5989/prod_release_notes_list.html

Table 1 shows the on-line change history for this document.

Table 1 Online History Change

Revision	Date	Description
A0	04/17/2008	Created release notes.
B0	02/03/2009	Added "Deleting SANTap Configurations Required Before Downgrade" to the Limitations section.

Contents

This document includes the following sections:

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Introduction

The SSM provides distributed intelligent storage services for the Cisco MDS 9000 Family and supports up to 32 Fibre Channel ports. It provides the following:

- Network-based volume management
- Management and copy services
- Network assisted storage applications via SANTap
- 32 autosensing 1-Gbps/2-Gbps Fibre Channel interfaces
- Hot-swappable Fibre Channel small form-factor pluggable (SFP) transceiver connectivity
  - Short wavelength (SWL) for connectivity up to 500 m
  - Long wavelength (LWL) for connectivity up to 10 km
  - Coarse wavelength-division multiplexing (CWDM) for connectivity up to 100 km and aggregation of up to 8 ports onto a single optical fiber
- Fibre Channel Write Acceleration (FC-WA) and SCSI Flow Statistics
- Network-Accelerated Serverless Backup (NASB)

System Requirements

This section describes the system requirements for Cisco MDS SAN-OS Release 3.2(1) and includes the following topics:

Components Supported

Table 2 lists the software and hardware components supported by the Cisco MDS 9000 Family.

Table 2 Cisco MDS 9000 Family Supported Software and Hardware Components

Component	Part Number	Description	Applicable Product
Software	M95S2K9-3.2.3j	MDS 9500 Supervisor/Fabric-2, SAN-OS software.	MDS 9500 Series only
	M95S1K9-3.2.3j	MDS 9500 Supervisor/Fabric-I, SAN-OS software.	MDS 9500 Series only
	M92S2K9-3.2.3j	MDS 9222 Supervisor/Fabric-2, SAN-OS software.	MDS 9200 Series only
	M92S1K9-3.2.3j	MDS 9216 Supervisor/Fabric-I, SAN-OS software.	MDS 9200 Series only
	M91S2K9-3.2.3j	MDS 9100 Supervisor/Fabric-2, SAN-OS software.	MDS 9100 Series only
	M91S1K9-3.2.3j	MDS 9100 Supervisor/Fabric-I, SAN-OS software.	MDS 9100 Series only
	M91S1K9-3.2.3j[1]	MDS 9000 Storage Services Interface	MDS 9500 Series and MDS 9216
License	M9500ENT1K9	Enterprise package.	MDS 9500 Series
	M9200ENT1K9	Enterprise package.	MDS 9200 Series
	M9100ENT1K9	Enterprise package.	MDS 9100 Series
	M9500FIC1K9	Mainframe package.	MDS 9500 Series
	M9200FIC1K9	Mainframe package.	MDS 9200 Series
	M9100FIC1K9	Mainframe package.	MDS 9100 Series
	M9100FIC1EK9	FICON license.	MDS 9100 Series

Table 2 Cisco MDS 9000 Family Supported Software and Hardware Components (continued)

Component	Part Number	Description	Applicable Product
License	M9500FMS1K9	Fabric Manager Server package.	MDS 9500 Series
	M9200FMS1K9	Fabric Manager Server package.	MDS 9200 Series
	M9100FMS1K9	Fabric Manager Server package.	MDS 9100 Series
	M9500EXT1K9	SAN Extension over IP package for IPS-8 module.	MDS 9500 Series
	M9200EXT1K9	SAN Extension over IP package for IPS-8 module.	MDS 9200 Series
	M9500EXT14K9	SAN Extension over IP package for IPS-4 module.	MDS 9500 Series
	M9200EXT14K9	SAN Extension over IP package for IPS-4 module.	MDS 9200 Series
	M9500EXT12K9	SAN Extension over IP package for MPS-14/2 module.	MDS 9500 Series
	M9200EXT12K9	SAN Extension over IP package for MPS-14/2 module.	MDS 9200 Series
	M9500EXT1AK9	SAN Extension over IP package for MSM-18/4 module or MSFM-18/4 FIPS module.	MDS 9500 Series
	M9200EXT1AK9	SAN Extension over IP package for MSM-18/4 module or MSFM-18/4 FIPS module.	MDS 9200 Series
	M9500SSE1K9	Storage Services Enabler package.	MDS 9500 Series with SSM
	M9200SSE1K9	Storage Services Enabler package.	MDS 9200 Series with SSM
	M9500SME1MK9	Cisco Storage Media Encryption package for MSM-18/4 module	MDS 9500 Series with MSM
	M9200SME1MK9	Cisco Storage Media Encryption package for MSM-18/4 module	MDS 9200 Series with MSM
	M9200SME1FK9	Cisco Storage Media Encryption package for fixed slot	MDS 9222i Switch only
	M95DMMS1K9	Data Mobility Manager (DMM)	MDS 9500 Series with SSM
	M92DMMS1K9	Data Mobility Manager (DMM)	MDS 9200 Series with SSM
	M95DMMTS1K9	Data Mobility Manager (DMM) for 180 days	MDS 9500 Series with SSM
	M92DMMTS1K9	Data Mobility Manager (DMM) for 180 days	MDS 9200 Series with SSM
	M9124PL8-4G	On-Demand Ports Activation License	MDS 9124 Switch
	M9134PL8-4G	On-Demand Ports Activation License	MDS 9134 Switch
	M9134PL2-10G	On-Demand Ports Activation License	MDS 9134 Switch
	HP-PL12-4G	On-Demand Ports Activation License	Cisco Fabric Switch for HP c-Class BladeSystem only
	IBM-PL10-4G	On-Demand Ports Activation License	Cisco Fabric Switch for IBM BladeCenter only

Table 2 Cisco MDS 9000 Family Supported Software and Hardware Components (continued)

Component	Part Number	Description	Applicable Product
Chassis	DS-C9513	MDS 9513 director (13-slot modular chassis with 11 slots for switching modules, and 2 slots reserved for Supervisor 2 modules only—SFPs[2] sold separately).	MDS 9513 Switch only
	DS-C9509	MDS 9509 director, base configuration (9-slot modular chassis includes 7 slots for switching modules and 2 slots for supervisor modules—SFPs sold separately).	MDS 9509 Switch only
	DS-C9506	MDS 9506 director (6-slot modular chassis includes 4 slots for switching modules and 2 slots for supervisor modules—SFPs sold separately).	MDS 9506 Switch only
	DS-C9222i-K9	MDS 9222i Multiservice Modular Switch (includes 18 4-Gbps Fibre Channel ports and 4 Gigabit Ethernet IP storage services ports, and a modular expansion slot for Cisco MDS 9000 Family Switching and Service modules.)	MDS 9222i Switch only
	DS-C9216-K9	MDS 9216 16-port semi-modular fabric switch (includes 16 1-Gbps/2-Gbps Fibre Channel ports, power supply, and expansion slot—SFPs sold separately).	MDS 9216 Switch only
	DS-C9216A-K9	MDS 9216A 16-port semi-modular fabric switch (includes 16 1-Gbps/2-Gbps Fibre Channel ports, power supply, and expansion slot—SFPs sold separately).	MDS 9216A Switch only
	DS-C9216i-K9	MDS 9216i 16-port semi-modular fabric switch (includes 14 1-Gbps/2-Gbps Fibre Channel ports, 2 Gigabit Ethernet ports, power supply, and expansion slot—SFPs sold separately).	MDS 9216i Switch only
	DS-C9140-K9	MDS 9140 fixed configuration (non-modular) fabric switch (includes 8 full rate ports and 32 host-optimized ports).	MDS 9140 Switch only
	DS-C9124-K9	MDS 9124 fixed configuration (non-modular) multilayer fabric switch (includes 8 enabled ports; an on-demand ports activation license can enable 8 additional ports, up to 24 ports).	MDS 9124 Switch only
	DS-C9134-K9	MDS 9134 fixed configuration (non-modular) multilayer fabric switch (includes 24 enabled 4-Gbps ports; an on-demand ports activation license can enable 8 additional ports, up to 32 4-Gbps ports. An additional port activation license can enable 2 10-Gbps ports.).	MDS 9134 Switch only
	DS-C9120-K9	MDS 9120 fixed configuration, non-modular, fabric switch (includes4 full rate ports and 16 host-optimized ports).	MDS 9120 Switch only
	DS-HP-FC-K9	Cisco Fabric Switch for HP c-Class BladeSystem (includes sixteen internal and eight external active ports and four 4-Gb SFPs installed, or eight internal and four external active ports and two 4-Gb SFPs installed).	Cisco Fabric Switch for HP c-Class BladeSystem only
	DS-IBM-FC-K9	Cisco Fabric Switch for IBM BladeCenter (includes fourteen internal and six external ports)	Cisco Fabric Switch for IBM BladeCenter only

Table 2 Cisco MDS 9000 Family Supported Software and Hardware Components (continued)

Component	Part Number	Description	Applicable Product
External crossbar module	DS-13SLT-FAB1	MDS 9513 crossbar fabric module.	MDS 9513 Switch only
Supervisor modules	DS-X9530-SF2-K9	MDS 9500 Supervisor-2, module.	MDS 9500 Series only
	DS-X9530-SF1-K9	MDS 9500 Supervisor/Fabric-I module.	
Switching modules	DS-X9016	MDS 9000 16-port 1-Gbps/2-Gbps Fibre Channel module (SFPs sold separately).	MDS 9500 Series and 9200 Series
	DS-X9032	MDS 9000 32-port 1-Gbps/2-Gbps Fibre Channel module (SFPs sold separately).	
	DS-X9112	MDS 9000 12-port 4-Gbps Fibre Channel module (SFPs sold separately).	MDS 9500 Series and 9200 Series, except for the MDS 9216 Switch
	DS-X9124	MDS 9000 24-port 4-Gbps Fibre Channel module (SFPs sold separately).	MDS 9500 Series and 9200 Series, except for the MDS 9216 Switch
	DS-X9148	MDS 9000 48-port 4-Gbps Fibre Channel module (SFPs sold separately).	MDS 9500 Series and 9200 Series, except for the MDS 9216 Switch
	DS-X9704	MDS 9000 4-port 10-Gbps Fibre Channel module (SFPs sold separately)	MDS 9500 Series and 9200 Series, except for the MDS 9216 Switch
Services modules	DS-X9308-SMIP	8-port Gigabit Ethernet IP Storage services module.	MDS 9500 Series and 9200 Series
	DS-X9304-SMIP	4-port Gigabit Ethernet IP Storage services module.	
	DS-X9032-SSM	MDS 9000 32-port 1-Gbps/2-Gbps Fibre Channel Storage Services Module (SSM).	
	DS-X9302-14K9	14-port Fibre Channel/2-port Gigabit Ethernet Multiprotocol Services (MPS-14/2) module.	
	DS-X9304-18K9	18-port Fibre Channel/4-port Gigabit Ethernet Multiservice (MSM-18/4) module.	
	DS-X9304-18FK9	18-port Fibre Channel/4-port Gigabit Ethernet Multiservice FIPS (MSFM-18/4) module.	
Optics	DS-X2-FC10G-SR	X2/SC optics, 10-Gbps Fibre Channel for Short Reach.	MDS 9500 Series and 9200 Series, except for the MDS 9216 Switch
	DS-X2-FC10G-LR	X2/SC optics, 10-Gbps Fibre Channel for Long Reach.	
	DS-X2-FC10G-ER	X2/SC optics, 10-Gbps Fibre Channel for Extended Reach (40 km).	
	DS-X2-E10G-SR	X2/SC optics, 10-Gbps Ethernet for Short Reach	
	DS-X2-FC10G_CX4	X2/CX-4 optics, 10-Gbps Fibre Channel, copper	

Table 2 Cisco MDS 9000 Family Supported Software and Hardware Components (continued)

Component	Part Number	Description	Applicable Product
LC-type fiber-optic SFP	DS-SFP-FC-2G-SW	2-Gbps/1-Gbps Fibre Channel—short wavelength SFP.	MDS 9000 Family
	DS-SFP-FC-2G-LW	2-Gbps/1-Gbps Fibre Channel—long wavelength SFP.	
	DS-SFP-FCGE-SW	1-Gbps Ethernet and 1-Gbps/2-Gbps Fibre Channel—short wavelength SFP.	
	DS-SFP-FCGE-LW	1-Gbps Ethernet and 1-Gbps/2-Gbps Fibre Channel—long wavelength SFP.	
	DS-SFP-GE-T	1-Gbps Ethernet SFP.	
	DS-SFP-FC4G-SW	4-Gbps/2-Gbps/1-Gbps Fibre Channel—short wavelength SFP for DS-X91xx switching modules.	MDS 9500 Series and 9200 Series, except for the MDS 9216 Switch
	DS-SFP-FC4G-MR	4-Gbps/2-Gbps/1-Gbps Fibre Channel—long wavelength SFP for DS-X91xx switching modules only. Supports distances up to 4 km.	
	DS-SFP-FC4G-LW	4-Gbps/2-Gbps/1-Gbps Fibre Channel—long wavelength SFP for DS-X91xx switching modules only. Supports distances up to 10 km.	
CWDM[3]	DS-CWDM-xxxx	Gigabit Ethernet and 1-Gbps/2-Gbps/4-Gbps Fibre Channel SFP LC interface xxxx nm, where xxxx = 1470, 1490, 1510, 1530, 1550, 1570, 1590, or 1610 nm.	MDS 9000 Family
	DS-CWDM-MUX-4	Add/drop multiplexer for four CWDM wavelengths.	
	DS-CWDM-MUX-8	Add/drop multiplexer for eight CWDM wavelengths.	
	DS-CWDMCHASSIS	Two slot chassis for CWDM add/drop multiplexers.	
Power supplies	DS-CAC-6000W	6000-W AC power supply.	MDS 9513 only
	DS-CAC-2500W	2500-W AC power supply.	MDS 9509 only
	DS-CDC-2500W	2500-W DC power supply.	
	DS-CAC-3000W	3000-W AC power supply.	
	DS-CAC-4000W-US	4000-W AC power supply for US (cable attached).	
	DS-CAC-4000W-INT	4000-W AC power supply international (cable attached).	
	DS-CAC-1900W	1900-W AC power supply.	MDS 9506 only
	DS-CDC-1900W	1900-W DC power supply.	
	DS-CAC-845W	845-W AC power supply.	MDS 9200 Series only
	DS-CAC-300W	300-W[4] AC power supply.	MDS 9100 Series only
CompactFlash	MEM-MDS-FLD51M	MDS 9500 supervisor CompactFlash disk, 512 MB.	MDS 9500 Series only

Table 2 Cisco MDS 9000 Family Supported Software and Hardware Components (continued)

Component	Part Number	Description	Applicable Product
Port analyzer adapter	DS-PAA-2, DS-PAA	A standalone Fibre Channel-to-Ethernet adapter that allows for simple, transparent analysis of Fibre Channel traffic in a switched fabric.	MDS 9000 Family
CD-ROM	M90FMK9-CD322=	MDS 9000 Management Software and Documentation CD-ROM, spare.	MDS 9000 Family

1. Supports the Storage Services Module (SSM) only. The last SSI image supported on the ASM is SSI-M9K9-2.1.1.
2. SFP = small form-factor pluggable
3. CWDM = coarse wavelength division multiplexing
4. W = Watt

Determining the Software Version

Note We strongly recommend that you use the latest available software release supported by your vendor for all Cisco MDS 9000 Family products.

To determine the version of the Cisco SAN-OS software currently running on a Cisco MDS 9000 Family switch using the CLI, log into the switch and enter the **show version** EXEC command.

To determine the version of the Cisco SAN-OS software currently running on a Cisco MDS 9000 Family switch using the Fabric Manager, from the Switches tab in the information pane, locate the switch using the IP address, logical name, or WWN, and then check its version in the Release column.

Downloading Software

To download the latest Cisco software, access the Software Center at this URL:

http://www.cisco.com/public/sw-center

Note If you would like to request code to be provided under the terms of either GNU General Public License (GPL) or the GNU Lesser General Public License (LGPL), please contact mds-software-disclosure@cisco.com.

Image Upgrade

If SSMs are present in a Cisco MDS 9000 Family switch, several kinds of upgrade may be performed as required—upgrading a previously provided package, upgrading the SAN-OS image, or reformatting the SSM add-on image.

If you need additional information about installing or upgrading the SSM, refer to the *Cisco MDS 9000 Family Storage Services Module Software Installation and Upgrade Guide*.

New Features

This section describes the new features introduced in this release. For more information about the features listed, refer to the documentation set listed in the"Related Documentation" section on page 12.

The SSI release 3.2(3j) image is compatible with the Cisco MDS SAN-OS Release 3.2(2c) image.

The new features in this release include:

- Dynamic LUNs.
- 64-bit LUNs used by AIX and DS8000.
- RAM ARL.
- Support for RDAC multipathing software.
- 64 Hosts per DVT.
- 3K ITLs per DPP.
- 3K ITLs per DVT.
- 16K DVT LUNs per SSM.
- 24K ITLs per SSM.
- Support for 9222i. The SSM plugged in slot 2 of 9222i can run SANTap, starting from 3.2(3j).

Limitations

This sections lists limitations or restrictions associated with this release.

Configuring SSM Ports in Auto Mode

Starting with Cisco MDS SAN-OS Release 3.0(1), the SSM front panel ports can no longer be configured in auto mode. Because auto mode is the default for releases prior to Release 3.0(1), you should modify the configuration of the ports before upgrading the SAN-OS software image to Release 3.2(3j) to avoid any traffic disruption.

For information on how to reconfigure the SSM ports, refer to the "Reconfiguring SSM Ports Before Upgrading to SAN-OS Release 3.2(3a)" section of the *Cisco MDS 9000 Family Release Notes for Cisco MDS SAN-OS Release 3.2(3a).*

Deleting SANTap Configurations Required Before Downgrade

If you are running Cisco MDS NX-OS Release 4.1(1b) in combination with the SSI 4.1(1b) image and you wish to downgrade to Cisco SAN-OS Release 3.3(2) and an SSI 3.2(3*) image, you must delete all SANTap configurations prior to the downgrade. Downgrading without completely deleting the SANTap configurations is not supported.

Compatibility Matrix

The latest *Cisco MDS SAN-OS Release Compatibility Matrix for Storage Service Interface Images* is available from the following page on the Cisco Systems website:
http://www.cisco.com/en/US/docs/switches/datacenter/mds9000/sw/4_1/ssi/matrix/SSImtx.html.

Caveats

This section lists the open and resolved caveats for this release. Use Table 3 to determine the status of a particular caveat. In the table, "O" indicates an open caveat and "R" indicates a resolved caveat.

Table 3 Open and Resolved Caveats for Cisco MDS SSI Release 3.2(3j)

DDTS Number	Status
Severity 1	
CSCsl31742	R
Severity 2	
CSCsj64048	R
CSCsk19824	R
CSCsk53036	R
CSCsl22783	R
Severity 3	
CSCsj99563	R
CSCsk00664	R
CSCso15728	R
CSCso40469	O
Severity 4	
CSCsj09791	R
CSCsl50659	O
Severity 6	
CSCsl24525	R

Resolved Caveats

- CSCsl31742

  Symptom: The SSM may fail when purging with the **clear santap module x itl** command because of backend storage errors.

  Workaround: This issue is resolved.

- CSCsj64048

Symptom: If two SSMs are installed in consecutive slots in a Cisco MDS switch and you reload the module in the higher numbered slot, the SSM loses its configuration. If you reload the module in the lower numbered slot, the SSM does not lose its configuration.

Workaround: This issue is resolved.

- CSCsk19824

  Symptom: Under some configurations, the IBM Redundant Disk Array Controller (RDAC) multipathing driver may not work with SANTap.

  Workaround: This issue is resolved.

- CSCsk53036

  Symptom: Under certain misconfiguration, the RecoverPoint appliance can declare **splitter in unknown** state. No LUNs get installed for the initiator-target pair involved. An example of such misconfiguration is the moving of an host from one VSAN to another VSAN, without selecting the clear ITL option.

  Workaround: This issue is resolved.

- CSCsl22783

  Symptom: [a] When a number of hosts try to login at the same time into DVT(s) with large number of LUNs, it may lead to an incorrect ITL count in SSM. In such conditions, you can create more ITLs than the published limit.

  [b] When a host initiator sends back-to-back PRLI to the DVT, without waiting for a response from the DVT, some spurious ITLs may get installed on the SSM. Typically, real initiators do not behave this way but some emulator initiators exhibit this behavior.

  Workaround: This issue is resolved.

- CSCsj99563

  Symptom: If there is a failure in sending the response to an SCP command, then the subsequent configuration commands may not work for objects such as DVTs and AVTs.

  Workaround: This issue is resolved.

- CSCsk00664

  Symptom: AVT LUN delete CLI does not work on the Supervisor 2 module.

  Workaround: This issue is resolved.

- CSCso15728

  Symptom: If the backend storage has intermittent IO failures, then the host may experience significant delays in IOs.

  Diagnosis: From CLI module: **show isapi dpp** *x* **stats drv**
  In the output, look at the counter xse hit; if it is 0, then there is no problem. If it is > 0, then you may have hit the problem. In this case, look at **show isapi dpp** *x* **queue** to check if there are tasks pending in the queue with CPP.

  Workaround: Shut/NoShut the host port experiencing performance degradation.

- CSCsj09791

  Symptom: When you enter the **show santap module** *slot* **dvtlun** command on a Supervisor 2 module, the output does not show dvtlun. This only occurs on a Supervisor 2 module.

  Workaround: This issue is resolved.

- CSCsl24525

Symptom: The maximum number of FCNS entries in a backend VSAN is limited to 320.

Workaround: This issue is resolved.

Open Caveats

- CSCso40469

  Symptom: If SSMs are installed in slot 5 and 6 in MDS 9513, and you attempt to create a CVT on each SSM in the same VSAN, then the CVT creation fails.

  Workaround: Either use a different slot number or a different VSAN for one of the SSMs.

- CSCsl50659

  Symptom: When you enter the **show ssm-nvram santap module x** command, the CLI does not work correctly. The contents of the **ssm-nvram** shown are not correct.

  Workaround: Use the other CLI commands to view the details of various SANTap objects, such as DVTs, sessions etc.

Related Documentation

The documentation set for the Cisco MDS 9000 Family includes the following documents. To find a document online, use the Cisco MDS SAN-OS Documentation Locator at:
http://www.cisco.com/en/US/docs/storage/san_switches/mds9000/roadmaps/doclocater.htm

For information on IBM TotalStorage SAN Volume Controller Storage Software for the Cisco MDS 9000 Family, refer to the IBM TotalStorage Support website.

Release Notes

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

Compatibility Information

- *Cisco MDS 9000 SAN-OS Hardware and Software Compatibility Information*
- *Cisco MDS 9000 Family Interoperability Support Matrix*
- *Cisco MDS Storage Services Module Interoperability Support Matrix*
- *Cisco MDS SAN-OS Release Compatibility Matrix for IBM SAN Volume Controller Software for Cisco MDS 9000*
- *Cisco MDS SAN-OS Release Compatibility Matrix for Storage Service Interface Images*

Regulatory Compliance and Safety Information

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

Hardware Installation

- *Cisco MDS 9124 Multilayer Fabric Switch Quick Start Guide*
- *Cisco MDS 9500 Series Hardware Installation Guide*
- *Cisco MDS 9200 Series Hardware Installation Guide*
- *Cisco MDS 9100 Series Hardware Installation Guide*
- *Cisco MDS 9020 Fabric Switch Hardware Installation Guide*

Cisco Fabric Manager

- *Cisco MDS 9000 Family Fabric Manager Quick Configuration Guide*
- *Cisco MDS 9000 Family Fabric Manager Configuration Guide*
- *Cisco MDS 9000 Fabric Manager Online Help*
- *Cisco MDS 9000 Fabric Manager Web Services Online Help*
- *Cisco MDS 9000 Family Fabric Manager Database Schema*

Command-Line Interface

- *Cisco MDS 9000 Family Software Upgrade and Downgrade Guide*
- *Cisco MDS 9000 Family Storage Services Module Software Installation and Upgrade Guide*
- *Cisco MDS 9000 Family CLI Quick Configuration Guide*
- *Cisco MDS 9000 Family CLI Configuration Guide*
- *Cisco MDS 9000 Family Command Reference*
- *Cisco MDS 9000 Family Quick Command Reference*
- *Cisco MDS 9020 Fabric Switch Configuration Guide and Command Reference*
- *Cisco MDS 9000 Family SAN Volume Controller Configuration Guide*

Intelligent Storage Networking Services Configuration Guides

- *Cisco MDS 9000 Family Data Mobility Manager Configuration Guide*
- *Cisco MDS 9000 Family Storage Media Encryption Configuration Guide*
- *Cisco MDS 9000 Family Secure Erase Configuration Guide - For Cisco MDS 9500 and 9200 Series*

Troubleshooting and Reference

- *Cisco MDS 9000 Family Troubleshooting Guide*
- *Cisco MDS 9000 Family MIB Quick Reference*
- *Cisco MDS 9020 Fabric Switch MIB Quick Reference*
- *Cisco MDS 9000 Family SMI-S Programming Reference*
- *Cisco MDS 9000 Family System Messages Reference*
- *Cisco MDS 9020 Fabric Switch System Messages Reference*

Installation and Configuration Note

- *Cisco MDS 9000 Family SSM Configuration Note*
- *Cisco MDS 9000 Family Port Analyzer Adapter Installation and Configuration Note*
- *Cisco 10-Gigabit Fibre Channel X2 Transceiver Module Installation Note*

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New* in Cisco Product Documentation, which also lists all new and revised Cisco technical documentation, at:

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

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This document is to be used in conjunction with the documents listed in the "Related Documentation" section.