Cisco MDS 9000 Family Release Notes for Storage Services Interface Image Release 5.0(4n)

Release Date: June 22, 2012

Text Part Number: OL-22148-10

This document describes the caveats and limitations for the Storage Service Interface (SSI) software for the various Cisco MDS Services Modules (SSN-16, MSM-18/4, and MDS 9222i). Use this document in conjunction with the documents listed in the "Related Documentation" section on page 11.

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

Contents

This document includes the following sections:

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Introduction

The SSI interface provides the following features:

- Network-based volume management (EMC Invista, Incipient iNSP)
- Network-assisted storage applications using SANTap
- Fibre Channel Write Acceleration (FC-WA) and SCSI flow statistics
- Data Mobility Manager (DMM)

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Note As of NX-OS Release 4.1(1b), SAN-OS has been changed to NX-OS. References to SAN-OS releases before 4.1(1b) still apply.

System Requirements

This section describes the system requirements for Cisco MDS SSI Release 5.0(4m) and includes the following topics:

- Components Supported, page 2
- Determining the Software Version, page 7

Components Supported

Table 1 lists the software and hardware components supported by the Cisco MDS 9000 Family.

Table 1   Cisco MDS 9000 Family Supported Software and Hardware Components

Component	Part Number	Description	Applicable Product
Software	M95S2K9-5.0.4	MDS 9500 Supervisor/Fabric-2, NX-OS software.	MDS 9500 Series only
	M92S2K9-5.0.4	MDS 9222 Supervisor/Fabric-2, NX-OS software.	MDS 9200 Series only
	M91S2K9-5.0.4	MDS 9100 Supervisor/Fabric-2, NX-OS software.	MDS 9124 Switch and MDS 9134 Switch
	M91S3K9-5.0.4	MDS 9148 Supervisor/Fabric-3 NX-OS software	MDS 9148 Switch
SSI Interface	SSI-M9K9-504n	Storage Services Interface for Release 5.0(4n)	MDS 9000 Family
Licenses	M9500SSE184K9	Storage Services Enabler License for one MSM-18/4 module	MDS 9500 Series only
	M9222ISSE1K9	Storage Services Enabler License	MDS 9222i Switch only
	M9200SSE184K9	Storage Services Enabler License for one MSM-18/4 module	MDS 9200 Series only
	M95DMM184K9	Data Mobility Manager License for one MSM-18/4 module	MDS 9500 Series only
	M9222IDMMK9	Data Mobility Manager License for Cisco MDS 9222i	MDS 9222i Switch

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Table 1   *Cisco MDS 9000 Family Supported Software and Hardware Components (continued)*

Component	Part Number	Description	Applicable Product
Licenses (continued)	M92DMM184K9	Data Mobility Manager License for one MSM-18/4 module	MDS 9200 Series only
	M95DMM184TSK9	Data Mobility Manager for one MSM-18/4 module — Time limited to 180 days only	MDS 9500 Series only
	M9222IDMMTSK9	Data Mobility Manager — Time limited to 180 days only	MDS 9222i Switch only
	M92DMM184TSK9	Data Mobility Manager for one MSM-18/4 module — Time limited to 180 days only	MDS 9200 Series only
Chassis	DS-C9513	Cisco MDS 9513 Multilayer Director (13-slot multilayer director with 2 slots for Supervisor-2 modules, with 11 slots available for switching modules — SFPs sold separately)	MDS 9513 Switch
	DS-C9509	Cisco MDS 9509 Multilayer Director (9-slot multilayer director with 2 slots for Supervisor modules, with 7 slots available for switching modules — SFPs sold separately)	MDS 9509 Switch
	DS-C9506	Cisco MDS 9506 Multilayer Director (6-slot multilayer director with 2 slots for Supervisor modules, with 4 slots available for switching modules — SFPs sold separately)	MDS 9506 Switch
	DS-C9222i-K9	Cisco MDS 9222i Multilayer Fabric Switch (3-rack-unit (3RU) semimodular multilayer fabric switch with 18 4-Gbps Fibre Channel ports, 4 Gigabit Ethernet ports, and a modular expansion slot for Cisco MDS 9000 Family Switching and Services modules)	MDS 9222i Switch
	DS-C9148-K9	Cisco MDS 9148 48-Port Multilayer Fabric Switch (1RU fixed-configuration multilayer fabric switch with 48 8-Gbps Fibre Channel ports)	MDS 9148i Switch
	DS-C9134-K9	Cisco MDS 9134 34-Port Multilayer Fabric Switch (1RU fixed-configuration multilayer fabric switch with 32 4-Gbps and 2 10-Gbps Fibre Channel ports)	MDS 9134 Switch
	DS-C9124-K9	Cisco MDS 9124 24-Port Multilayer Fabric Switch (1RU fixed-configuration multilayer fabric switch with 24 4-Gbps Fibre Channel ports)	MDS 9124 Switch
Supervisor Modules	DS-X9530-SF2-K9	Cisco MDS 9500 Series Supervisor-2 Module	MDS 9500 Series
	DS-X9530-SF2A-K9	Cisco MDS 9500 Series Supervisor-2A Module	MDS 9500 Series
Switching Modules	DS-X9112	Cisco MDS 9000 12-port 4-Gbps Fibre Channel Switching Module with SFP LC connectors	MDS 9500 Series MDS 9200 Series
	DS-X9124	Cisco 24-port 4-Gbps Fibre Channel Switching Module with SFP LC connectors	MDS 9500 Series MDS 9200 Series
	DS-X9148	Cisco MDS 9000 48-port 4-Gbps Fibre Channel Switching Module with SFP LC	MDS 9500 Series MdS 9200 Series
	DS-X9704	Cisco MDS 9000 Family 4-Port 10-Gbps Fibre Channel Switching Module with SFP LC	MDS 9500 Series MdS 9200 Series

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Table 1   Cisco MDS 9000 Family Supported Software and Hardware Components (continued)

Component	Part Number	Description	Applicable Product
	DS-X9224-96K9	Cisco MDS 9000 24-Port 8-Gbps Fibre Channel Switching Module with SFP and SFP+ LC connectors	MDS 9500 Series
	DS-X9248-96K9	Cisco MDS 9000 48-Port 8-Gbps Fibre Channel Switching Module with SFP and SFP+ LC connectors	MDS 9500 Series
	DS-X9248-48K9	Cisco MDS 9000 4/44-Port Host-Optimized 8-Gbps Fibre Channel Switching Module with SFP and SFP+ LC connectors	MDS 9500 Series MDS 9222i Switch
Services Modules	DS-X9304-18K9	Cisco MDS 9000 18/4-Port Multiprotocol Services Module (MSM-18/4) — 18-port, 4-Gbps Fibre Channel plus 4-port Gigabit Ethernet IP services and switching module with SFP LC connectors	MDS 9500 Series MDS 9200 Series
	DS-X9316-SSNK9	Cisco MDS 9000 Family 16-Port Storage Services Node (SSN-16) — 16 fixed 1-Gbps Ethernet ports, plus 4 service engines that support 16 Gigabit Ethernet IP storage services ports	MDS 9500 Series MDS 9222i Switch
External crossbar module	DS-13SLT-FAB1	Cisco MDS 9513 Switching Fabric1 Module	MDS 9513 Switch
	DS-13SLT-FAB2	Cisco MDS 9513 Switching Fabric2 Module	MDS 9513 Switch
Optics	DS-X2-FC10G-SR	X2 SC optics, 10-Gbps Fibre Channel for short reach	MDS 9500 Series MDS 9200 Series
	DS-X2-FC10G-LR	X2 SC optics, 10-Gbps Fibre Channel for long reach (10 km)	MDS 9500 Series MDS 9200 Series
	DS-X2-FC10G-ER	X2 SC optics, 10-Gbps Fibre Channel for extended reach (40 km)	MDS 9500 Series MDS 9200 Series
	DS-X2-FC10G-CX4	X2 SC optics, 10-Gbps Fibre Channel over copper	MDS 9500 Series MDS 9200 Series
	DS-X2-E10G-SR	X2 SC optics, 10-Gbps Ethernet for short reach	MDS 9500 Series MDS 9200 Series

Table 1   Cisco MDS 9000 Family Supported Software and Hardware Components (continued)

Component	Part Number	Description	Applicable Product
LC-type fiber-optic SFP	DS-SFP-FC8G-SW	SFP+ optics (LC type) for 2-, 4-, or 8-Gbps Fibre Channel for shortwave mode	MDS DS-X9200 Series switching modules
	DS-SFP-FC8G-LW	SFP+ optics (LC type) for 2-, 4-, or 8-Gbps Fibre Channel for longwave mode; supports distances up to 10 km	MDS DS-X9200 Series switching modules
	DS-SFP-FC4G-SW	SFP optics (LC type) for 1-, 2-, or 4-Gbps Fibre Channel for shortwave mode	MDS 9124 and DS-X9100 Series switching modules
	DS-SFP-FC4G-MR	SFP optics (LC type) for 1-, 2-, or 4-Gbps Fibre Channel for longwave mode; supports distances up to 4 km	MDS 9124 and DS-X9100 Series switching modules
	DS-SFP-FC4G-LW	SFP optics (LC type) for 1-, 2-, or 4-Gbps Fibre Channel for longwave mode; supports distances up to 10 km	MDS 9124 and DS-X9100 Series switching modules
	DS-SFP-FC-2G-SW	SFP optics (LC type) for 1- or 2-Gbps Fibre Channel for shortwave mode; not supported for use in 4-Gbps-capable ports	MDS 9000 Series
	DS-SFP-FC-2G-LW	SFP optics (LC type) for 1- or 2-Gbps Fibre Channel for longwave mode for Cisco MDS 9500, MDS 9200, and MDS 9100 Series; not supported for use in 4-Gbps-capable ports	MDS 9000 Series
	DS-SFP-FCGE-SW	SFP optics (LC type) for 1-Gbps Ethernet and 1- or 2-Gbps Fibre Channel for shortwave mode; not supported for use in 4-Gbps-capable ports	MDS 9000 Series
	DS-SFP-FCGE-LW	SFP optics (LC type) for 1-Gbps Ethernet and 1- or 2-Gbps Fibre Channel for longwave mode; not supported for use in 4-Gbps-capable ports	MDS 9000 Series
	DS-SFP-GE-T	SFP (RJ-45 connector) for Gigabit Ethernet over copper	MDS 9000 Series
Cisco Coarse Wavelength-Division Multiplexing (CWDM)	DS-CWDM-xxxx	CWDM Gigabit Ethernet and 1- or 2-Gbps Fibre Channel SFP LC type, where product number xxxx = 1470, 1490, 1510, 1530, 1550, 1570, 1590, or 1610 nm	MDS 9000 Family
	DS-CWDM4Gxxxx	CWDM 4-Gbps Fibre Channel SFP LC type, where product number xxxx = 1470, 1490, 1510, 1530, 1550, 1570, 1590, or 1610 nm	MDS 9000 Family

Table 1 Cisco MDS 9000 Family Supported Software and Hardware Components (continued)

Component	Part Number	Description	Applicable Product
Dense Wavelength-Division Multiplexing (DWDM)	DWDM-X2-xx.xx	DWDM X2 SC optics for 10-Gbps Fibre Channel connectivity to an existing Ethernet DWDM infrastructure, with 15xx.xx nm wavelength, where xx.xx = 60.61, 59.79, 58.98, 58.17, 56.55, 55.75, 54.94, 54.13, 52.52, 51.72, 50.92, 50.12, 48.51, 47.72, 46.92, 46.12, 44.53, 43.73, 42.94, 42.14, 40.56, 39.77, 38.98, 38.19, 36.61, 35.82, 35.04, 34.25, 32.68, 31.90, 31.12, or 30.33	MDS 9500 Series MDS 9200 Series
	DWDM-SFP-xxxx	DWDM Gigabit Ethernet and 1- or 2-Gbps Fibre Channel SFP LC type, where product number xxxx = 3033, 3112, 3190, 3268, 3425, 3504, 3582, 3661, 3819, 3898, 3977, 4056, 4214, 4294, 4373, 4453, 4612, 4692, 4772, 4851, 5012, 5092, 5172, 5252, 5413, 5494, 5575, 5655, 5817, 5898, 5979, or 6061nm	MDS 9000 Family
Add/Drop Multiplexer (ADM)	DS-CWDMOADM4A	4-channel CWDM optical ADM (OADM) module (Cisco CWDM 1470, 1490, 1510, or 1530 NM Add/Drop Module)	MDS 9000 Family
	DS-CWDMOADM4B	4-channel CWDM OADM module (Cisco CWDM 1550, 1570, 1590, or 1610 NM Add/Drop Module)	MDS 9000 Family
	DS-CWDM-MUX8A	ADM for 8 CWDM wavelengths	MDS 9000 Family
CWDM Multiplexer Chassis	DS-CWDMCHASSIS	2-slot chassis for CWDM ADMs	MDS 9000 Family
Power Supplies	DS-CAC-300W	300W AC power supply	MDS 9100 Series
	DS-C24-300AC	300W AC power supply	MDS 9124 Switch
	DS-CAC-845W	845W AC power supply for Cisco MDS 9200 Series	MDS9200 Series
	DS-CAC-3000W	3000W AC power supply for Cisco MDS 9509	MDS 9509 Switch
	DS-CAC-6000W	6000W AC power supply for Cisco MDS 9513	MDS 9513 Switch
	DS-CAC-1900W	1900W AC power supply for Cisco MDS 9506	MDS 9506 Switch
CompactFlash	MEM-MDS-FLD512M	External 512-MB CompactFlash memory for supervisor module	MDS 9500 Series
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
Smart Card Reader	DS-SCR-K9	Storage Media Encryption (SME) Smart Card Reader	MDS 9000 Family
Smart Card	DS-SC-K9	SME Smart Card	MDS 9000 Family
CD-ROM	M90FM-CD-441	Cisco MDS 9000 Management Software and Documentation CD-ROM for Cisco MDS 9000 NX-OS Software Release 4.1(3)	MDS 9000 Family

Determining the Software Version

> **Note** Use the latest available software release supported by your vendor for all Cisco MDS 9000 Family products.

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

To determine the version of the Cisco NX-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), contact mds-software-disclosure@cisco.com.

Upgrade and Downgrade Caveats

This section provides information about upgrading to the current release or downgrading from it.

Downgrading from Cisco MDS SSI Release 5.0(4n)

A downgrade from SSI 5.0(4n) to any other SSI release is not supported when SANTap is provisioned. Uninstall SANTap before you start the downgrade process.

Upgrading to Cisco MDS SSI Release 5.0(4m)

Following a software upgrade to SSI Release 5.0(4n) in a 32-bit environment, you must unmount and remount all SCSI devices. The following procedure is specific to hosts or targets that see 32-bit LUN IDs. Follow these steps:

1. Quiesce all applications on the host.
2. Enter the following commands:

   umount <file system>

   varyoffvg <volume group>

   exportvg <volume group>

3. Perform the upgrade.

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4. Enter the following commands:

rmdev -dl <hdisk#> -R (Repeat this for all hdisks.)

cfgmgr

lsdev -Cc disk (See if all the LUNs are discovered.)

lsattr -El <hdisk#> (Check LUN ID field to check that host sees the same LUN ID as the target LUN ID.)

importvg -y <volume group> <hdisk#> (Volume group name is same as the one that was exported earlier. hdisk# can be just one of the hdisks in the volume group.)

varyonvg <volume group>

mount <file system>

New Features

There are no new features in Cisco MDS SSI Release 5.0(4n).

Limitations

This sections lists limitations or restrictions associated with this release.

GUI Support Not Available for Target IO Timeout DVT Configuration

A target IO timeout for DVT can only be configured through the CLI. GUI support for this configuration is not available in Cisco MDS SSI Release 5.0(4n).

A Username Must be Less Than Eighteen Characters

If you enter a SANTap command with a user name that is equal to or greater than 18 characters, the error message "remuser too long" displays, as shown in the following example:

```
switch# sh santap module 8 dvt
remuser too long
```

The **show ivr** command and the **show zoneset act** command complete correctly.

This issue might be seen when you enter SANTap commands on the supervisor module to collect information from another module.

To work around this issue, do one of the following:

* Attach to the module and collect the information on the module itself.

* Use a username with less than 18 characters.

Processes May Fail Due to Low Memory on the MDS 9222i Switch

SANTap or iSAPI processes might fail on the Cisco MDS 9222i switch when the system runs into a low memory condition. The kernel ends the processes due to a lack of memory.

Because the MDS 9222i switch runs supervisor processes as well intelligent processes, memory utilization is high. In addition, debug files and core files that are saved locally can result in low memory resources. When low memory conditions occur, you might see a syslog message like the following on the supervisor before the processes are ended:

```
"MEMORY_ALERT: Memory Status Alert : SEVERE.  Usage 90% of Available Memory"
```

There are two ways you can work around this issue:

- Whenever there is a log or tech support collection, immediately copy the files that need to be saved to other servers and clean up the local file on the MDS 9222i switch to free up space.

- Save all core files on other servers and immediately clear or delete the local copies on MDS 9222i switch to free up space.

Compatibility Matrix

Before upgrading your SSI image, refer to the *Cisco MDS NX-OS Release Compatibility Matrix for Storage Service Interface Images*.

The SSI Release 5.0(4n) image is compatible with the Cisco MDS NX-OS Release 5.0(4), 5.0(4b), 5.0(4c), and 5.0(4d) images.

Note Cisco MDS SSI Release 5.0(4n) does not support the 32-port Storage Services Module (SSM), DS-X9032SSM. Refer the *MDS 9000 Family Release Notes for NX-OS Release 5.0(1a)* for additional information about Generation 1 modules that are not supported in Cisco MDS NX-OS Release 5.0(1a).

Caveats

This section lists the open and resolved caveats for Cisco MDS SSI Release 5.0(4m). Use Table 2 to determine the status of a particular caveat. In the table, "O" indicates an open caveat and "R" indicates a resolved caveat.

Table 2   Open and Resolved Caveats for Cisco MDS 9000 SSI Release 5.0(4n)

DDTS	Status
CSCti56186	Open
CSCti60854	Open
CSCtj37367	Open
CSCtx89771	Resolved
CSCtz64321	Resolved

Resolved Caveats

- CSCtx89771

    Symptom: The SANTap process ps_stap fails with the following messages:

    ```
    %PROC_MGR-SLOT2-2-ERR_MSG: ERROR: PID 1471 (ps_stap) killed with signal (11)
    %RM-SLOT2-2-CPP_CATASTROPHIC_ERROR: ERROR: Component (Partner Software) caused
    critical error. Service Module will be reloaded
    %MODULE-2-MOD_DIAG_FAIL: Module 2 (serial: JAF1438DSSF) reported failure on
    ports 2/1-2/22 (0x0) due to ISAPI experienced an error in device 41 (device
    error 0x0)
    ```

    Conditions: This symptom might be seen when a session is deleted from the RecoverPoint Appliance side of the connection and there are pending write Log Update Failures queued.

    Workaround: This issue is resolved.

- CSCtz64321

    Symptom: In a steady state, one or more sessions may be down, but the ARL significant bit is zero (clean).

    Conditions: This symptom might be seen when a session is in the process of shutting down. The appliance issues an ARL significant bit reset SCP. SANTap sends an OK response.

    Workaround: This issue is resolved.

Open Caveats

- CSCti56186

    Symptom: Following a successful upgrade of the SSI image on a Cisco MDS 9000 MSM-18/4 module where SANTap is enabled, SANTap might go into an unknown state.

    Workaround: After the upgrade is completely finished, manually reload the Cisco MDS MSM-18/4 module to recover from the unknown state.

- CSCti60854

    Symptom: When you enter the **system default switchport shutdown** command, all iSAPI ports go down.

    Workaround: None.

- CSCtj37367

    Symptom: If SANTap is configured on a multiple modules on a switch and one of the modules is not provisioned, the SANTap Prevent Downgrade Capability is removed for the entire setup.

    This symptom might be seen when more than one module in the switch is configured with SANTap and the configuration is removed from one of these modules. SANTap does not check for the presence of other modules before removing the capability.

    Workaround: None.

Related Documentation

The documentation set for NX-OS for the Cisco MDS 9000 Family includes the following documents. To find a document online, access the following web site:

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

The documentation set for Cisco Fabric Manager appears in the *Cisco Fabric Manager Release Notes for Release 5.0(1a)*, which is available from the following website:

http://www.cisco.com/en/US/products/ps10495/prod_release_notes_list.html

Release Notes

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

Regulatory Compliance and Safety Information

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

Compatibility Information

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

Hardware Installation

- *Cisco MDS 9500 Series Hardware Installation Guide*
- *Cisco MDS 9200 Series Hardware Installation Guide*
- *Cisco MDS 9100 Series Hardware Installation Guide*
- *Cisco MDS 9124 and Cisco MDS 9134 Multilayer Fabric Switch Quick Start Guide*

Software Installation and Upgrade

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

Cisco NX-OS

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

Command-Line Interface

- *Cisco MDS 9000 Family Command Reference*

Intelligent Storage Networking Services Configuration Guides

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

Troubleshooting and Reference

- *Cisco NX-OS System Messages Reference*
- *Cisco MDS 9000 Family NX-OS Troubleshooting Guide*
- *Cisco MDS 9000 Family NX-OS MIB Quick Reference*
- *Cisco MDS 9000 Family NX-OS SMI-S Programming Reference*

Obtaining Documentation and Submitting a Service Request

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

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

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

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