

Cisco MDS 9000 Family Release Notes for Cisco MDS SVC Release 1.3(4m)

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This document describes the caveats and limitations for the SAN Volume Controller Storage Software (SVC) for the Cisco MDS Caching Services Module (CSM). Use this document in conjunction with documents listed in the “[Related Documentation](#)” section on [page 6](#).



Note

The previous SVC release was concurrent with SAN OS Release 1.3(1) and the caveats were included in that release note. The SVC caveats are now tracked in this SVC release notes.

For information on IBM TotalStorage SAN Volume Controller Storage Software for the Cisco MDS 9000 Family, refer to the IBM TotalStorage Support website:
<http://www.ibm.com/storage/support/2062-2300/>

Contents

This document includes the following section:

- [Introduction, page 2](#)
- [System Requirements, page 2](#)
- [Image Upgrade, page 3](#)
- [Compatibility Matrix, page 3](#)
- [CSM Backward Compatibility, page 4](#)
- [Caveats, page 4](#)
- [Related Documentation, page 6](#)

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Introduction

The CSM provides virtualization services that allow the Cisco MDS 9000 Family switches to reallocate physical resources as virtual resources for increased efficiency. The CSM has two hard drives, two internal batteries for backup in case of power failure, and no external ports. The CSM receives and sends data through the switch backplane. The batteries on the CSM provide adequate power to back up data without external power.

Refer to the documents listed in the [“Related Documentation”](#) section on page 6.

System Requirements

This section describes the system requirements for Cisco MDS SVC Release 1.3(4m).

[Table 1](#) lists the hardware components supported on the Cisco MDS 9000 Family and the minimum software version required.

Table 1 Cisco MDS 9000 Family Supported Hardware Modules and Minimum Software Requirements

Component	Part Number	Description	Applicable Products
SAN-OS Software	M95S1K9-1.3.4a	MDS 9500 Series supervisor/fabric-I, enterprise software	MDS 9500 Series only
	M92S1K9-1.3.4a	MDS 9216 enterprise software	MDS 9216 only
SVC Software	SC-SVC-M9KS1K9	MDS SVC software	MDS 9500 Series and 9216
Chassis	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 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 only
	DS-C9216-K9	MDS 9216 16-port semi-modular fabric switch (includes sixteen 1 / 2-Gbps Fibre Channel ports, power supply, and expansion slot—SFPs sold separately)	MDS 9216 only
Supervisor modules	DS-X9530-SF1-K9	MDS 9500 supervisor/fabric-I, module	MDS 9500 Series only
Switching modules	DS-X9016	MDS 9000 16-port 2/1-Gbps Fibre Channel module (SFPs sold separately)	MDS 9500 Series and 9216
	DS-X9032	MDS 9000 32-port 2/1-Gbps Fibre Channel module (SFPs sold separately)	
Services modules	DS-X9308-SMIP	8-port Gigabit Ethernet IP storage services module.	
	DS-X9560-SMC	Caching Services Module (CSM)	

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Table 1 Cisco MDS 9000 Family Supported Hardware Modules and Minimum Software Requirements

Component	Part Number	Description	Applicable Products
LC-type fiber-optic SFP ¹	DS-SFP-FC-2G-SW	2/1-Gbps Fibre Channel — short wave SFP	MDS 9000 Family
	DS-SFP-FC-2G-LW	2/1-Gbps Fibre Channel — long wave SFP	
	DS-SFP-FCGE-SW	1-Gbps Ethernet and 2/1-Gbps Fibre Channel—short wave SFP	
	DS-SFP-FCGE-LW	1-Gbps Ethernet and 2/1-Gbps Fibre Channel — long wave SFP	
CWDM ²	CWDM-SFP-xxxx-2G	Gigabit Ethernet and 2/1-Gbps Fibre Channel SFP LC interface xxxx nm, where xxxx = 1470, 1490, 1510, 1530, 1550, 1570, 1590, or 1610 nm	MDS 9000 Family
	CWDM-MUX-4	Add/drop multiplexer for four CWDM wavelengths	
	CWDM-MUX-8	Add/drop multiplexer for eight CWDM wavelengths	
	CWDM-CHASSIS-2	Two slot chassis for CWDM add/drop multiplexer(s)	
Power supplies	DS-CAC-845W	845W ³ AC power supply	MDS 9216 only
	DS-CAC-2500W	2500W AC power supply	MDS 9509 only
	DS-CDC-2500W	2500W DC power supply	
	DS-CAC-4000W-US	4000W AC power supply for US (cable attached)	
	DS-CAC-4000W-INT	4000W AC power supply international (cable attached)	MDS 9506 only
	DS-CAC-1900W	1900W AC power supply	
	DS-CDC-1900W	1900W DC power supply	
CompactFlash	MEM-MDS-FLD512M	MDS 9500 supervisor CompactFlash disk, 512MB	MDS 9500 Series only
Port analyzer adapter	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

1. SFP = small form factor pluggable

2. CWDM = coarse wave division multiplexing

3. W = Watt

Image Upgrade

When CSMs are present in a Cisco MDS 9000 Family switch, several kinds of upgrade may be performed as required—a cluster software upgrade, an automatic upgrade when nodes are added, a service mode upgrade, or a switch software upgrade.

Refer to the *Cisco MDS 9000 Family SAN Volume Controller Configuration Guide* for more information.

Compatibility Matrix

The latest Cisco MDS SAN-OS Release Compatibility Matrix for IBM SAN Volume Controller Software for Cisco MDS 9000 is available in the following Cisco Systems website.

http://www.cisco.com/en/US/products/hw/ps4159/ps4358/products_device_support_tables_list.html

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CSM Backward Compatibility

The CSM is compatible with SAN-OS Release 1.3.1 and above. If you need to downgrade to a release earlier than 1.3(1), you must power off the CSMs before performing the downgrade (see [CSCee69099](#)).

To revert to a release that is earlier than Release 1.3(1), follow these steps:

-
- Step 1** Power down all CSMs using the **poweroff module slot** command.
- Step 2** Remove any CSMs related configuration (for example, clusters, back-end storage, virtual disks, and so forth).
Refer to the *Cisco MDS 9000 Family SAN Volume Controller Configuration Guide*.
- Step 3** Save the configuration using the **copy running-config startup-config** command to save the new configuration into nonvolatile storage.
- Step 4** Continue with the manual downgrade procedure.
Refer to Chapter 5, “Software Images” in the Cisco MDS 9000 Family Configuration Guide.
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Caveats

This section lists the caveats and corrected caveats for this release.

The following issues are resolved in Release 1.3(4m):

- Potential issues with loss of quorum disk in MDS 9216 configurations are resolved. Refer to the following website for details on recommended configurations:
http://www-1.ibm.com/support/docview.wss?rs=539&context=STY2LR&q1=ssg1*&uid=ssg1S1001973&loc=en_US&cs=utf-8&lang=en
- Under certain circumstances, an SVC node can enter an unconfigured or free state during a switch upgrade. This issue is now resolved.
- A memory leak when executing certain CLI commands is resolved.
- Sequential read performance is improved.

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Use [Table 2](#) to determine the status of a particular caveat. In the table, “R” indicates a resolved caveat, and “O” indicates an open caveat.

Table 2 Release Caveats and Caveats Corrected Reference

DDTS Number	Software Release (Resolved or Open)	
	1.3(1)	1.3(4m)
Severity 2		
CSCee69099		O
CSCef04575		O
Severity 3		
CSCed14360	O	R
CSCed14920	O	O

Resolved Caveats

- [CSCed14360](#)

Symptom: If a switch does not have sufficient PortChannels available for an SVC Interface, it remains in a failure state. This situation occurs if you allocate all 128 PortChannels available in the system. You can verify this failure if you see the `node down` status in the output of the **show interface svc slot/node** command. To confirm that this failure is a result of insufficient PortChannels, issue the **show port-channel usage** command.

Workaround: Identify at least three PortChannels that can be released so they appear in the unused section of the **show port-channel usage** command output. Use the **no interface port-channel number** command to delete unneeded PortChannels. Finally, reset the SVC Interface.

Open Caveats

- [CSCee69099](#)

Symptom: If your current configuration is using CSMs and you need to downgrade from Release 1.3(1) or later to any release that is earlier than Release 1.3(1), do not issue the **install all** command before powering off the CSM(s).

Workaround: Explicitly power off the CSM before issuing the **install all** command. The CSM was only introduced in SAN-OS Release 1.3(1). See the [“CSM Backward Compatibility” section on page 4](#).

- [CSCef04575](#)

Symptom: SAN-OS Release 1.3(4b) for the Cisco MDS 9000 Family is incompatible with Cisco MDS SVC Release 1.3(4m).

Workaround: None.

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- CSCed14920

Symptom: During a switch upgrade, a SVC node may not save its entire state under rare circumstances. This results in that node not being part of the cluster after the switch upgrade. Verify this symptom by issuing the **show nodes local** command at the `svc-config` prompt—the command output displays the following information:

- The `cluster state` of the affected SVC node will be `unconfigured`.
- The `node state` of the affected SVC node will be `free`.

Workaround: Manually remove the SVC node from the cluster and then add the node back into the cluster. Refer to *Cisco MDS 9000 Family SAN Volume Controller Configuration Guide* for procedural details.

Related Documentation

The documentation set for the Cisco MDS 9000 Family includes the following documents:

- *Regulatory Compliance and Safety Information for the Cisco MDS 9000 Family*
- *Cisco MDS 9000 Family Release Notes for Cisco MDS SAN-OS Releases*
- *Cisco MDS 9100 Series Hardware Installation Guide*
- *Cisco MDS 9216 Switch Hardware Installation Guide*
- *Cisco MDS 9500 Series Hardware Installation Guide*
- *Cisco MDS 9000 Family Configuration Guide*
- *Cisco MDS 9000 Family SAN Volume Controller Configuration Guide*
- *Cisco MDS 9000 Family Command Reference*
- *Cisco MDS 9000 Family Fabric Manager Configuration Guide*
- *Cisco MDS 9000 Family Troubleshooting Guide*
- *Cisco MDS 9000 Family System Messages Guide*
- *Cisco MDS 9000 Family MIB Quick Reference*
- *Cisco MDS 9000 Family CIM Programming Reference Guide*

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

<http://www.ibm.com/storage/support/2062-2300/>

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CSM—SVC Documentation

The following documents provide more information on the IBM TotalStorage SAN Volume Controller Storage Software (SVC) and the CSM.

- For CSM information, refer to the *Cisco MDS 9216 Switch Hardware Installation Guide* or the *Cisco MDS 9500 Family Hardware Installation Guide*.
- For SAN-OS CLI configuration information, refer to the *Cisco MDS 9000 Family SAN Volume Controller Configuration Guide*.
- For SAN-OS CLI commands, refer to the *Cisco MDS 9000 Family Command Reference*.
- For information on IBM TotalStorage SAN Volume Controller Storage Software for Cisco MDS 9000, refer to the following IBM documents available on the IBM TotalStorage Support web site: <http://www.ibm.com/storage/support/2062-2300/>
 - Getting Started—*IBM TotalStorage SAN Volume Controller Storage Software for Cisco MDS 9000*
 - Configuration Guide—*IBM TotalStorage SAN Volume Controller Storage Software for Cisco MDS 9000*
 - Supported Hardware List—*IBM TotalStorage SAN Volume Controller Storage Software for Cisco MDS 9000*
 - Supported Software Levels—*IBM TotalStorage SAN Volume Controller Storage Software for Cisco MDS 9000*
 - Command Line Interface User's Guide—*IBM TotalStorage SAN Volume Controller Storage Software for Cisco MDS 9000*
 - Host Attachment Guide—*IBM TotalStorage SAN Volume Controller Storage Software*
 - User Guide—*Subsystem Device Driver User's Guide*

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Cisco.com

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<http://www.cisco.com/techsupport>

Access to all tools on the Cisco Technical Support Website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool automatically provides recommended solutions. If your issue is not resolved using the recommended resources, your service request will be assigned to a Cisco TAC engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco TAC engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)

EMEA: +32 2 704 55 55

USA: 1 800 553 2447

For a complete list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—Your network is “down,” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

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- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

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<http://www.cisco.com/go/iqmagazine>

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

<http://www.cisco.com/ipj>

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