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Cisco MDS 9000 Family Release Notes for Cisco MDS SVC Release 1.3(5o)

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



Note

Releases 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 Note*:
http://www.cisco.com/en/US/products/hw/ps4159/ps4358/prod_release_notes_list.html

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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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.

See 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(5o).

[Table 1](#) lists the hardware components supported by 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	M95S1K9-1.3.5	MDS 9500 Series supervisor/fabric-I, enterprise software	MDS 9500 Series only
	M92S1K9-1.3.5	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 16-port 1-Gbps/2-bps 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

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

Component	Part Number	Description	Applicable Products
Switching modules	DS-X9016	MDS 9000 16-port 1-Gbps/2-Gbps Fibre Channel module (SFPs sold separately)	MDS 9500 Series and 9216
	DS-X9032	MDS 9000 32-port 1-Gbps/2-Gbps Fibre Channel module (SFPs sold separately)	
Services modules	DS-X9308-SMIP	8-port Gigabit Ethernet IP storage services module	
	DS-X9304-SMIP	4-port Gigabit Ethernet IP storage services module	
	DS-X9560-SMC	Caching Services Module (CSM)	
LC-type fiber-optic SFP ¹	DS-SFP-FC-2G-SW	1-Gbps/2-Gbps Fibre Channel — short wave SFP	MDS 9000 Family
	DS-SFP-FC-2G-LW	1-Gbps/2-Gbps Fibre Channel — long wave 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	
CWDM ²	CWDM-SFP-xxxx-2G	Gigabit Ethernet and 1-Gbps/2-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 4 CWDM wavelengths	
	CWDM-MUX-8	Add/drop multiplexer for 8 CWDM wavelengths	
	CWDM-CHASSIS-2	Two slot chassis for CWDM add/drop multiplexer(s)	
Power supplies	DS-CAC-845W	845-W ³ AC power supply	MDS 9216 only
	DS-CAC-2500W	2500-W AC power supply	MDS 9509 only
	DS-CDC-2500W	2500-W DC 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)	MDS 9506 only
	DS-CAC-1900W	1900-W AC power supply	
	DS-CDC-1900W	1900-W DC power supply	
CompactFlash	MEM-MDS-FLD512M	MDS 9500 supervisor CompactFlash disk, 512 MB	MDS 9500 Series only
Port analyzer adapter	DS-PAA-2	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.

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You can upgrade to Cisco MDS SVC Release 1.3(5o) from Cisco MDS SVC Release 1.3(5m).

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

CSM Backward Compatibility

The CSM is compatible with SAN-OS Release 1.3(x). If you need to downgrade to Release 1.2(x) or earlier, you must power off the CSMs before performing the downgrade (see [•CSCee69099](#)).

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

-
- Step 1** Power down all CSMs using the **poweroff module slot** command.
 - Step 2** Remove any CSM-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 the “Software Images” chapter in the *Cisco MDS 9000 Family Configuration Guide*.
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New Features

Cisco MDS SVC Release 1.3(5o) is a maintenance release for switches using CSM modules in the Cisco MDS 9000 Family. See the “[Caveats](#)” section on [page 5](#) for details on closed and outstanding caveats and limitations.



Note

These Release Notes are specific to Release 1.3(5o). For the entire Release 1.3 documentation set, see the “[Related Documentation](#)” section on [page 6](#).

Cisco SVC Release 1.3(5o) supports additional hardware for the SAN Volume Controller. Refer to the following URL for a list of supported operating systems, HBAs, and storage controllers:

<http://www-1.ibm.com/support/docview.wss?rs=539&uid=ssg1S1002375>

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Limitations

The limitations and restrictions listed in this section apply to all switches in the Cisco MDS 9000 Family that have CSMs installed.

Quorum Disks

If you issue a **quorum** command, regardless of the outcome of this new **quorum** command, you may lose your previously configured quorum disk configuration. If you issue a new **quorum** command, be sure to verify your previous quorum configuration.

World Wide Names

The SVC functionality is only available when CSMs are present in the switch. If you issue a **copy running startup** command when all CSMs are removed (or powered-down), then SVC supervisor configurations associated with the CSM, including world wide names (WWNs), may be discarded.

Caveats

This section lists the open, resolved, and closed caveats for this release. 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 ***Open Caveats and Resolved Caveats Reference***

DDTS Number	Software Release	
	SVC 1.3(5m)	SVC 1.3(5o)
Severity 2		
• CSCee69099	O	O
Severity 3		
• CSCed14920	O	O
• CSCei89468	O	R

Resolved Caveats

- [CSCei89468](#)

Symptom: If a vdisk is mapped to more than one host and the vdisk is moved between I/O groups, the CSM vdisk-to-host mapping data is left in an inconsistent state. Changing the configuration, map, or deleting the host or vdisk might cause a cluster 900.

Workaround: None.

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Open Caveats

- CSCee69099

Symptom: If your current configuration is using CSMs and you need to downgrade from Release 1.3(x) 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(x). See the [“CSM Backward Compatibility” section on page 4](#).

- CSCed14920

Symptom: During a switch upgrade, an 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:

- *Cisco MDS 9000 Family Release Notes for Cisco MDS SAN-OS Releases*
- *Cisco MDS 9000 Family 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 VERITAS Storage Foundation for Networks Software*
- *Cisco MDS SAN-OS Compatibility Matrix for Storage Service Interface Images*
- *Cisco MDS 9000 Family SSM Configuration Note*
- *Cisco MDS 9000 Family ASM Configuration Note*
- *Regulatory Compliance and Safety Information for the Cisco MDS 9000 Family*
- *Cisco MDS 9500 Series Hardware Installation Guide*
- *Cisco MDS 9200 Series Hardware Installation Guide*
- *Cisco MDS 9216 Switch Hardware Installation Guide*
- *Cisco MDS 9100 Series Hardware Installation Guide*
- *Cisco MDS 9020 Fabric Switch Hardware Installation Guide*
- *Cisco MDS 9000 Family Software Upgrade and Downgrade Guide*
- *Cisco MDS 9000 Family Configuration Guide*
- *Cisco MDS 9000 Family Command Reference*

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- *Cisco MDS 9020 Fabric Switch Configuration Guide and Command Reference*
- *Cisco MDS 9000 Family Fabric Manager Configuration Guide*
- *Cisco MDS 9000 Family Fabric and Device Manager Online Help*
- *Cisco MDS 9000 Family SAN Volume Controller Configuration Guide*
- *Cisco MDS 9000 Family Quick Configuration Guide*
- *Cisco MDS 9000 Family Fabric Manager Quick Configuration Guide*
- *Cisco MDS 9000 Family MIB Quick Reference*
- *Cisco MDS 9020 Fabric Switch MIB Quick Reference*
- *Cisco MDS 9000 Family CIM Programming Reference*
- *Cisco MDS 9000 Family System Messages Reference*
- *Cisco MDS 9020 Fabric Switch System Messages Reference*
- *Cisco MDS 9000 Family Troubleshooting Guide*
- *Cisco MDS 9000 Family Port Analyzer Adapter 2 Installation and Configuration Note*
- *Cisco MDS 9000 Family Port Analyzer Adapter Installation and Configuration Note*

For information on VERITAS Storage Foundation™ for Networks for the Cisco MDS 9000 Family, refer to the VERITAS website: <http://support.veritas.com/>

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/>

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation at this URL:

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

You can access the Cisco website at this URL:

<http://www.cisco.com>

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Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

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From this site, you can perform these tasks:

- Report security vulnerabilities in Cisco products.
- Obtain assistance with security incidents that involve Cisco products.
- Register to receive security information from Cisco.

A current list of security advisories and notices for Cisco products is available at this URL:

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

If you prefer to see advisories and notices as they are updated in real time, you can access a Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed from this URL:

http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you might have identified a vulnerability in a Cisco product, contact PSIRT:

- Emergencies—security-alert@cisco.com

An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

- Nonemergencies—psirt@cisco.com

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532



Tip

We encourage you to use Pretty Good Privacy (PGP) or a compatible product to encrypt any sensitive information that you send to Cisco. PSIRT can work from encrypted information that is compatible with PGP versions 2.x through 8.x.

Never use a revoked or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

The link on this page has the current PGP key ID in use.

Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Technical Support & Documentation website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

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

Access to all tools on the Cisco Technical Support & Documentation 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>



Note

Use the Cisco Product Identification (CPI) tool to locate your product serial number before submitting a web or phone request for service. You can access the CPI tool from the Cisco Technical Support & Documentation website by clicking the **Tools & Resources** link under Documentation & Tools. Choose **Cisco Product Identification Tool** from the Alphabetical Index drop-down list, or click the **Cisco Product Identification Tool** link under Alerts & RMAs. The CPI tool offers three search options: by product ID or model name; by tree view; or for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.

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 provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco 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 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.

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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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- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:

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

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

or view the digital edition at this URL:

<http://ciscoiq.texterity.com/ciscoiq/sample/>

- *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>

- Networking products offered by Cisco Systems, as well as customer support services, can be obtained at this URL:

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

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