

# Cisco MDS 9000 Family Release Notes for Cisco MDS VSFN Release 2.1(1a)

**Release Date:** April 6, 2005 B0

**Text Part Number:** OL-7440-01

This document describes the caveats and limitations for the VERITAS Storage Foundation for Networks (VSFN) software for the Cisco MDS Advanced Services Module (ASM) and the Cisco MDS Storage Services Module (SSM). Use this document in conjunction with the documents listed in the “[Related Documentation](#)” section on page 7.



**Note**

The Cisco MDS VSFN Release 2.1(1a) is a patch release for switches in the Cisco MDS 9000 Family. See the “[Caveats](#)” section on page 6 for details on open and resolved caveats and limitations. For information on VERITAS Storage Foundation™ for Networks for the Cisco MDS 9000 Family, refer to the <http://support.veritas.com/> website.

[Table 1](#) shows the on-line change history for this document.

**Table 1**                      **On-Line History Change**

| Revision | Date      | Description                           |
|----------|-----------|---------------------------------------|
| A0       | 4/6/2005  | Created release notes                 |
| B0       | 4/18/2005 | Added DDTS <a href="#">CSCeh62157</a> |

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## Introduction

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

- Network-based volume management
- Management and copy services
- 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

Refer to the documents listed in the “[Virtualization Documentation for ASM](#)” section on page 7.

## System Requirements

This section describes the system requirements for Cisco MDS SAN-OS Release 2.1(1a) and includes the following topics:

- [Components Supported, page 3](#)
- [Determining the Software Version, page 5](#)

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## Components Supported

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



**Note**

To use the Cisco Storage Services Enabler package, VERITAS Release 1.2(2b) or later must be installed on VERITAS Storage Foundation for Networks.

**Table 2 Cisco MDS 9000 Family Supported Software and Hardware Components**

| Component | Part Number   | Description                                             | Applicable Products                |
|-----------|---------------|---------------------------------------------------------|------------------------------------|
| Software  | M95S1K9-2.1.1 | MDS 9500 Supervisor/Fabric-I, SAN-OS software<br>SAN-OS | MDS 9500 Series only               |
|           | M92S1K9-2.1.1 | MDS 9216 Supervisor/Fabric-I, SAN-OS Software           | MDS 9216 only                      |
|           | SSI-M9K9-211  | MDS 9000 Storage Services Interface                     | MDS 9500 Series and<br>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                    |
|           | 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                    |
|           | M9500SSE1K9   | Storage Services Enabler package                        | MDS 9500 series with<br>ASM or SSM |
|           | M9200SSE1K9   | Storage Services Enabler package                        | MDS 9200 series with<br>ASM or SSM |

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

| Component               | Part Number      | Description                                                                                                                                                                    | Applicable Products      |
|-------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 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 <sup>1</sup> sold separately)                         | MDS 9506 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 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 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 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 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-X9032-SMV     | 32-port Fibre Channel Advanced Services Module (ASM)                                                                                                                           |                          |
|                         | DS-X9032-SSM     | MDS 9000 32-Port 1-Gbps/2-Gbps Fibre Channel Storage Services Module (SSM)                                                                                                     |                          |
| LC-type fiber-optic SFP | DS-SFP-FC-2G-SW  | 1-Gbps /2-Gbps Fibre Channel — short wavelength SFP                                                                                                                            | MDS 9000 Family          |
|                         | DS-SFP-FC-2G-LW  | 1-Gbps /2-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                                                                                                         |                          |
| CWDM <sup>2</sup>       | 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)                                                                                                                              |                          |

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

| Component             | Part Number      | Description                                                                                                                               | Applicable Products  |
|-----------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Power supplies        | DS-CAC-300W      | 300-W <sup>3</sup> AC power supply                                                                                                        | MDS 9100 Series only |
|                       | DS-CAC-845W      | 845-W 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)                                                                                     |                      |
|                       | DS-CAC-1900W     | 1900-W AC power supply                                                                                                                    | MDS 9506 only        |
|                       | DS-CDC-1900W     | 1900-W DC power supply                                                                                                                    |                      |
| CompactFlash          | MEM-MDS-FLD512M  | MDS 9500 supervisor Compact Flash disk, 512 MB                                                                                            | 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      |
|                       | DS-PAA-2         |                                                                                                                                           |                      |

1. SFP = small form-factor pluggable
2. CWDM = coarse wavelength division multiplexing
3. 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 its IP address, logical name, or WWN, and then check its version in the Release column.

## Image Upgrade

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

Refer to the *VERITAS Storage Foundation™ for Networks Installation and Configuration Guide*. You can access this document at <http://support.veritas.com/>.

A printed version of this document is also available through the VERITAS web store: <http://webstore.veritas.com/webstore/en/index.jsp?lang=en&country=US>

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## 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 7.

The VSFN Release 2.1(1a) add-on image is compatible with the Cisco MDS SAN-OS Release 2.1(1a) image.

## VSFN Support on SSM

VSFN can be configured on the Storage Services Module (SSM).

## Limitations

The VSFN Release 2.1(1a) add-on image requires the Cisco MDS SAN-OS Release 2.1(1a) image and will not work with earlier releases.

## Compatibility Matrix

The latest *Cisco MDS SAN-OS Release Compatibility Matrix for VERITAS Storage Foundation for Networks Software* is available from the following Cisco Systems website.

[http://www.cisco.com/en/US/products/hw/ps4159/ps4358/products\\_device\\_support\\_tables\\_list.html](http://www.cisco.com/en/US/products/hw/ps4159/ps4358/products_device_support_tables_list.html)



### Note

We recommend that you upgrade to VSFN Release 2.1(1a).

## 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** *Release Caveats and Caveats Corrected Reference*

| DDTS Number                | Severity | Software Release 2.1(1a) |
|----------------------------|----------|--------------------------|
| <a href="#">CSCeh62157</a> | 2        | O                        |

CSCeh62157

**Symptom:** If you are booting a system that has one or more SSMs and no ASMs installed, and has not been previously configured for VSFN, the SSM might not start up.

**Workaround:** Contact Cisco technical support for assistance with starting the SSM.

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## 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 Release Compatibility Matrix for Storage Service Interface Images*
- *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 9000 Family Software Upgrade and Downgrade Guide*
- *Cisco MDS 9000 Family Configuration Guide*
- *Cisco MDS 9000 Family 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 MIB Quick Reference*
- *Cisco MDS 9000 Family CIM Programming Reference*
- *Cisco MDS 9000 Family 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*

## Virtualization Documentation for ASM

For ASM information, refer to the *Cisco MDS 9216 Switch Hardware Installation Guide* or the *Cisco MDS 9500 Series Hardware Installation Guide*.

For Cisco MDS SAN-OS CLI commands, refer to the *Cisco MDS 9000 Family Command Reference*.

For information on VERITAS Storage Foundation™ for Networks 1.1, refer to the following Veritas documents available from the <http://support.veritas.com/> website:

- *VERITAS Storage Foundation for Networks Overview*
- *VERITAS Storage Foundation for Networks Installation and Configuration Guide*
- *VERITAS Storage Foundation for Networks Obtaining and Installing Licenses*
- *VERITAS Storage Foundation for Networks GUI Administrator's Guide*

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- *VERITAS Storage Foundation for Networks CLI Administrator's Guide*
- *VERITAS Storage Foundation for Networks README*

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### Cisco.com

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

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

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- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 1 800 553-NETS (6387).

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170 West Tasman Drive  
San Jose, CA 95134-9883

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[http://www.cisco.com/en/US/products/products\\_security\\_vulnerability\\_policy.html](http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html)

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

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- Nonemergencies—[psirt@cisco.com](mailto:psirt@cisco.com)



**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 that has the most recent creation date in this public key server list:

<http://pgp.mit.edu:11371/pks/lookup?search=psirt%40cisco.com&op=index&exact=on>

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

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

## Obtaining Technical Assistance

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### Cisco Technical Support Website

The Cisco Technical Support Website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, 365 days a year, at this URL:

<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>



#### 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 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 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.

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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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- *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:

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