



# Cisco MDS 9000 Series Release Notes, Release 8.4(2b)

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This document describes the features, caveats, and limitations for the Cisco MDS NX-OS software for the use on the Cisco MDS 9000 Series Switches. Use this document in combination with documents listed in the [“Obtaining Documentation and Submitting a Service Request”](#) section on page 19.



**Note**

The documentation set for this product strives to use bias-free language. For the purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.



**Note**

Release notes are updated on an as needed basis with new information on restrictions and caveats. Refer to the following website for the most recent version of the [Cisco MDS 9000 Series Release Notes](#).

[Table 1](#) shows the online change history for this document.

**Table 1**      **Change History**

Date	Description
January 21, 2021	Added the <a href="#">CSCvt15096</a> caveat in the Open Caveats section.
November 24, 2020	Added the <a href="#">CSCvs87512</a> caveat in the Resolved Caveats section.
November 18, 2020	Added the <a href="#">CSCvw03816</a> caveat in the Open Caveats section.
October 30, 2020	Initial release.



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## Introduction

The Cisco MDS 9000 Series of Multilayer Directors and Fabric Switches provide best-in-class high availability, scalability, security, and management, that enables to deploy high-performance storage-area networks. Layering a rich set of intelligent features onto a high-performance switch fabric, the Cisco MDS 9000 Series addresses the stringent requirements of large data center storage environments: high availability, security, scalability, ease of management, and seamless integration of new technologies.

## About Software Images

The Cisco MDS NX-OS operating system is shipped with the Cisco MDS 9000 Series Switches. The Cisco MDS NX-OS software consists of two images: the kickstart image and the system image. These images can be upgraded or downgraded to different versions. The versions of both images must match for the system to boot.

Each model of Cisco MDS switch has unique kickstart and system images. For more information on the image names for each Cisco MDS switch, see the *Cisco MDS 9000 NX-OS Software Upgrade and Downgrade Guide, Release 8.x*.

To download new Cisco MDS 9000 Series software, including Cisco MDS NX-OS and Cisco DCNM management software, go to the Storage Networking Software download website at <https://software.cisco.com/download/home>.

## Choosing Between Cisco MDS NX-OS Open Systems Releases

Cisco uses release numbering to indicate the maturity of a Cisco MDS NX-OS release train. Cisco MDS NX-OS major versions are incremented when significant software features or hardware support are added. Because of the focus on new features and hardware, all defects may not yet have been fixed. After an initial release, minor version numbers of the train are incremented, and only security patches and defect fixes are added, providing better stability to the new features and updated security.

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Details about the new features and hardware supported by Cisco MDS NX-OS Release 8.4(2b) can be found in the [“New Hardware and Software Features” section on page 10](#). For information about other releases, refer to the Release Notes on the [Cisco MDS 9000 NX-OS and SAN-OS Software](#) documentation page.

For Cisco recommended MDS NX-OS releases for each type of hardware, see the [Recommended Releases for Cisco MDS 9000 Series Switches](#) document.

## Components Supported

For information on supported software and hardware components, see the [Cisco MDS 9000 Series Compatibility Matrix](#).

## FICON

Fibre Connection (FICON) interface capabilities enhance certain Cisco MDS 9000 Series switches by supporting both open systems and mainframe storage network environments.

- [FICON Supported Platforms, page 3](#)
- [FICON Supported Releases, page 4](#)

## FICON Supported Platforms

FICON is supported on the following Cisco MDS 9000 Series switches and modules:

- Cisco MDS 9706
  - Cisco MDS 9700 48-Port 32-Gbps Fibre Channel Switching Module (DS-X9648-1536K9)
  - Cisco MDS 24/10-Port SAN Extension Module (DS-X9334-K9)
  - Cisco MDS 48-Port 16-Gbps Fibre Channel Switching Module (DS-X9448-768K9)
  - Cisco MDS 9706 Crossbar Fabric-1 Switching Module (DS-X9706-FAB1)
  - Cisco MDS 9706 Crossbar Fabric-3 Switching Module (DS-X9706-FAB3)
  - Cisco MDS 9700 Series Supervisor-1 Module (DS-X97-SF1-K9)
  - Cisco MDS 9700 Series Supervisor-4 Module (DS-X97-SF4-K9)
- Cisco MDS 9710
  - Cisco MDS 9700-48 Port 32-Gbps Fibre Channel Switching Module (DS-X9648-1536K9)
  - Cisco MDS 24/10-Port SAN Extension Module (DS-X9334-K9)
  - Cisco MDS 48-Port 16-Gbps Fibre Channel Switching Module (DS-X9448-768K9)
  - Cisco MDS 9710 Crossbar Fabric-1 Switching Module (DS-X9710-FAB1)
  - Cisco MDS 9710 Crossbar Fabric-3 Switching Module (DS-X9710-FAB3)
  - Cisco MDS 9700 Series Supervisor-1 Module (DS-X97-SF1-K9)
  - Cisco MDS 9700 Series Supervisor-4 Module (DS-X97-SF4-K9)
- Cisco MDS 9250i

FICON is also supported on the following IBM OEM switches and modules:

- IBM SAN192C-6

- IBM 48-Port 32-Gbps Fibre Channel Switching Module (01FT644)
- IBM SAN Director Supervisor Module 4 (02JD753)
- IBM SAN Director Supervisor Module 1 (01FT600)
- IBM 24/10 Port SAN Extension Module (01FT645)
- IBM SAN384C-6
  - IBM 48-Port 32-Gbps Fibre Channel Switching Module (01FT644)
  - IBM SAN Director Supervisor Module 4 (02JD753)
  - IBM SAN Director Supervisor Module 1 (01FT600)
  - IBM 24/10 Port SAN Extension Module (01FT645)
- IBM SAN50C-R

## FICON Supported Releases

The Cisco MDS NX-OS Release 8.1(1a), Release 8.1(1b), Release 8.4(1a), and Release 8.4(2b) are IBM-certified FICON releases for Cisco MDS. From Cisco MDS NX-OS Release 8.4(1a), FICON is supported on the Cisco MDS 9706 Crossbar Fabric-3 Switching Module (DS-X9706-FAB3), Cisco MDS 9710 Crossbar Fabric-3 Switching Module (DS-X9710-FAB3), and Cisco MDS 9700 Series Supervisor-4 Module (DS-X97-SF4-K9).

[Table 2](#) lists the Cisco MDS NX-OS releases that are certified for FICON. Refer to the specific release notes for FICON upgrade path information.

**Table 2** *FICON Supported Releases*

<b>FICON Supported Releases</b>	
MDS NX-OS	Release 8.4(2b)
	Release 8.4(1a)
	Release 8.1(1b)
	Release 8.1(1a)
	Release 6.2(11e)
	Release 6.2(11d) for the <i>Cisco MDS 9250i Switch only</i>
	Release 6.2(11c) for <i>all FICON supported platforms except the Cisco MDS 9250i Switch</i>

## Upgrading Cisco MDS NX-OS Software Image

This section lists the guidelines recommended for upgrading Cisco MDS NX-OS software image and includes the following topics:

- [General Upgrading Guidelines, page 5](#)
- [Open Systems Nondisruptive Upgrade Paths, page 5](#)
- [FICON Systems Nondisruptive Upgrade Paths, page 6](#)

For detailed instructions for performing a software upgrade using the switch CLI, see the [Cisco MDS 9000 NX-OS Software Upgrade and Downgrade Guide, Release 8.x](#).

For detailed instructions for performing a software upgrade using Cisco DCNM, see the [Cisco DCNM Release Notes](#).

## General Upgrading Guidelines

This section lists the general guidelines for performing a software upgrade:

- Install and configure dual supervisor modules before the upgrade.
- Issue the **show install all impact upgrade-image** command to determine if the upgrade will be nondisruptive.
- Some features are impacted whether an upgrade is disruptive or nondisruptive:
  - **Fibre Channel Ports:** Fibre Channel ports can be nondisruptively upgraded without affecting traffic on the ports. See the [“Open Systems Nondisruptive Upgrade Paths” section on page 5](#) for all MDS NX-OS releases.
  - **Fibre Channel over Ethernet (FCoE) Ports:** FCoE ports can be nondisruptively upgraded without affecting traffic on the ports. See the [“Open Systems Nondisruptive Upgrade Paths” section on page 5](#) for all MDS NX-OS releases.
  - **IP Storage (IPS) Ports:** Traffic on IPS ports on Cisco MDS 9250i and Cisco MDS 24/10-Port SAN Extension Modules is disrupted during an upgrade or downgrade. Nodes that are members of VSANs traversing an FCIP ISL are impacted, and a fabric reconfiguration may occur. iSCSI initiators connected to the IPS ports lose connectivity to iSCSI targets while the upgrade is in progress.



### Note

In addition to these guidelines, review the information in the [“Limitations and Restrictions” section on page 12](#) before a software upgrade to determine if a feature may possibly behave differently following the upgrade.

- To upgrade or downgrade to a Cisco MDS NX-OS release version, the same release version of the kickstart and system images in the **install all** command must be used.
- If you are upgrading Cisco MDS 9700 Series Switches from Cisco MDS NX-OS Release 8.3(1), Release 8.3(2), Release 8.4(1), and Release 8.4(1a) to Release 8.4(2) or later, ensure that you perform a switchover before upgrading. For more information, see [CSCvt87216](#).

## Open Systems Nondisruptive Upgrade Paths

The software upgrade information in this section applies only to Fibre Channel switching traffic. Upgrading system software disrupts IP traffic and intelligent services traffic.



### Note

If the SAN Analytics feature is enabled, then disable the SAN Analytics feature using the **no feature analytics** command before upgrading from Cisco MDS NX-OS 8.2(x) or Cisco MDS NX-OS 8.3(x) to Cisco MDS NX-OS Release 8.4(2b). However, you can upgrade from Cisco MDS NX-OS Release 8.4(1) and above releases to Cisco MDS NX-OS Release 8.4(2b) without disabling the feature.

**Table 3** *Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.4(2b)*

Current Release	Nondisruptive Upgrade Paths and Ordered Upgrade Steps
<b>MDS NX-OS:</b>	
All 8.x releases	Upgrade directly to MDS NX-OS Release 8.4(2b)

**Table 3** *Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.4(2b)*

<b>Current Release</b>	<b>Nondisruptive Upgrade Paths and Ordered Upgrade Steps</b>
All 7.3(x) releases	<ol style="list-style-type: none"> <li>1. Upgrade directly to MDS NX-OS Release 8.1(1b)</li> <li>2. Upgrade to MDS NX-OS Release 8.4(2b)</li> </ol>
6.2(29) and above releases	Upgrade directly to MDS NX-OS Release 8.4(2b)
6.2(13a) until 6.2(27)	<ol style="list-style-type: none"> <li>1. Upgrade directly to MDS NX-OS Release 8.1(1b)</li> <li>2. Upgrade to MDS NX-OS Release 8.4(2b)</li> </ol>
All 6.2(x) releases prior to 6.2(13a)	<ol style="list-style-type: none"> <li>1. Upgrade directly to MDS NX-OS Release 6.2(13a)</li> <li>2. Upgrade to MDS NX-OS Release 8.1(1b)</li> <li>3. Upgrade to MDS NX-OS Release 8.4(2b)</li> </ol>

## FICON Systems Nondisruptive Upgrade Paths

Use [Table 4](#) to determine the nondisruptive upgrade path for FICON-certified releases. Find the image release number using the Current Release with the FICON Enabled column of the table and follow the recommended path.

**Table 4** *FICON Nondisruptive Upgrade Paths from MDS NX-OS Release 8.4(2b)*

<b>Current Release with FICON Enabled</b>	<b>Upgrade Path</b>
MDS NX-OS Release 8.1(1b) and 8.4(1a)	Upgrade directly to MDS NX-OS Release 8.4(2b)
MDS NX-OS Release 8.1(1a)	<ol style="list-style-type: none"> <li>1. Upgrade directly to MDS NX-OS Release 8.1(1b)</li> <li>2. Upgrade to MDS NX-OS Release 8.4(2b)</li> </ol>
MDS NX-OS Release 6.2(11e)	<ol style="list-style-type: none"> <li>1. Upgrade directly to MDS NX-OS Release 8.1(1a)</li> <li>2. Upgrade to MDS NX-OS Release 8.1(1b)</li> <li>3. Upgrade to MDS NX-OS Release 8.4(2b)</li> </ol>
MDS NX-OS Release 6.2(11d)	<ol style="list-style-type: none"> <li>1. Upgrade directly to MDS NX-OS Release 8.1(1a)</li> <li>2. Upgrade to MDS NX-OS Release 8.1(1b)</li> <li>3. Upgrade to MDS NX-OS Release 8.4(2b)</li> </ol>
MDS NX-OS Release 6.2(11c)	<ol style="list-style-type: none"> <li>1. Upgrade directly to MDS NX-OS Release 8.1(1a)</li> <li>2. Upgrade to MDS NX-OS Release 8.1(1b)</li> <li>3. Upgrade to MDS NX-OS Release 8.4(2b)</li> </ol>

## Downgrading Cisco MDS NX-OS Software Image

This section lists the guidelines recommended for ISSD of Cisco MDS NX-OS software image and includes the following topics:

- [General Downgrading Guidelines, page 7](#)

- [Open Systems Nondisruptive Downgrade Paths, page 8](#)
- [FICON Systems Nondisruptive Downgrade Paths, page 9](#)

For detailed instructions for performing a software downgrade using the switch CLI, see the [Cisco MDS 9000 NX-OS Software Upgrade and Downgrade Guide, Release 8.x](#).

## General Downgrading Guidelines

Follow these general guidelines before performing a software downgrade:

- Disable all features that are not supported by the downgrade release. Use the **show incompatibility system downgrade-image** command to determine the features that needs to be disabled.
- Use the **show install all impact downgrade-image** command to determine if the downgrade is nondisruptive.
- The following features are impacted during a downgrade, whether it is a nondisruptive downgrade or a disruptive downgrade:
  - **Fibre Channel Ports:** Fibre Channel ports can be nondisruptively downgraded without affecting traffic on the ports.
  - **FCoE Port:** FCoE ports can be nondisruptively downgraded without affecting traffic on the ports.
  - **IPS Ports:** Traffic on IPS ports on Cisco MDS 9250i and Cisco MDS 24/10-Port SAN Extension Modules is disrupted during an upgrade or downgrade. Nodes that are members of VSANs traversing an FCIP ISL are impacted, and a fabric reconfiguration may occur. iSCSI initiators connected to the IPS ports lose connectivity to iSCSI targets while the upgrade is in progress.

Find the MDS NX-OS image that you want to downgrade to in the To MDS NX-OS Release column of the [Table 5](#) and follow the steps in the order specified to perform the downgrade.



### Note

The software downgrade information in the below tables applies only to Fibre Channel switching traffic. Downgrading system software disrupts IP and intelligent services traffic.

- Any hardware that is not supported by the downgrade release version will be powered down when the downgrade release starts running. Power off and or remove any unsupported components before downgrading. For more information about supported hardware see the [Cisco MDS 9000 Series Compatibility Matrix](#).

## ISSD Guidelines for Cisco MDS 9396S Switch

- Downgrading from Cisco MDS NX-OS Release 8.x to Cisco MDS NX-OS Release 7.3(0)D1(1) or Cisco MDS NX-OS Release 6.2(13a) is not supported on a Cisco MDS 9396S Switch which has DS-CAC-1200W as a power supply unit (PSU) and DS-C96S-FAN-I as port side intake fan tray.
- Downgrading from Cisco MDS NX-OS Release 8.x to Cisco MDS NX-OS Release 6.2(13) is not supported on the Cisco MDS 9396S Multilayer Fabric Switch. The minimum recommended image for Cisco MDS 9396S Multilayer Fabric Switch is 6.2(13a).

## ISSD Guidelines for Cisco MDS 9250i Switch

- Downgrading from Cisco MDS NX-OS Release 8.x to Cisco MDS NX-OS Release 7.3(0)D1(1), or 6.2(13a) and lower is not supported on a Cisco MDS 9250i Switch which has only one online PSU.
- Downgrading from Cisco MDS NX-OS Release 8.x to Cisco MDS NX-OS Release 7.3(0)D1(1), or 6.2(13a) and lower on a Cisco MDS 9250i Switch with two online PSUs results in loss of N:N grid redundancy. The switch will run in non-redundant mode.

- Downgrading from Cisco MDS NX-OS Release 8.x to Cisco MDS NX-OS Release 7.3(0)D1(1), or 6.2(13a) and lower on a Cisco MDS 9250i Switch with three online PSUs results in loss of N:N grid redundancy. The switch will run in N+1 power redundant mode.

## Open Systems Nondisruptive Downgrade Paths

- Downgrading directly from Cisco MDS NX-OS Release 8.1(1) and Release 8.1(1b) to releases before Cisco MDS NX-OS Release 6.2(9) is not supported. In such a scenario, we recommend that you first downgrade to Cisco MDS NX-OS Release 6.2(13a) or higher and then downgrade to the required release.
- Downgrading directly from Cisco MDS NX-OS Release 8.1(1) to Cisco MDS NX-OS Release 7.3(0)DY(1) is not supported. In such a scenario, we recommend that you first downgrade to Cisco MDS NX-OS Release 7.3(0)D1(1) and then upgrade to 7.3(0)DY(1).
- Downgrading directly from Cisco MDS NX-OS Release 8.1(1) to Cisco MDS NX-OS Release 7.3(1)DY(1) is not supported. In such a scenario, we recommend that you first downgrade to Cisco MDS NX-OS Release 7.3(0)D1(1) and then upgrade to 7.3(1)DY(1).
- Downgrading from Cisco MDS NX-OS Release 8.1(1) and Release 8.1(1b) is not supported if the FLOGI Scale Optimization feature is enabled on the Cisco MDS 9718 Switches.



## Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.4(2b)

**Table 5** *Nondisruptive Downgrade Paths from NX-OS Release 8.4(2b)*

To MDS NX-OS Release	Nondisruptive Downgrade Path and Ordered Downgrade Steps
<b>NX-OS:</b>	
All 8.x releases	Downgrade to the target release
All 7.3(x) releases	<ol style="list-style-type: none"><li>1. Downgrade directly to MDS NX-OS Release 8.1(1b)</li><li>2. Downgrade to the target release</li></ol>
6.2(29) and above releases	Downgrade to the target release
6.2(13a) until 6.2(27)	<ol style="list-style-type: none"><li>1. Downgrade directly to MDS NX-OS Release 8.1(1b)</li><li>2. Downgrade to the target release</li></ol>
All 6.2(x) releases prior to 6.2(13a)	<ol style="list-style-type: none"><li>1. Downgrade directly to MDS NX-OS Release 8.1(1b)</li><li>2. Downgrade to MDS NX-OS Release 6.2(13a)</li><li>3. Downgrade to the target release</li></ol>

## FICON Systems Nondisruptive Downgrade Paths

Table 6 lists the downgrade paths for FICON releases. Find the image release number that you want to downgrade to in the [To Release with FICON Enabled](#) column of the table and follow the recommended downgrade path.

**Table 6** *FICON Nondisruptive Downgrade Paths from MDS NX-OS Release 8.4(2b)*

To Release with FICON Enabled	Nondisruptive Downgrade Path and Ordered Downgrade Steps
MDS NX-OS Release 8.1(1b) and 8.4(1a)	Downgrade directly from MDS NX-OS 8.4(2b)
MDS NX-OS Release 8.1(1a)	<ol style="list-style-type: none"> <li>1. Downgrade directly to MDS NX-OS Release 8.1(1b)</li> <li>2. Downgrade to the target release</li> </ol>
MDS NX-OS Release 6.2(11e)	<ol style="list-style-type: none"> <li>1. Downgrade directly to MDS NX-OS Release 8.1(1b)</li> <li>2. Downgrade to MDS NX-OS Release 8.1(1a)</li> <li>3. Downgrade to the target release</li> </ol>
MDS NX-OS Release 6.2(11d)	<ol style="list-style-type: none"> <li>1. Downgrade directly to MDS NX-OS Release 8.1(1b)</li> <li>2. Downgrade to MDS NX-OS Release 8.1(1a)</li> <li>3. Downgrade to the target release</li> </ol>
MDS NX-OS Release 6.2(11c)	<ol style="list-style-type: none"> <li>1. Downgrade directly to MDS NX-OS Release 8.1(1b)</li> <li>2. Downgrade to MDS NX-OS Release 8.1(1a)</li> <li>3. Downgrade to the target release</li> </ol>

## New Hardware and Software Features

- [New Hardware Features in Cisco MDS NX-OS Release 8.4\(2b\), page 10](#)
- [New Software Features in Cisco MDS NX-OS Release 8.4\(2b\), page 10](#)

### New Hardware Features in Cisco MDS NX-OS Release 8.4(2b)

There are no new hardware features in Cisco MDS NX-OS Release 8.4(2b).

### New Software Features in Cisco MDS NX-OS Release 8.4(2b)

The following software feature was introduced in Cisco MDS NX-OS Release 8.4(2b):

- [FICON Distribute, page 10](#)
- [FICON Diagnostics Commands, page 11](#)

#### FICON Distribute

The **ficon distribute** command enables Cisco Fabric Services (CFS) distribution on a FICON switch so that the switch can communicate with various FICON switches in a VSAN or fabric which in turn can be learned by an appropriate version of z/OS.

For more information, see the [Cisco MDS 9000 Series Command Reference, Release 8.x](#).

## FICON Diagnostics Commands

The following commands were introduced:

- **ficon vsan *ID* diagnostics**: This command enables FICON diagnostics in a specified VSAN.
- **show ficon vsan *ID* diagnostics**: This command displays the FICON diagnostics status.

For more information, see the [Cisco MDS 9000 Series Command Reference, Release 8.x](#).

With the creation of the FICON Diagnostics capabilities, the Cisco MDS 9706, MDS 9710, and MDS 9250i now support the following IBM z/OS commands on IBM System z:

- D M=DEV(XXXX,(yy)),ROUTE=TODEV,[HEALTH]
- D M=DEV(XXXX,(yy)),ROUTE=FROMDEV,[HEALTH]
- D M=DEV(XXXX,(yy)),ROUTE=BOTH,[HEALTH]

For the full data interoperability of these z/OS commands with the MDS CUP diagnostics capabilities, you will need to apply IBM APAR OA60381.

## Unsupported Features

### Data Mobility Manager

Starting from Cisco MDS NX-OS Release 8.1(1), the Cisco MDS Data Mobility Manager is not supported on Cisco MDS 9000 Series Switches.

### Zoning Features

LUN zoning, read-only zones, and broadcast zones are no longer supported.

If these features are already configured, completely remove all the configurations that include these features before attempting to bring up these modules. In addition, you cannot configure these features after you bring up these modules.

### Slow Drain Detection and Congestion Isolation Enhancements

ER\_RDY is not supported on FC interfaces running at 10 Gbps.

### XRC Acceleration License

Starting from Cisco MDS NX-OS Release 8.1(1a), the Cisco Extended Remote Copy (XRC) acceleration license is obsolete on Cisco MDS 9000 Series Switches due to improvements in the mainframe XRC feature.

### FICON Tape Acceleration

FICON Tape Acceleration (FTA) is not supported on Cisco MDS 24/10 SAN Extension Module in Cisco MDS NX-OS Release 8.1(1a) but it is supported in Cisco MDS NX-OS Release 8.1(1b), Release 8.4(1a), and Release 8.4(2b).

### Virtual Router Redundancy Protocol (VRRP)

From Cisco MDS NX-OS Release 8.3(1) and later, the VRRP feature is not supported on Cisco MDS 9000 Series Switches.

## Deprecated Hardware

Starting from Cisco MDS NX-OS Release 8.1(1), the following hardware models are not supported:

- Cisco MDS 9513
- Cisco MDS 9509
- Cisco MDS 9506
- Cisco MDS 9500 Series Supervisor-2A Module
- Cisco MDS 24-Port 8-Gbps Fibre Channel Switching Module
- Cisco MDS 48-Port 8-Gbps Fibre Channel Switching Module
- Cisco MDS 32-Port 8-Gbps Advanced Fibre Channel Switching Module
- Cisco MDS 48-Port 8-Gbps Advanced Fibre Channel Switching Module
- Cisco MDS 10 Gbps 8-Port FCoE Module
- Cisco MDS 16-Port Storage Services Node (SSN-16)
- Cisco MDS 18/4-Port Multiservice Module (MSM)

## Limitations and Restrictions

### Fibre Channel Read Diagnostic Parameters

Fibre Channel RDP querying is not supported on NPV, Port Channel, or FCoE links.

### FCIP Support

- In Cisco MDS NX-OS Release 8.1(1) or later, FCIP Write Acceleration is not supported between 24/10 San Extension Module and Cisco 18+4 MSM module and between 24/10 San Extension Module and Cisco SSN16 module.
- In Cisco MDS NX-OS Release 8.1(1) or later, FCIP Write Acceleration along with IVR is not supported on FCIP tunnels configured on Cisco MDS 9700 Series switches.
- FCIP tunnels using Cisco MDS 24/10 Port SAN Extension Module cannot be used across FSPF equal cost paths.
- On Cisco MDS 24/10 Port SAN Extension Module, configuring multiple ECMP port channels with FCIP members in the same VSAN is not a valid configuration. If this is configured, then the traffic will flow through only one of the port channels.

### 40GE IP Storage (IPS) Interfaces Support on Cisco MDS 24/10-Port SAN Extension Module

40GE IP storage interfaces are not supported.

## iSCSI Support

iSCSI is not supported on Cisco MDS 9700 Directors with Cisco MDS 24/10 port SAN Extension Modules.

## HVDC PSU Support

The Cisco MDS 9700 HVDC PSU (DS-CHV-3.5KW) is not supported in Cisco MDS NX-OS Releases 8.1(1) and 8.1(1a). Do not attempt to load these releases on devices equipped with these PSUs or the systems will fail to power up.

## Cisco TrustSec FC Link Encryption

Cisco TrustSec FC Link Encryption support for the following modules is available only on certain ports as mentioned below:

- 48-port 2/4/8/16-Gbps Fibre Channel switching module (DS-X9448-768K9)
- 48-port 4/8/16/32-Gbps Fibre Channel switching module (DS-X9648-1536K9)
- 48-port 32-Gbps Fibre Channel Switching Module (DS-X9648-1536K9)
- Cisco MDS 9000 24/10-Port SAN Extension Module (DS-X9334-K9)
- Cisco MDS 9132T 32-Gbps 32-Port Fibre Channel Fabric Switch
- Cisco MDS 9148T 32-Gbps 48-Port Fibre Channel Fabric Switch
- Cisco MDS 9396T 32-Gbps 96-Port Fibre Channel Fabric Switch
- Cisco MDS 9396S 16-Gbps 96-Port Fibre Channel Fabric Switch

## Caveats

- [Subscribing for Important Product Update Notifications, page 13](#)
- [Resolved Caveats in Cisco MDS NX-OS Release 8.4\(2b\), page 15](#)
- [Open Caveats in Cisco MDS NX-OS Release 8.4\(2b\), page 16](#)

## Subscribing for Important Product Update Notifications

Cisco provides a subscription service to notify of important events related to the Cisco MDS software and hardware for the following categories:

- Cisco Security Advisories
- Field Notices
- End-of-Sale, End-of-Life, and End-of-Support Announcements
- Software Updates [New, Certified, Software Advisories, Deferred, Obsoleted]
- Updates to Known Bugs

We recommend that you at least subscribe to the Field Notices, Security Advisories, and Software Updates [New, Certified, Software Advisories, Deferred, Obsoleted] categories, if not all categories, so that you can receive notifications about any critical product issues.

To subscribe to a category for receiving notifications of important updates:

1. Go to <https://cway.cisco.com/mynotifications>, and log in to your account.
2. Click **Create Subscription**.
3. Follow the onscreen instructions.



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**Note** You must renew your notification subscriptions annually.

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## Resolved Caveats in Cisco MDS NX-OS Release 8.4(2b)

**Table 7** Resolved Caveats in the Cisco MDS NX-OS Release 8.4(2b)

Caveat ID	Description	Known Impacted 8.x Releases
<a href="#">CSCvs26693</a>	RNID information is retained in a FICON VSAN.	8.4(1a)
<a href="#">CSCvs87512</a>	MDS fabric switch with cfs ipv4/ipv6 enabled reloads unexpectedly.	8.4(1), 8.4(1a)
<a href="#">CSCvs97168</a>	Kickstart pre check fails as /var folder is full with nxapi logs.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
<a href="#">CSCvu86801</a>	fc32_mac process is unresponsive while running diagnostic latency test on ISL.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
<a href="#">CSCvv27244</a>	End device has LW SFP but "show rdp" command shows as SW.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a) 8.3(1), 8.3(2)
<a href="#">CSCvv32033</a>	showanalytics with --top option records multiple accounting log entries.	8.4(1a)
<a href="#">CSCvv48463</a>	Improve logging when ip default route is added or removed.	8.4(1a), 8.4(2), 8.4(2a)
<a href="#">CSCvv56650</a>	ISSU on MDS 9250i FCoE VFCs causes switchport to stop sending PFC Pauses leading to frame drops.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a)
<a href="#">CSCvv59174</a>	NXAPI: cli should not return error for zone/zoneset not present - Traceback during AUTOZONE enable.	8.4(2a)
<a href="#">CSCvv70887</a>	FICON Z13 queries RDP and displays incorrect information.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
<a href="#">CSCvv74933</a>	'Failure' status returned after ECC cleanup by software.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
<a href="#">CSCvv80136</a>	Need to display 'Unknown' in 'show environment' when unknown PSU info read.	8.4(2), 8.4(2a)

## Open Caveats in Cisco MDS NX-OS Release 8.4(2b)

**Table 8** Open Caveats in the Cisco MDS NX-OS Release 8.4(2b)

Caveat ID	Description	Known Impacted 8.x Releases
<a href="#">CSCvf08416</a>	M9132T, M9396S: pam_ftp(ftp:auth): conversation failed syslog is displayed in the show tech details.	8.4(1), 8.4(2), 8.4(2a), 8.4(2b) 8.3(2), 8.3(1) 8.2(2), 8.2(1)
<a href="#">CSCvj93031</a>	Show system login failures does not display IPv6 addresses.	8.4(1), 8.4(2), 8.4(2a), 8.4(2b) 8.3(2), 8.3(1)
<a href="#">CSCvo22835</a>	While moving IOA flow between 2 clusters, all flows are briefly suspended.	8.4(1), 8.4(2), 8.4(2a), 8.4(2b) 8.3(2), 8.3(1) 8.2(2), 8.2(1) 8.1(1b), 8.1(1a), 8.1(1)
<a href="#">CSCvp48050</a>	MDS 9700 Control Plane Packet drop seen during when switch comes up.	8.4(1), 8.4(2), 8.4(2a), 8.4(2b)
<a href="#">CSCvp70681</a>	MDS: Receiver stays in "idle"; no streaming to one receiver; single threaded telemetry.	8.4(1), 8.4(2), 8.4(2a), 8.4(2b)
<a href="#">CSCvs15569</a>	IKE negotiation fails when configured with authentication type rsa-signature.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
<a href="#">CSCvs23106</a>	IPS_mgr running even after removal of DS-X9334-K9 card.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
<a href="#">CSCvs99211</a>	FLOGI PSS inconsistency seen with DPVM configuration.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
<a href="#">CSCvt15096</a>	MDS 9250i/MDS 9148s port goes to not-connected state after cable pull.	8.4(2b)
<a href="#">CSCvt15761</a>	Non-disruptive reload cmd is causing reinitializing of the error disabled ports on other line cards.	8.4(2), 8.4(2a), 8.4(2b)



**Table 8 Open Caveats in the Cisco MDS NX-OS Release 8.4(2b)**

<b>Caveat ID</b>	<b>Description</b>	<b>Known Impacted 8.x Releases</b>
<a href="#">CSCvt22913</a>	FCIP Links flaps with IOA traffic while adding more links.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)  8.3(1), 8.3(2)  8.2(1), 8.2(2)
<a href="#">CSCvt64521</a>	IPSec enabled FCIP tunnels don't come up after switch or module reload if tunnels are more than 18.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)  8.3(1), 8.3(2)  8.2(1), 8.2(2)  8.1(1), 8.1(1a), 8.1(1b)
<a href="#">CSCvt70406</a>	DM https download certificate is self signed.	8.4(2a), 8.4(2b)  8.3(1)  8.1(1), 8.1(1a), 8.1(1b)
<a href="#">CSCvu28005</a>	Timeout drops seen on 32G fabric switches after ISSU.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)  8.3(1), 8.3(2)  8.2(1), 8.2(2)  8.1(1), 8.1(1a), 8.1(1b)
<a href="#">CSCvv00538</a>	Remove misleading merge failed message for ficonstat in non-FICON VSAN.	8.4(2b)
<a href="#">CSCvv27832</a>	Kernel panic on DS-X97-SF4-K9 model supervisor.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)
<a href="#">CSCvv98829</a>	97xx Chassis information missing and logging error message %PLATFORM-2-PS_UNSUPPORTED.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)
<a href="#">CSCvw03816</a>	Port Speed coming as 8G when connecting 16G Brocade AG to MDS 9250i/9148s switches.	8.4(2a), 8.4(2b)
<a href="#">CSCvw04750</a>	IOA tape acceleration fails for already compressed data.	8.4(1a), 8.4(2b)
<a href="#">CSCvw21395</a>	All MDS switches rebooted when the zoneset activated.	8.4(1a), 8.4(2b)

## Related Documentation

The documentation set for the Cisco MDS 9000 Series includes the documents listed in this section. To find a document online, access the following URL:

[http://www.cisco.com/en/US/products/ps5989/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/ps5989/tsd_products_support_series_home.html)

The documentation set for Cisco Prime Data Center Network Manager is available from the following URL:

[http://www.cisco.com/en/US/products/ps9369/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/ps9369/tsd_products_support_series_home.html)

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## Release Notes

<http://www.cisco.com/c/en/us/support/storage-networking/mds-9000-nx-os-san-os-software/products-release-notes-list.html>

## Licensing Information

[https://www.cisco.com/c/en/us/td/docs/switches/datacenter/mds9000/sw/8\\_x/config/licensing/cisco\\_mds9000\\_licensing\\_guide\\_8x.html](https://www.cisco.com/c/en/us/td/docs/switches/datacenter/mds9000/sw/8_x/config/licensing/cisco_mds9000_licensing_guide_8x.html)

## Regulatory Compliance and Safety Information

<http://www.cisco.com/c/en/us/td/docs/switches/datacenter/mds9000/hw/regulatory/compliance/RCSI.html>

## Compatibility Information

<http://www.cisco.com/c/en/us/support/storage-networking/mds-9000-nx-os-san-os-software/products-device-support-tables-list.html>

## Installation and Upgrade

<http://www.cisco.com/c/en/us/support/storage-networking/mds-9000-nx-os-san-os-software/products-installation-guides-list.html>

## Configuration Guides

<http://www.cisco.com/c/en/us/support/storage-networking/mds-9000-nx-os-san-os-software/products-installation-and-configuration-guides-list.html>

## Command-Line Interface

<http://www.cisco.com/c/en/us/support/storage-networking/mds-9000-nx-os-san-os-software/products-command-reference-list.html>

## Troubleshooting and Reference

<http://www.cisco.com/c/en/us/support/storage-networking/mds-9000-nx-os-san-os-software/tsd-products-support-troubleshoot-and-alerts.html>

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# 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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