



# Cisco MDS 9000 Series Release Notes, Release 8.x

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**First Published:** May 04, 2017

**Last Modified:** April 04, 2023

This document describes the caveats and limitations for switches in the Cisco MDS 9000 Series. Use this document in conjunction with documents listed in the [“Obtaining Documentation and Submitting a Service Request”](#) section on page 59.

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

**Table 1**      **Change History**

Date	Description
April 4, 2023	Added <a href="#">CSCvw32460</a> caveat in the Open Caveats section for Cisco MDS NX-OS Releases 8.3(2), 8.3(1), 8.2(2), 8.2(1), 8.1(1b), 8.1(1a), and 8.1(1).
January 14, 2022	Added the <a href="#">CSCvz61883</a> caveat in the Open Caveats section for the Cisco MDS NX-OS Releases 8.3(2), 8.3(1), 8.2(2), 8.2(1), 8.1(1b), 8.1(1a), and 8.1(1).
December 15, 2021	Added the <a href="#">CSCuv76123</a> caveat in the Open Caveats section for the Cisco MDS NX-OS Releases 8.3(2), 8.3(1), 8.2(2), 8.2(1), 8.1(1b), 8.1(1a), and 8.1(1).
August 26, 2021	Added ISSD guideline for OBFL TxWait.
July 9, 2021	Added the <a href="#">CSCvo22269</a> caveat in the Open Caveats section for the Cisco MDS NX-OS Releases 8.3(1), 8.2(2), 8.2(1), 8.1(1b), 8.1(1a), and 8.1(1).
October 30, 2020	Added the <a href="#">CSCvt87216</a> caveat in the Open Caveats sections of the Cisco MDS NX-OS Releases 8.3(2) and 8.3(1).
October 21, 2020	Added the <a href="#">CSCvs57660</a> caveat in the Open Caveats section for the Cisco MDS NX-OS Releases 8.3(2), 8.3(1), 8.2(2), 8.2(1), 8.1(1b), 8.1(1a), and 8.1(1).
July 21, 2020	Moved the <a href="#">CSCvf19141</a> caveat from the Resolved Caveats section to Open Caveats section for the Cisco MDS NX-OS Release 8.1(1b).



**Table 1**      **Change History (Continued)**

<b>Date</b>	<b>Description</b>
June 29, 2020	Added the <a href="#">CSCvu28005</a> caveat in the Open Caveats section for the Cisco MDS NX-OS Releases 8.3(2), 8.3(1), 8.2(2), 8.2(1), 8.1(1b), 8.1(1a), and 8.1(1).
May 5, 2020	Added the <a href="#">CSCvs45930</a> caveat in the Open Caveats section for the Cisco MDS NX-OS Releases 8.3(2), 8.3(1), 8.2(2), 8.2(1), 8.1(1b), 8.1(1a), and 8.1(1).
March 27, 2020	Added the <a href="#">CSCvo22269</a> caveat in the Open Caveats section for the Cisco MDS NX-OS Releases 8.3(2).
February 25, 2020	Added the <a href="#">CSCvs97168</a> caveat in the Open Caveats sections for the Cisco MDS NX-OS Releases 8.3(2), 8.3(1), 8.2(2), 8.2(1), 8.1(1b), 8.1(1a), and 8.1(1).
September 12, 2019	Added the <a href="#">CSCvq17673</a> caveat in the Open Caveats sections for the Cisco MDS NX-OS Releases 8.3(2), 8.3(1), 8.2(2), and 8.2(1).
September 4, 2019	Added the <a href="#">CSCvm74476</a> caveat in the Open Caveats sections for the Cisco MDS NX-OS Releases 8.3(1), 8.2(2), 8.2(1), 8.1(1b), 8.1(1a), and 8.1(1).  Added the <a href="#">CSCvm74476</a> caveat in the Resolved Caveats section for the Cisco MDS NX-OS Release 8.3(2).
August 29, 2019	Updated the nondisruptive ISSU and ISSD paths for the Cisco MDS NX-OS Releases 8.3(2), 8.3(1), 8.2(2), 8.2(1), and 8.1(1b).
August 1, 2019	Updated the “ <a href="#">Caveats</a> ” section on page 32 with <a href="#">CSCvn51187</a> .
May 27, 2019	Modified the “ <a href="#">Choosing Between Cisco MDS NX-OS Open Systems Releases</a> ” section on page 4.
May 19, 2019	Added <a href="#">CSCvi81678</a> caveat in the Open Caveats sections for the 8.2(2), 8.2(1), 8.1(1b), 8.1(1a), and 8.1(1) releases.  Added <a href="#">CSCvi81678</a> caveat in the Resolved Caveats sections for the 8.3(1) release.
May 13, 2019	Added <a href="#">CSCvp37076</a> caveat in the Open Caveats sections for the 8.3(2), 8.3(1), 8.2(2), 8.2(1), 8.1(1b), 8.1(1a), and 8.1(1) releases.
December 17, 2018	Updated Release Notes for 8.3(2).
October 22, 2018	Updated Release Notes for 8.1(1b).
July 13, 2018	Updated Release Notes for 8.3(1).
March 9, 2018	Updated Release Notes for 8.2(2).
February 28, 2018	Updated Release Notes for 8.1(1a).
September 28, 2017	Updated Release Notes for 8.2(1).
May 04, 2017	Updated Release Notes for 8.1(1).

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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, allowing you 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

Cisco MDS switch is shipped with the Cisco MDS NX-OS operating system for the Cisco MDS 9000 Series Multilayer switches. The Cisco MDS NX-OS software consists of two images: the kickstart image and the system image.

- To select the kickstart image, use the KICKSTART variable.
- To select the system image, use the SYSTEM variable.

The images and variables are important factors in any install procedure. Specify the variable and the respective image to upgrade or downgrade your switch. You do not always need both the kickstart and system images for installing the operating system.

For more information on the image file supported on a Cisco MDS switch, see the [Cisco MDS 9000 NX-OS Software Upgrade and Downgrade Guide, Release 8.x](#).

To download a 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 <http://www.cisco.com/cisco/software/navigator.html>

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## 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.

Details about the new features and hardware supported by each Cisco MDS NX-OS release can be found in the “[New Hardware and Software Features](#)” section on [page 19](#). 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 4](#)
- [FICON Supported Releases, page 5](#)

## FICON Supported Platforms

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

- 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 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 9250i

FICON is also supported on the following IBM OEM switches:

- IBM SAN192C-6
    - IBM 48 Port 32 Gbps Fibre Channel Switching Module (01FT644)
    - IBM 24/10 Port SAN Extension Module (01FT645)
  - IBM SAN384C-6
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- IBM 48 Port 32 Gbps Fibre Channel Switching Module (01FT644)
- IBM 24/10 Port SAN Extension Module (01FT645)
- IBM SAN50C-R

## FICON Supported Releases

The Cisco MDS NX-OS Release 8.1(1a) and Release 8.1(1b) are an IBM-qualified FICON releases for Cisco MDS. From Cisco MDS NX-OS Release 8.1(1b), FICON is supported on Cisco MDS 9700 48 Port 32 Gbps Fibre Channel Switching Module.

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

**Table 2** *FICON Supported Releases*

<b>FICON Supported Releases</b>	
NX-OS	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>
	Release 6.2(5b)
	Release 6.2(5a)
	Release 5.2(2s)
	Release 5.2(2)
	Release 4.2(7b)
	Release 4.2(1b)
	Release 4.1(1c)

## Upgrading Cisco MDS NX-OS Software Image

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

- [General Upgrading Guidelines, page 6](#)
- [Open Systems Nondisruptive Upgrade Paths, page 6](#)
- [FICON Upgrade Paths, page 12](#)

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

Follow these general guidelines before 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 your 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 6 for all MDS NX-OS releases.
  - **Gigabit Ethernet Ports:** Traffic on Gigabit Ethernet or IPStorage ports is disrupted during an upgrade or downgrade. This includes IPStorage ports on the MDS 9250i and Cisco MDS 24/10 Port SAN Extension Module. Nodes that are members of VSANs traversing an FCIP ISL are impacted, and a fabric reconfiguration occurs. iSCSI initiators connected to the Gigabit Ethernet ports lose connectivity to iSCSI targets while the upgrade is in progress.



## Note

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In addition to these guidelines, you may want to review the information in the “[Limitations and Restrictions](#)” section on page 31 prior to a software upgrade to determine if a feature may possibly behave differently following the upgrade.

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- 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](#).  
If you encounter issues when upgrading fabric switches, contact TAC for assistance.

## 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.

- [Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.3\(2\), page 6](#)
- [Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.3\(1\), page 7](#)
- [Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.2\(2\), page 8](#)
- [Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.2\(1\), page 8](#)
- [Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.1\(1b\), page 9](#)
- [Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.1\(1a\), page 10](#)
- [Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.1\(1\), page 11](#)

## Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.3(2)



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**Note** If you have the SAN analytics feature enabled, ensure that you disable the SAN analytics feature using the **no feature analytics** command before upgrading from Cisco MDS NX-OS 8.2(x) to Cisco MDS NX-OS Release 8.3(2).

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**Note**

When upgrading to Cisco MDS NX-OS Release 8.3(2) from release 8.3(1), any remote logging servers that are configured will be lost after the upgrade. After the upgrade is complete, reconfigure the remote logging server(s) using the **logging server** {*host-name* | *ipv4-address* | *ipv6-address*} command. For more information, see [CSCvn07339](#).

**Table 3** *Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.3(2)*

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 8.3(2)
All 7.3(x) releases	<ol style="list-style-type: none"> <li>1. Upgrade to MDS NX-OS Release 8.1(1b)</li> <li>2. Upgrade to MDS NX-OS Release 8.3(2)</li> </ol>
All 6.2(13a) and above releases	<ol style="list-style-type: none"> <li>1. Upgrade to MDS NX-OS Release 8.1(1b)</li> <li>2. Upgrade to MDS NX-OS Release 8.3(2)</li> </ol>
All 6.2(x) releases prior to 6.2(13a)	<ol style="list-style-type: none"> <li>1. Upgrade 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 8.3(2)</li> </ol>

## Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.3(1)



**Note**

If you have the SAN analytics feature enabled, ensure that you disable the SAN analytics feature using the **no feature analytics** command before upgrading from Cisco MDS NX-OS 8.2(x) to Cisco MDS NX-OS Release 8.3(1).



**Note**

Cisco MDS 9718 Multilayer Director Switches are not supported on Cisco MDS NX-OS Release 8.3(1).

**Table 4** *Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.3(1)*

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 8.3(1)
All 7.3(x) releases	<ol style="list-style-type: none"> <li>1. Upgrade to MDS NX-OS Release 8.1(1b)</li> <li>2. Upgrade to MDS NX-OS Release 8.3(1)</li> </ol>
All 6.2(13a) and above releases	<ol style="list-style-type: none"> <li>1. Upgrade to MDS NX-OS Release 8.1(1b)</li> <li>2. Upgrade to MDS NX-OS Release 8.3(1)</li> </ol>
All 6.2(x) releases prior to 6.2(13a)	<ol style="list-style-type: none"> <li>1. Upgrade 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 8.3(1)</li> </ol>

## Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.2(2)



### Note

Prior to upgrading any Cisco MDS 9706 and Cisco MDS 9710 switches to Cisco MDS NX-OS Release 8.2(2), the switches should be checked if they are affected by [CSCvf99665](#).

This defect manifests as a corrupt IPv6 address with a zero length mask (/0) on the mgmt0 interface. The actual IPv6 address itself is not important but if it has a /0 mask then it is invalid. This invalid IPv6 address cannot be removed by normal configuration. Refer to the following example:

```
show interface mgmt0
mgmt0 is up
Internet address is 1.2.3.4/24
...
::148.173.170.255/0
fe80::2e31:24ff:fe51:b834/64
```

If a switch is found to be affected, there are specific steps that must be taken after upgrading to Cisco MDS NX-OS Release 8.2(2). For information on these specific steps, see the **Resolution Summary** section in [CSCvf99665](#).



### Note

If you have the SAN analytics feature enabled, ensure that you disable the SAN analytics feature using the **no feature analytics** command before upgrading to Cisco MDS NX-OS Release 8.2(2).

**Table 5** Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.2(2)

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 8.2(2)
All 7.3(x) releases	<ol style="list-style-type: none"><li>1. Upgrade to MDS NX-OS Release 8.1(1b)</li><li>2. Upgrade to MDS NX-OS Release 8.2(2)</li></ol>
All 6.2(13a) and above releases	<ol style="list-style-type: none"><li>1. Upgrade to MDS NX-OS Release 8.1(1b)</li><li>2. Upgrade to MDS NX-OS Release 8.2(2)</li></ol>
All 6.2(x) releases prior to 6.2(13a)	<ol style="list-style-type: none"><li>1. Upgrade 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 8.2(2)</li></ol>

## Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.2(1)



### Note

Before upgrading any Cisco MDS 9706 and Cisco MDS 9710 switches to Cisco MDS NX-OS Release 8.2(1), the switches should be checked if they are affected by [CSCvf99665](#).

This defect manifests as a corrupt IPv6 address with a zero length mask (/0) on the mgmt0 interface. The actual IPv6 address itself is not important but if it has a /0 mask then it is invalid. This invalid IPv6 address cannot be removed by normal configuration. Refer to the following example:

```
show interface mgmt0
mgmt0 is up
```



```
Internet address is 1.2.3.4/24
...
::148.173.170.255/0
fe80::2e31:24ff:fe51:b834/64
```

If a switch is found to be affected, there are specific steps that must be taken after upgrading to Cisco MDS NX-OS Release 8.2(1). For information on these specific steps, see the **Resolution Summary** section in [CSCvf99665](#).



**Note**

Upgrading to Cisco MDS NX-OS Release 8.2(1) on a device with the **esp-aes-xcbc-mac** algorithm is not supported. In such a scenario, we recommend that you first change the algorithm, and then upgrade to Cisco MDS NX-OS Release 8.2(1).



**Note**

We recommend that you delete existing IP ACLs on the management interface before upgrading to Cisco MDS NX-OS Release 8.2(1). You can reconfigure the IP ACLs after the upgrade is complete. For more information, see [CSCvh30932](#).

**Table 6 Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.2(1)**

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 8.2(1)
All 7.3(x) releases	<ol style="list-style-type: none"> <li>1. Upgrade to MDS NX-OS Release 8.1(1b)</li> <li>2. Upgrade to MDS NX-OS Release 8.2(1)</li> </ol>
All 6.2(13a) and above releases	<ol style="list-style-type: none"> <li>1. Upgrade to MDS NX-OS Release 8.1(1b)</li> <li>2. Upgrade to MDS NX-OS Release 8.2(1)</li> </ol>
All 6.2(x) releases prior to 6.2(13a)	<ol style="list-style-type: none"> <li>1. Upgrade 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 8.2(1)</li> </ol>

## Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.1(1b)



**Note**

Before upgrading any Cisco MDS 9706 and Cisco MDS 9710 switches to Cisco MDS NX-OS Release 8.1(1b), the switches should be checked if they are affected by [CSCvf99665](#).

This defect manifests as a corrupt IPv6 address with a zero length mask (/0) on the mgmt0 interface. The actual IPv6 address itself is not important but if it has a /0 mask then it is invalid. This invalid IPv6 address cannot be removed by normal configuration. Refer to the following example:

```
show interface mgmt0
mgmt0 is up
Internet address is 1.2.3.4/24
...
::148.173.170.255/0
fe80::2e31:24ff:fe51:b834/64
```

If a switch is found to be affected, there are specific steps that must be taken after upgrading to Cisco MDS NX-OS Release 8.1(1b). For information on these specific steps, see the **Resolution Summary** section in [CSCvf99665](#).



**Note**

The Cisco MDS 9700 HVDC PSU (DS-CHV-3.5KW) is not supported in this release. When upgrading a device equipped with these units from any Cisco MDS NX-OS 6.x release do not use this release.

**Table 7** *Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.1(1b)*

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 8.1(1b)
All 7.3(x) releases	Upgrade directly to MDS NX-OS Release 8.1(1b)
6.2(13a) and above releases	Upgrade directly to MDS NX-OS Release 8.1(1b)
All 6.2(x) releases before 6.2(13a)	<ol style="list-style-type: none"><li>1. Upgrade to MDS NX-OS Release 6.2(13a)</li><li>2. Upgrade to MDS NX-OS Release 8.1(1b)</li></ol>

For FICON upgrade paths, see the [FICON Upgrade Paths, page 12](#) section.

## Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.1(1a)



**Note**

Before upgrading any Cisco MDS 9706 and Cisco MDS 9710 switches to Cisco MDS NX-OS Release 8.2(2), the switches should be checked if they are affected by [CSCvf99665](#).

This defect manifests as a corrupt IPv6 address with a zero length mask (/0) on the mgmt0 interface. The actual IPv6 address itself is not important but if it has a /0 mask then it is invalid. This invalid IPv6 address cannot be removed by normal configuration. Refer to the following example:

```
show interface mgmt0
mgmt0 is up
Internet address is 1.2.3.4/24
...
::148.173.170.255/0
fe80::2e31:24ff:fe51:b834/64
```

If a switch is found to be affected, there are specific steps that must be taken after upgrading to Cisco MDS NX-OS Release 8.1(1a). For information on these specific steps, see the **Resolution Summary** section in [CSCvf99665](#).



**Note**

The Cisco MDS 9700 HVDC PSU (DS-CHV-3.5KW) is not supported in this release. When upgrading a device equipped with these units from any Cisco MDS NX-OS 6.x release do not use this release.

**Table 8 Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.1(1a)**

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 8.1(1a)
All 7.3(x) releases	Upgrade directly to MDS NX-OS Release 8.1(1a)
6.2(21) <sup>1</sup>	<ol style="list-style-type: none"> <li>1. Upgrade to MDS NX-OS Release 6.2(23)</li> <li>2. Upgrade to MDS NX-OS Release 8.1(1a)<sup>2</sup></li> </ol>
All 6.2(13a) and above releases except 6.2(21)	Upgrade directly to MDS NX-OS Release 8.1(1a) <sup>2</sup>
All 6.2(x) releases before 6.2(13a)	<ol style="list-style-type: none"> <li>1. Upgrade to MDS NX-OS Release 6.2(13a)</li> <li>2. Upgrade to MDS NX-OS Release 8.1(1a)<sup>2</sup></li> </ol>

1. Upgrading specifically from MDS NX-OS Release 6.2(21) to MDS NX-OS Release 8.1(1a) is disruptive. For more information, see [CSCvj40760](#) in the “Open Caveats in Cisco MDS NX-OS Release 8.1(1a)” section on page 53.

2. The Cisco MDS 9700 HVDC PSU (DS-CHV-3.5KW) is not supported in this release. Such devices must be upgraded directly to Cisco MDS NX-OS Release 8.2(x) or later via a disruptive reload.

For FICON upgrade paths, see the [FICON Upgrade Paths](#), page 12 section.

## Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.1(1)



**Note**

Before upgrading the Cisco MDS 9706 and Cisco MDS 9710 switches to Cisco MDS NX-OS Release 8.1(1), ensure that they are not affected by [CSCvg05230](#). This defect manifests as a corrupt IPv6 address and mask on the mgmt0 interface. An affected switch cannot be upgraded or downgraded while running the Cisco MDS NX-OS Release 8.1(1). Because this issue cannot be resolved through normal methods, we recommend that you contact the Cisco TAC for help in purging the IPv6 NVRAM fields nondisruptively. This process is simpler if performed before upgrading to Cisco MDS NX-OS Release 8.1(1). For more information, including how to determine if a switch is affected, see [CSCvg05230](#) and [CSCvf99665](#).



**Note**

We recommend that you delete existing IP ACLs on the management interface before upgrading to Cisco MDS NX-OS Release 8.1(1). You can reconfigure the IP ACLs after the upgrade is complete. For more information, see [CSCvh30932](#).



**Note**

The Cisco MDS 9700 HVDC PSU (DS-CHV-3.5KW) is not supported in this release. When upgrading a device equipped with these units from any Cisco MDS NX-OS 6.x release do not use this release.

**Table 9** *Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.1(1)*

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

## FICON Upgrade Paths

Use [Table 10](#) to determine the nondisruptive upgrade path for FICON-qualified releases. Find the image release number you are currently using in the Current Release with FICON Enabled column of the table and follow the recommended path.

**Table 10** *FICON Nondisruptive Upgrade Paths*

<b>Current Release with FICON Enabled</b>	<b>Upgrade Path</b>
NX-OS Release 8.1(1a)	Upgrade directly to MDS NX-OS Release 8.1(1b).
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></ol>
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></ol>
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></ol>
NX-OS Release 6.2(5b)	You can nondisruptively upgrade to NX-OS Release 6.2(11c) or 6.2(11e).
NX-OS Release 6.2(5a)	<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></ol>
NX-OS Release 5.2(2), 5.2(2E4), and 5.2(2s)	You can nondisruptively upgrade to NX-OS Release 6.2(5b).
NX-OS Release 4.2(7b)	You can nondisruptively upgrade NX-OS Release 5.2(2), 5.2(2E4), and 5.2(2s).
NX-OS Release 4.2(1b)	You can nondisruptively upgrade to NX-OS Release 4.2(7b).
NX-OS Release 4.1(1c)	You can nondisruptively upgrade to NX-OS Release 4.2(1b).

## Downgrading Cisco MDS NX-OS Software Image

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

- [General Downgrading Guidelines, page 13](#)

- [Supported Downgrade Paths for Cisco MDS NX-OS Releases, page 14](#)
- [FICON Downgrade Paths, page 18](#)

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 you perform a software downgrade:

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

Find the NX-OS or SAN-OS image that you want to downgrade to in the To NX-OS or SAN-OS Release column of the [Table 11](#) and follow the steps in the order specified to perform the downgrade.



### Note

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

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- 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](#).
- Downgrading directly from Cisco MDS NX-OS Releases 8.1(1) and Release 8.1(1b) to releases prior to 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 Releases 8.1(1) and 8.1(1b) is not supported if the FLOGI Scale Optimization feature is enabled on Cisco MDS 9718 Switches



### Note

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If you are downgrading from Cisco MDS NX-OS Release 9.2(1) or later releases to a release prior to Cisco MDS NX-OS Release 9.2(1), ensure that you use the **clear logging onboard txwait** command after downgrading. Otherwise, logging to the OBFL TxWait file may cease with an error. For more information, see the [Cisco MDS 9000 Series Interfaces Configuration Guide, Release 9.x](#).

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## 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.

## Supported Downgrade Paths for Cisco MDS NX-OS Releases

The following section describes how to downgrade from Cisco MDS NX-OS Release 8.x to an earlier Cisco MDS NX-OS Release.

- [Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.3\(2\), page 15](#)
  - [Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.3\(1\), page 16](#)
  - [Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.2\(2\), page 16](#)
  - [Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.2\(1\), page 16](#)
  - [Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.1\(1b\), page 17](#)
  - [Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.1\(1a\), page 17](#)
  - [Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.1\(1\), page 18](#)
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## Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.3(2)

**Table 11**      *Nondisruptive Downgrade Paths from NX-OS Release 8.3(2)*

<b>To NX-OS or SAN-OS Release</b>	<b>Nondisruptive Downgrade Paths and Ordered Downgrade Steps</b>
<b>NX-OS:</b>	
All 8.x releases	Downgrade directly from MDS NX-OS Release 8.3(2)
All 7.3(x) releases	<ol style="list-style-type: none"><li>1. Downgrade to MDS NX-OS Release 8.1(1b)</li><li>2. Downgrade to the target release</li></ol>
All 6.2(13a) and above releases	<ol style="list-style-type: none"><li>1. Downgrade 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 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>

## Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.3(1)

**Table 12** *Nondisruptive Downgrade Paths from NX-OS Release 8.3(1)*

To NX-OS or SAN-OS Release	Nondisruptive Downgrade Paths and Ordered Downgrade Steps
<b>NX-OS:</b>	
All 8.x releases	Downgrade directly from MDS NX-OS Release 8.3(1)
All 7.3(x) releases	<ol style="list-style-type: none"><li>1. Downgrade to MDS NX-OS Release 8.1(1b)</li><li>2. Downgrade to the target release</li></ol>
All 6.2(13a) and above releases	<ol style="list-style-type: none"><li>1. Downgrade 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 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>

## Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.2(2)

If you have the SAN analytics feature enabled, ensure that you disable the SAN analytics feature using the **no feature analytics** command before downgrading to Cisco MDS NX-OS Release 8.2(2).

**Table 13** *Nondisruptive Downgrade Paths from NX-OS Release 8.2(2)*

To NX-OS or SAN-OS Release	Nondisruptive Downgrade Paths and Ordered Downgrade Steps
<b>NX-OS:</b>	
All 8.x releases	Downgrade directly from MDS NX-OS Release 8.2(2)
All 7.3(x) releases	<ol style="list-style-type: none"><li>1. Downgrade to MDS NX-OS Release 8.1(1b)</li><li>2. Downgrade to the target release</li></ol>
All 6.2(13a) and above releases	<ol style="list-style-type: none"><li>1. Downgrade 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 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>

## Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.2(1)

If you have the SAN analytics feature enabled, ensure that you disable the SAN analytics feature using the **no feature analytics** command before downgrading to Cisco MDS NX-OS Release 8.2(1).



**Table 14** *Nondisruptive Downgrade Paths from NX-OS Release 8.2(1)*

To NX-OS or SAN-OS Release	Nondisruptive Downgrade Paths and Ordered Downgrade Steps
<b>NX-OS:</b>	
All 8.x releases	Downgrade directly from MDS NX-OS Release 8.2(1)
All 7.3(x) releases	<ol style="list-style-type: none"> <li>1. Downgrade to MDS NX-OS Release 8.1(1b)</li> <li>2. Downgrade to the target release</li> </ol>
All 6.2(13a) and above releases	<ol style="list-style-type: none"> <li>1. Downgrade 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 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>

## Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.1(1b)

**Table 15** *Nondisruptive Downgrade Paths from NX-OS Release 8.1(1b)*

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

For FICON downgrade paths, see the [FICON Downgrade Paths](#), page 18 section.

## Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.1(1a)

**Table 16** *Nondisruptive Downgrade Paths from NX-OS Release 8.1(1a)*

To NX-OS or SAN-OS Release	Nondisruptive Downgrade Paths and Ordered Downgrade Steps
<b>NX-OS:</b>	
All 8.x releases	Downgrade directly from MDS NX-OS Release 8.1(1a)
All 7.3(x) releases	Downgrade directly from MDS NX-OS Release 8.1(1a)
All 6.2(13a) and above releases except 6.2(21)	Downgrade directly from MDS NX-OS Release 8.1(1a)

**Table 16** *Nondisruptive Downgrade Paths from NX-OS Release 8.1(1a)*

To NX-OS or SAN-OS Release	Nondisruptive Downgrade Paths and Ordered Downgrade Steps
6.2(21) <sup>1</sup>	<ol style="list-style-type: none"> <li>1. Downgrade to MDS NX-OS Release 6.2(23)</li> <li>2. Downgrade to the target release</li> </ol>
All releases prior to 6.2(13a)	<ol style="list-style-type: none"> <li>1. Downgrade to NX-OS Release 6.2(13a)</li> <li>2. Downgrade to the target release</li> </ol>

1. Downgrading specifically from MDS NX-OS Release 8.1(1a) to MDS NX-OS Release 6.2(21) is disruptive. For more information, see [CSCvj40760](#) in the “Open Caveats in Cisco MDS NX-OS Release 8.1(1a)” section on page 53.

For FICON downgrade paths, see the [FICON Downgrade Paths](#), page 18 section.

## Nondisruptive Downgrade Paths from Cisco MDS NX-OS Release 8.1(1)

**Table 17** *Nondisruptive Downgrade Paths from NX-OS Release 8.1(1)*

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

## FICON Downgrade Paths

[Table 18](#) 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 18**      **FICON Nondisruptive Downgrade Paths**

To Release with FICON Enabled	Downgrade Paths
8.1(1a)	Downgrade to the target release
NX-OS Release 6.2(11e)	<ol style="list-style-type: none"> <li>1. Downgrade to MDS NX-OS Release 8.1(1a)</li> <li>2. Downgrade to the target release</li> </ol>
NX-OS Release 6.2(11d)	<ol style="list-style-type: none"> <li>1. Downgrade to MDS NX-OS Release 8.1(1a)</li> <li>2. Downgrade to the target release</li> </ol>
NX-OS Release 6.2(11c)	<ol style="list-style-type: none"> <li>1. Downgrade to MDS NX-OS Release 8.1(1a)</li> <li>2. Downgrade to the target release</li> </ol>
NX-OS Release 6.2(5b)	You can nondisruptively downgrade to NX-OS Release 6.2(11c) or 6.2(11e).
NX-OS Release 6.2(5a)	<ol style="list-style-type: none"> <li>1. Downgrade to MDS NX-OS Release 8.1(1a)</li> <li>2. Downgrade to the target release</li> </ol>
NX-OS Release 5.2(2) and 5.2(2s)	You can nondisruptively downgrade directly from NX-OS Release 6.2(5b).
NX-OS Release 4.2(7b)	You can nondisruptively downgrade directly from NX-OS Release 5.2(2) or 5.2(2s).
NX-OS Release 4.2(1b)	You can nondisruptively downgrade directly from NX-OS Release 4.2(7b).
NX-OS Release 4.1(1c)	You can nondisruptively downgrade directly from NX-OS Release 4.2(1b).

## New Hardware and Software Features

- [New Hardware Features in Cisco MDS NX-OS Release 8.3\(2\), page 20](#)
- [New Software Features in Cisco MDS NX-OS Release 8.3\(2\), page 20](#)
- [New Hardware Features in Cisco MDS NX-OS Release 8.3\(1\), page 20](#)
- [New Software Features in Cisco MDS NX-OS Release 8.3\(1\), page 21](#)
- [New Hardware Features in Cisco MDS NX-OS Release 8.2\(2\), page 23](#)
- [New Software Features in Cisco MDS NX-OS Release 8.2\(2\), page 23](#)
- [New Hardware Features in Cisco MDS NX-OS Release 8.2\(1\), page 23](#)
- [New Software Features in Cisco MDS NX-OS Release 8.2\(1\), page 24](#)
- [New Hardware Features in Cisco MDS NX-OS Release 8.1\(1b\), page 25](#)
- [New Software Features in Cisco MDS NX-OS Release 8.1\(1b\), page 26](#)
- [New Hardware Features in Cisco MDS NX-OS Release 8.1\(1a\), page 26](#)
- [New Software Features in Cisco MDS NX-OS Release 8.1\(1a\), page 26](#)
- [New Hardware Features in Cisco MDS NX-OS Release 8.1\(1\), page 26](#)
- [New Software Features in Cisco MDS NX-OS Release 8.1\(1\), page 27](#)

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## New Hardware Features in Cisco MDS NX-OS Release 8.3(2)

There are no new hardware features in Cisco MDS NX-OS Release 8.3(2).

## New Software Features in Cisco MDS NX-OS Release 8.3(2)

This section lists the new software features and enhancements introduced in Cisco MDS NX-OS Release 8.3(2).

### Compact GPB Encoding

Support for Compact Google Protocol Buffers (GPB) encoding is added to the SAN Telemetry Streaming feature.

For more information about this feature, see the [Cisco MDS 9000 Series SAN Analytics and Telemetry Configuration Guide](#).

### Debugging Enhancements for SAN Analytics

The **show analytics system-load** command is introduced to display the network processing unit (NPU) load per module.

New system messages are added in the release to alert the users when the:

- NPU load is high
- ITL count exceeds the module limit
- ITL count exceeds the system limit
- Response from NPU for analytics data is not present

For more information about the system messages, see the [Cisco MDS 9000 Family and Nexus 7000 Series NX-OS System Messages Reference Guide](#).

Support is added for sorting metrics and metadata fields in ascending or descending order.

The **asc** and **desc** options are added to the following query syntax:

```
select all | column1[, column2, column3, ...] from analytics_type.view_type [where filter_list1 [and filter_list2 ...]] [sort column [asc | desc] ] [limit number]
```

### ITL Support Enhancement

The maximum number of Initiator-Target-LUNs (ITLs) for SAN Analytics on Cisco MDS 9700 Series Multilayer Directors has increased from 20,000 to 40,000.

For more information, see the [Cisco MDS NX-OS Configuration Limits Guide](#).

### ACL TCAM Alerting

Support for ACL TCAM alerts were added on Cisco MDS 9148S and MDS 9250i switches. This feature is similar to the ACL TCAM alerting feature that was added for all other Cisco MDS switches in Cisco MDS NX-OS Release 8.3(1).

For more information, see [“ACL TCAM Alerting” section on page 22](#).

## New Hardware Features in Cisco MDS NX-OS Release 8.3(1)

This section lists the new hardware chassis and features introduced in Cisco MDS NX-OS Release 8.3(1).

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## Cisco MDS 9148T Fibre Channel Switch

The Cisco MDS 9148T 32-Gbps 48-Port Fibre Channel Switch is a powerful compact one rack-unit (1RU) device with up to 48x32-Gbps full line rate Fibre Channel ports.

For more information, see the [Cisco MDS 9148T Fibre Channel Switch Hardware Installation Guide](#).

## Cisco MDS 9396T Fibre Channel Switch

The Cisco MDS 9396T 32-Gbps 96-Port Fibre Channel Switch is a powerful compact two rack-unit (2RU) device with up to 96x32-Gbps full line rate Fibre Channel ports, and three modular Linecard Expansion Modules (LEMs).

For more information, see the [Cisco MDS 9396T Multilayer Fabric Switch Hardware Installation Guide](#).

## New Software Features in Cisco MDS NX-OS Release 8.3(1)

This section lists the new software features introduced in Cisco MDS NX-OS Release 8.3(1).

### Cisco SAN Analytics and Telemetry

The SAN Analytics solution provides valuable insight into Cisco fabrics by allowing you to monitor, analyze, identify, and troubleshoot performance issues by leveraging the native architecture provided as part of the Cisco MDS 32 Gbps portfolio.

The following features were added:

- Interface Statistics Streaming—This feature allows you to stream traffic and error counters data of Fibre Channel interfaces.
- SAN Telemetry Streaming (STS)—This feature provides a mechanism for the switch to directly stream data out to a destination (such as Cisco Data Center Network Manager) to be consumed. This streaming mechanism can include flow-based metrics as well as interface metrics.
- Port Sampling—This is a feature that allows you to gather data from a subset of ports in a module that is being monitored, cycle through the subset of ports, and stream data from these ports at a regular sampling interval. This feature is designed to reduce the number of data points consumed by the system but still provides valuable data needed to find issues within the fabric.

For more information, see the [Cisco MDS 9000 Series SAN Analytics and Telemetry Configuration Guide](#).

### Pathtrace Multipath

The Pathtrace Multipath feature builds on Pathtrace to collect and display Equal-Cost Multi-Path (ECMP) routing paths and statistics between source and destination switches. This allows information for all links between the two endpoints to be displayed, including individual equal cost links of a port channel. This can aid troubleshooting difficult situations such as when a single link in a port channel has errors and the rest do not.

For more information, see the [Cisco MDS 9000 Series System Management Configuration Guide](#).

### Port Beacons

The Port Beacons feature can be used to identify individual switch and peer ports in a data center environment. This feature may be used by a switch administrator to help a data center operations personnel to identify ports that need to be serviced by replacing cables or small form-factor pluggable transceivers (SFPs).

For more information, see the [Cisco MDS 9000 Series Interfaces Configuration Guide](#).

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## ACL TCAM Alerting



### Note

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ACL TCAM usage alerting syslog messages were introduced on all Cisco MDS switches except on Cisco MDS 9148S and MDS 9250i switches.

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System messages have been introduced when the following situations occur:

- When the TCAM usage crosses 80% in the module, direction, region, and forwarding engine listed.
- When TCAM usage falls below the 80% threshold in the module, region, direction, and forwarding engine indicated.
- When the overall TCAM usage indicated in the forwarding engine crossed 70% on the module and forwarding engine indicated.
- When the overall TCAM usage indicated in the forwarding engine fell below 70% in the module, direction, and forwarding engine indicated.

For more information, see the [Cisco MDS 9000 Series Fabric Configuration Guide](#).

## FLOGI Error Logging Enhancements

FLOGI error reporting has been enhanced by the addition of the following new syslog messages:

- %FLOGI\_REJECTED\_DUPLICATE\_PWWN\_IN\_FABRIC
- %FLOGI\_REJECTED\_DUE\_TO\_SERVICE\_TIMEOUT
- %FLOGI\_REJECTED\_DUPLICATE\_PWWN\_ON\_SWITCH
- %FLOGI\_IMPLICIT\_DEVICE\_LOGOUT
- %FLOGI\_ON\_FPORT\_CHANNEL\_MEMBER.



### Note

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The FLOGI Error Logging Enhancements are not supported on the Cisco MDS 9148S and MDS 9250i switches.

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For more information, see [Cisco MDS 9000 Family and Nexus 7000 Series NX-OS System Messages Reference](#).

## ISL Link Diagnostics Enhancements

ISL diagnostic support is added for the following platforms:

- Cisco MDS 9396S Multilayer Fabric Switch
- Cisco MDS 9396T Multilayer Fabric Switch
- Cisco MDS 9148T Multilayer Fabric Switch
- Cisco MDS 9132T Multilayer Fabric Switch

For more information, see the [Cisco MDS 9000 Series System Management Configuration Guide](#).

## HBA Link Diagnostics Enhancements

The HBA Link Diagnostics feature is supported in N port virtualisation (NPV) mode and switch mode. This feature is supported on the following platforms:

- Cisco MDS 9132T Multilayer Fabric Switch
- Cisco MDS 9148T Multilayer Fabric Switch
- Cisco MDS 9396T Multilayer Fabric Switch

Support for the HBA Link Diagnostics feature in N-port virtualisation mode has been added to the following platform:

- Cisco MDS 9396S Multilayer Fabric Switch

For more information, see the [Cisco MDS 9000 Series System Management Configuration Guide](#).

## LDAP Enhancements

Strict matching between the identity presented by a LDAP server against the name in the switch configuration and X.509 certificate information is enforced when connectivity through SSL to that server is enabled.

For more information about this feature, see the [Cisco MDS 9000 Series Security Configuration Guide](#).

## Autozone

The Autozone feature is a mechanism to automate zoning via a single command or zero-touch deployment for the 32 Gbps fabric switches (such as MDS 9132T, MDS 9148T, MDS 9396T, and any new switch that supports this feature).

For more information, see the [Cisco MDS 9000 Series Fabric Configuration Guide](#).

## Default Maximum SNMP Packet Size Changes

The default maximum SNMP transmit packet size was reduced from 17,382 to 1,500 bytes. The `snmp-server packetsize` command was added to control this parameter.

## New Hardware Features in Cisco MDS NX-OS Release 8.2(2)

There are no new hardware features in Cisco MDS NX-OS Release 8.2(2).

## New Software Features in Cisco MDS NX-OS Release 8.2(2)

There are no new software features in Cisco MDS NX-OS Release 8.2(2).

## New Hardware Features in Cisco MDS NX-OS Release 8.2(1)

This section lists the new hardware chassis and features introduced in Cisco MDS NX-OS Release 8.2(1).

### Cisco MDS 9132T Fibre Channel Switch

The Cisco MDS 9132T 32-Gbps 32-Port Fibre Channel Switch is a powerful compact one rack-unit (1RU) device with up to 32x32-Gbps full line rate Fibre Channel ports, and a pluggable and modular Linecard Expansion Module (LEM) which can be inserted and removed as a Field Replaceable Unit (FRU).

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## New SFPs Support

Support for third-party SFPs is introduced for Cisco MDS 9132T Fibre Channel Switch and Cisco MDS 48 Port 32 Gbps Fibre Channel Switching Module.

For more information, see the [Interoperability Matrix for Cisco Nexus and MDS 9000](#).

## New Software Features in Cisco MDS NX-OS Release 8.2(1)

This section lists the new software features introduced in Cisco MDS NX-OS Release 8.2(1).

### Cisco MDS SAN Analytics

The Cisco MDS SAN Analytics feature is introduced to monitor, analyze, identify, and troubleshoot performance issues on Cisco MDS switches.

For more information about this feature, see the [Cisco MDS 9000 Series SAN Analytics and Telemetry Configuration Guide](#).

### Buffer-to-Buffer Credit Recovery

The buffer-to-buffer credit recovery feature is supported for F ports.

For more information about this feature, see the [Cisco MDS 9000 Series Interfaces Configuration Guide](#).

### Enhancements for Debugging FCoE Slow Drain

The congestion drop timeout and pause drop timeout commands in FCoE are modified to align with the commands used in Fibre Channel.

For more information about this feature, see the [Cisco MDS 9000 Series Interfaces Configuration Guide](#).

### Virtual Machine Identifier

The Virtual Machine Identifier (VMID) feature is introduced to identify virtual machines that are running on hypervisors.

For more information about this feature, see the [Cisco MDS 9000 Series Fabric Configuration Guide](#).

### HBA Link Diagnostics

The HBA Link Diagnostics feature helps in validating the health of links between Host Bus Adapters (HBAs) and Cisco MDS switches in a network.

For detailed information about this feature, see the [Cisco MDS 9000 Series System Management Guide](#).

### Fibre Channel Read Diagnostic Parameters Enhancements

Querying of non-switch (edge) devices with RDP is supported.

For detailed information about this feature, see the [Cisco MDS 9000 Series Command Reference](#).

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## LDAP Enhancements

LDAP connections on port 636 automatically starting securely with SSL or TLS is introduced.  
For more information about this feature, see the [Cisco MDS 9000 Series Security Configuration Guide](#).

## SHA-2 Encryption and Fingerprint Hashing Support

- New user accounts will have passwords encrypted with SHA-2 by default.
- SHA-2 fingerprint hashing is supported only on Cisco MDS 9132T, Cisco MDS 9148S, MDS 9396S, MDS 9250i, and MDS 9700 Series switches.

For more information about this feature, see the [Cisco MDS 9000 Series Security Configuration Guide](#).

## Anti-counterfeit Measures

Anti-counterfeit measures or Cisco Secure Boot has been introduced for the Cisco MDS 9700 48-Port 32-Gbps Fibre Channel Switching Module, Cisco MDS 9132T Fibre Channel Switch, Cisco MDS 9396T Fibre Channel Switch and Cisco MDS 9148T Fibre Channel Switch.

The Anti-counterfeit measures ensures that the Cisco hardware platforms with NX-OS software image is genuine and unmodified, hence establishing a hardware-level root of trust and an immutable device identity for the system to build on.

The Cisco MDS switch is built with ACT2-enabled ASIC and a corresponding secure unique device identification (SUDI) X.509v3 certificate is embedded in the hardware. The SUDI certificate, the associated key pair, and its entire certificate chain are stored in the tamper resistant Trust Anchor chip. Furthermore, the key pair is cryptographically bound to a specific Trust Anchor chip and the private key is never exported. This feature makes cloning or spoofing the identity information virtually impossible.

The following error message is displayed during an ACT2 authentication failure:

```
ACT2_AUTH_FAIL: ACT2 test has failed on module 9 with error : ACT2 authentication failure  
For assistance, please contact the Cisco Technical Assistance Center (TAC).
```

## IOA on Cisco MDS 24/10 Port SAN Extension Module

For information about this feature, see the [Cisco MDS MDS 9000 Series I/O Accelerator Configuration Guide](#).

## New Hardware Features in Cisco MDS NX-OS Release 8.1(1b)

This section lists the new hardware chassis and features introduced in Cisco MDS NX-OS Release 8.1(1b).

### Support for IBM OEM Versions

IBM OEM version support is added for the following Cisco MDS Switches and Line cards:

- IBM SAN192C-6 – OEM version of the Cisco MDS 9706
- IBM SAN384C-6 – OEM version of the Cisco MDS 9710
- IBM SAN768C-6 – OEM version of the Cisco MDS 9718
- IBM SAN50C-R – OEM version of the Cisco MDS 9250i
- IBM 48 Port 32 Gbps Fibre Channel Switching Module (01FT644)

- IBM 24/10 Port SAN Extension module (01FT645)

## Support for Cisco MDS 9700 HVDC PSU (DS-CHV-3.5KW)

Support for Cisco MDS 9700 HVDC PSU (DS-CHV-3.5KW) is added.



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**Note** Upgrading or downgrading from Cisco MDS NX-OS Release 8.1(1b) to any other release that does not support high voltage PSUs is not supported on Cisco MDS 9700 Series Switches.

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## New Software Features in Cisco MDS NX-OS Release 8.1(1b)

### FICON Support on Cisco MDS 9700 48 Port 32 Gbps Fibre Channel Switching Module

FICON is supported on Cisco MDS 9700 48 Port 32 Gbps Fibre Channel Switching Module.

### FICON Tape Acceleration on the Cisco MDS 24/10 SAN Extension Module

FICON Tape Acceleration (FTA) support on the Cisco MDS 24/10 SAN Extension Module is introduced on Cisco MDS 9706 and 9710 switches.

## New Hardware Features in Cisco MDS NX-OS Release 8.1(1a)

There are no new hardware features in Cisco MDS NX-OS Release 8.1(1a).

## New Software Features in Cisco MDS NX-OS Release 8.1(1a)

There are no new software features in Cisco MDS NX-OS Release 8.1(1a).

FICON certification was achieved in Cisco MDS NX-OS Release 8.1(1a).

## New Hardware Features in Cisco MDS NX-OS Release 8.1(1)

This section lists the new hardware chassis and features introduced in Cisco MDS NX-OS Release 8.1(1).

### Cisco MDS 48 Port 32 Gbps Fibre Channel Switching Module

The Cisco MDS 48 Port 32 Gbps Fibre Channel Switching Module is supported on Cisco MDS 9700 Series Multilayer Directors. This module delivers predictable performance, scalability, and innovative features to support private and virtualized data centers.

For more information about this module, see the [Cisco MDS 9700 Series Hardware Installation Guide](#).

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## New Software Features in Cisco MDS NX-OS Release 8.1(1)

This section lists the new software features introduced in Cisco MDS NX-OS Release 8.1(1).

### Fibre Channel Read Diagnostic Parameters

The Fibre Channel Read Diagnostic Parameters (RDP) is a feature that provides the capability to read port and link diagnostics parameters like link errors, port name, port speed, SFP diagnostics, temperature, Rx power, Tx power, current, connector type, FEC status, buffer credits, serial number, vendor details, model number, and manufacture date.

### FLOGI Scale Optimization

The FLOGI scale optimization feature increases the chassis-wide FLOGI scale limits. This feature is supported only on Cisco MDS 9718 Directors and is enabled by default.

For more information about this feature, see the [Cisco MDS 9000 Series Fabric Configuration Guide](#).

### Port Monitoring Enhancements

The link connecting an edge switch to a core switch must be treated as an ISL (core port), instead of an F port or a TF port. The port monitor may take port-guard action on the link if it is treated as an edge port, which will result in isolating the devices that are connected to the edge switch.

For more information about this feature, see the [Cisco MDS 9000 Series Interfaces Configuration Guide](#).

### Slow Drain Detection and Isolation Enhancements

Prior to Cisco MDS NX-OS Release 8.1(1), Slow Drain Detection and Congestion Avoidance was used to drop frames, reset, error-disable, or flap a port on a slow-drain device. From Cisco MDS NX-OS Release 8.1(1), the Slow Drain Detection and Congestion Isolation feature is introduced to isolate slow flows and route them to a low priority virtual link so that normal flows are not affected.

For more information about this feature, see the [Cisco MDS 9000 Series Interfaces Configuration Guide](#).

### 40G FCoE Long Distance Support

The following QSFPs have been introduced to support FCoE Long Distance:

- QSFP-40GE-LR4 –10 km
- QSFP-40GE-ER4 –40 km

For more information about this feature see the [Cisco MDS 9700 Series Hardware Installation Guide](#) and the [Cisco MDS 9000 Series QoS Configuration Guide](#).

### Smart Software Licensing

Smart Software Licensing is a standardized licensing platform that simplifies the Cisco software experience and helps you understand how Cisco software is used across your network.

For more information about this feature, see the [Cisco MDS 9000 Series Licensing Guide](#).

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## NVMe Support

NVMe support has been introduced for Cisco MDS 9000 Series Switches.

## Anti-counterfeit Measures

Anti-counterfeit measures have been introduced for the Cisco MDS 48 Port 32 Gbps Fibre Channel Switching Module.

## Secure Boot Support

Secure boot support has been introduced for the Cisco MDS 48 Port 32 Gbps Fibre Channel Switching Module.

# Licensed Cisco NX-OS Software Packages

Most Cisco MDS 9000 Series software features are included in the standard package. However, some features are logically grouped into add-on packages that must be licensed separately, such as the Cisco MDS 9000 Enterprise package, SAN Extension over IP package, and the Mainframe package. On-demand ports activation licenses are also available for the Cisco MDS 9250i Multiservice Fabric Switch, Cisco MDS 9148S 48-Port Multilayer Fabric Switch, and the Cisco MDS 9396S 96-Port Multilayer Fabric Switch.



### Note

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A license is not required to use the Cisco MDS 24 Port 40 Gigabit Fibre Channel over Ethernet Module (DS-X9824-960K9), and the Cisco MDS 48 Port 10 Gigabit Fibre Channel over Ethernet Module (DS-X9848-480K9).

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For more information about licensed Cisco NX-OS software packages, see [Cisco MDS Licensing Datasheets](#).

## Enterprise Package

The standard software package that is bundled at no charge with the Cisco MDS 9000 Series switches includes the base set of features that we believe are required by most customers for building a SAN. The Cisco MDS 9000 Series also has a set of advanced features that are recommended for all enterprise SANs. These features are bundled together in the Cisco MDS 9000 Enterprise package. Refer to the [Cisco MDS 9000 Enterprise Package Data Sheet](#) for more information.



### Note

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The IVR feature on Cisco MDS 9700 Series Directors with the Cisco MDS 24/10 port SAN Extension Module (DS-X9334-K9) requires an Enterprise package.

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## SAN Analytics Solution Package

To use the SAN Analytics and SAN Telemetry Streaming features, you must install appropriate license packages using the **install license** command. For more information, see the [Cisco MDS 9000 Series Licensing Guide](#).

## SAN Extension Over IP Package

The Cisco MDS 9000 SAN Extension over IP package allows the customer to use FCIP to extend SANs over wide distances on IP networks using the Cisco MDS 9000 Series IP storage services. Refer to the [Cisco MDS 9000 SAN Extension over IP Package](#) fact sheet for more information.

**Note**

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The FCIP feature on Cisco MDS 9700 Series Directors with the Cisco MDS 24/10 port SAN Extension Module (DS-X9334-K9) does not require a license.

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## On-Demand Port Activation License

On-demand ports allow customers to benefit from Cisco NX-OS Software features while initially purchasing only a few activated ports on the Cisco MDS 9250i Multiservice Fabric Switch, MDS 9148S 48-Port Multilayer Fabric Switch, Cisco MDS 9396S Multilayer Fabric Switch, Cisco MDS 9148T Fibre Channel Switch, and the Cisco MDS 9396T Fibre Channel Switch. As needed, customers can expand switch connectivity by licensing additional ports.

## I/O Accelerator Package

Starting from Cisco MDS NX-OS Release 8.2(1), the Cisco I/O Accelerator (IOA) package activates IOA on the Cisco MDS 24/10 Port SAN Extension module. A single license is applicable for both the engines in Cisco MDS 24/10 port SAN Extension Module. The IOA package is licensed per module and is tied to the chassis. Each Cisco MDS 24/10 Port SAN Extension module engine that you configure for IOA checks out a license from the pool managed at the chassis level. Cisco MDS 24/10 Port SAN Extension module IOA licenses are available as single licenses.

## 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. These features affect the following hardware:

- Cisco MDS 9250i Multiservice Fabric Switch
- Cisco MDS 9396S Multilayer Fabric Switch
- Cisco MDS 9700 48-port 16-Gbps Fibre Channel Module

You cannot bring up these modules if these features are already configured. You should completely remove all configurations that include these features before you attempt to bring up these modules. In addition, you cannot configure these features after you bring up these modules.

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## Slow Drain Detection and 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).

## FICON on Cisco MDS 48-Port 32-Gbps Fibre Channel Switching Module

FICON is not supported on Cisco MDS 48-Port 32-Gbps Fibre Channel Switching Module in Cisco MDS NX-OS Release 8.1(1a) but it is supported in Cisco MDS NX-OS Release 8.1(1b).

## 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 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)

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# 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.x, FCIP Write Acceleration is not supported between 24/10 San Extension Module and Cisco 18+4 MSM and Cisco SSN16 Modules.
- In Cisco MDS NX-OS Release 8.x, 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.
- In Cisco MDS NX-OS Release 8.x, Write Acceleration on FCIP port channels should not be configured between two MDS 9700 Series switches with Cisco MDS 24/10 port SAN Extension Module under the following conditions:
  - If traffic flows between an FCoE port and an FC port through an FCIP port channel.
  - If traffic flows between an FCIP port and an FC port through an FCIP port channel.

## 40GE IP Storage Interfaces Support

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 32 Gbps Fibre Channel Switching Module (DS-X9648-1536K9)—support for Cisco TrustSec FC Link Encryption is available only on ports 9-12, 25-28 and 41-44.
  - Cisco MDS 9132T Fibre Channel Switch—support for Cisco TrustSec FC Link Encryption is available only on ports 9-12, 25-28.
  - Cisco MDS 9148T Fibre Channel Switch—support for Cisco TrustSec FC Link Encryption is available only on ports 9-12, 25-28 and 41-44.
-

- Cisco MDS 9396T Fibre Channel Switch—support for Cisco TrustSec FC Link Encryption is available only on 9-12, 25-28, 41-44 base ports, and 57-60, 73-76 and 89-92 LEM ports as applicable.

## Caveats

- [Subscribing for Important Product Update Notifications](#), page 32
- [Resolved Caveats in Cisco MDS NX-OS Release 8.3\(2\)](#), page 33
- [Open Caveats in Cisco MDS NX-OS Release 8.3\(2\)](#), page 35
- [Resolved Caveats in Cisco MDS NX-OS Release 8.3\(1\)](#), page 37
- [Open Caveats in Cisco MDS NX-OS Release 8.3\(1\)](#), page 40
- [Resolved Caveats in Cisco MDS NX-OS Release 8.2\(2\)](#), page 42
- [Open Caveats in Cisco MDS NX-OS Release 8.2\(2\)](#), page 44
- [Resolved Caveats in Cisco MDS NX-OS Release 8.2\(1\)](#), page 46
- [Open Caveats in Cisco MDS NX-OS Release 8.2\(1\)](#), page 47
- [Resolved Caveats in Cisco MDS NX-OS Release 8.1\(1b\)](#), page 49
- [Open Caveats in Cisco MDS NX-OS Release 8.1\(1b\)](#), page 50
- [Resolved Caveats in Cisco MDS NX-OS Release 8.1\(1a\)](#), page 52
- [Open Caveats in Cisco MDS NX-OS Release 8.1\(1a\)](#), page 53
- [Resolved Caveats in Cisco MDS NX-OS Release 8.1\(1\)](#), page 55
- [Open Caveats in Cisco MDS NX-OS Release 8.1\(1\)](#), page 56

## 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 8.3(2)

**Table 19**      *Resolved Caveats in Cisco MDS NX-OS Release 8.3(2)*

Identifier	Description
<a href="#">CSCuz22707</a>	MDS9710 older PSU PN/SN detected after switchover.
<a href="#">CSCve56524</a>	Renaming of VSAN via DeviceManager causes the VSAN hash method to be changed in switch configuration.
<a href="#">CSCvd43653</a>	Rare random frame drops in the absence of congestion on MDS 9700 platforms.
<a href="#">CSCvj22775</a>	Device take a long time or fail to login to 32 Gbps ports at 16 Gbps.
<a href="#">CSCvj29246</a>	'could not get tty' syslog when DCNM polls switch for analytics data.
<a href="#">CSCvj76876</a>	IPv6 NVRAM config not saved to standby supervisor when configuration is saved.
<a href="#">CSCvj95640</a>	GOLD service on supervisor crashes when internal filespace is low.
<a href="#">CSCvj36340</a>	FCoE pause drop threshold reached when VL is paused/resumed quickly.
<a href="#">CSCvj72737</a>	DM: MDS 9396T/9148T system status LED turns off if switch is booted without one of the fans.
<a href="#">CSCvj78326</a>	Span session with sfpAbsent destination becomes active after switch reload.
<a href="#">CSCvj84451</a>	MDS 9396S: System does not shutdown when any fan is absent for 5 minutes.
<a href="#">CSCvj84632</a>	MDS 9396S: System does not trigger EEM policy to shutdown in 3 minutes, when both fans are absent.
<a href="#">CSCvj85616</a>	Interface goes to link-failure or not-connected state when the “dpvm activate force” command is issued.
<a href="#">CSCvj89080</a>	Streaming failures are incrementing, data is not seen sometimes in DCNM with gRPC in connected state.
<a href="#">CSCvj89198</a>	MDS 9396S: Incorrect syslog prints after overriding EEM fan policy.
<a href="#">CSCvj90527</a>	Port rotation CLI: show command does not remove port which has operation status as down.
<a href="#">CSCvj75180</a>	MDS 9700 DS-X9448-768K9: Incorrect port range displayed in Syslog for device error 0xc0000300.
<a href="#">CSCvk10024</a>	Enhancement: implement tcam alerting on the MDS 9148S and 9250i.
<a href="#">CSCvk28980</a>	MDS9132T: front 'Fan Status' LED is red when less than 4 fan trays are installed.
<a href="#">CSCvk41398</a>	Memory leak in 16 Gbps driver causes director module or fabric switch reload.
<a href="#">CSCvk58243</a>	Switch with IPv6 mgmt0 address reloads after SNMP Get/Getbulk requests are received.
<a href="#">CSCvk60242</a>	MDS9250i, 9148S, 9396S: NXAPI sandbox does not respond over HTTP/HTTPS.
<a href="#">CSCvk74222</a>	MDS9148S: Fan-4 information not included in '%PLATFORM-1-PFM_ALERT: FAN_BAD' syslog.
<a href="#">CSCvk74689</a>	'too many items in request' errors in DCNM/DM for 'get' requests with large response.

**Table 19 Resolved Caveats in Cisco MDS NX-OS Release 8.3(2) (Continued)**

<b>Identifier</b>	<b>Description</b>
<a href="#">CSCvk54735</a>	FCoE "uSecs VL3 is in internal pause rx state" increments when eth port is not currently paused.
<a href="#">CSCvm74476</a>	Unable to unconfigure NTP server after ntp sync-retry fails on MDS platform.
<a href="#">CSCvm02193</a>	'%PLATFORM-1-PFM_ALERT: FAN_BAD' syslog incorrectly logged for absent fans.
<a href="#">CSCvm03071</a>	'role attribute-admin' does not give full permissions.
<a href="#">CSCvm03749</a>	Zone service crashes after device alias delete and commit.
<a href="#">CSCvm44402</a>	DS-X9448-768K9 16 Gbps module randomly reloads.
<a href="#">CSCvm55833</a>	Nexus 9K 00:6b:f1 OUI not recognised as Cisco OUI causes FCNS fc4 feature to be un-decoded.
<a href="#">CSCvm56781</a>	Switch reloads after device-alias config change via DCNM.
<a href="#">CSCvm58563</a>	Kernel memory stats do not work on MDS9700 platform.
<a href="#">CSCvm58583</a>	Switch with parallel NPIV ports reloads due to consecutive FLOGI service crashes.
<a href="#">CSCvm69550</a>	'show port-config internal logging normal-list' module command causes VSH crash.
<a href="#">CSCvm82540</a>	NTP does not update the clock.
<a href="#">CSCvm91783</a>	MDS9700 DS-X9334-K9 FCIP module misses keepalives and reloads
<a href="#">CSCvn42012</a>	Broadcast HB sup->lc is flooded on all eobcsw ports.
<a href="#">CSCvn04563</a>	Error log in the 'show logging onboard' output for DS-X9448-768K9 ports in 10G speed mode and no SFP.
<a href="#">CSCvn10418</a>	Edge devices unable to communicate after ISSU and port mode conversion from F to Auto/E.
<a href="#">CSCvn46001</a>	Enhancement to issue message when feature analytics is enabled.
<a href="#">CSCvn46119</a>	show analytics query to some modules fails "Query failed: Analytics not supported on the given slot".
<a href="#">CSCvn07339</a>	Remove secure option from logging server config.
<a href="#">CSCvo65409</a>	Logging server config is lost after upgrade, causing remote sys logging to be disabled.

## Open Caveats in Cisco MDS NX-OS Release 8.3(2)

**Table 20** Open Caveats in Cisco MDS NX-OS Release 8.3(2)

Identifier	Description
<a href="#">CSCuv76123</a>	fedomain for VSAN hung in "Principal Switch Selection ongoing".
<a href="#">CSCvj93031</a>	show system login failures does not display IPV6 addresses.
<a href="#">CSCvj58258</a>	DM fan LED does not change to red when a fan is absent in MDS 9148T.
<a href="#">CSCvj69154</a>	"show system internal statsprofiler" command is not available in MDS 9132T NPV mode.
<a href="#">CSCvj90524</a>	Port rotation CLI: show command does not update immediately if analytics is disabled on port.
<a href="#">CSCvj53221</a>	MDS 9396T: Discrepancy in credit loss events under creditmon and hardware errors during ISSU.
<a href="#">CSCvj63083</a>	slot x show commands should not be logged in the accounting logs.
<a href="#">CSCvf08416</a>	MDS 9132T: pam_ftp(ftp:auth): conversation failed - ftpd[8675].
<a href="#">CSCvk59664</a>	Port-channel counters do not reflect the Percentage Tx credits not available.
<a href="#">CSCvk00570</a>	IPS sub interface creation for VLAN 1024 and above fails.
<a href="#">CSCvk21939</a>	MDS 9700 ports can go to notConnected state after reload or when several ports flapped.
<a href="#">CSCvk22116</a>	MDS 9132T/9148T/9396T ports can go to notConnected state after reload or when several ports flapped.
<a href="#">CSCvm77301</a>	True Copy pair creation fails with WA enabled and 2 MCU/RCU targets.
<a href="#">CSCvm97591</a>	Need option cli_array to display single element as list in NXAPI json/xml output for MDS switch.
<a href="#">CSCvm01925</a>	MDS fabric switches ISSU or FCNS process restart on MDS switches FCNS should not send LOGO to host.
<a href="#">CSCvn95578</a>	sudo message from "show system internal kernel memory global detail".
<a href="#">CSCvn51187</a>	FPNG (FC Ping CT Command) fails after ISSU to version NX-OS 8.4(1).
<a href="#">CSCvn63182</a>	ISSU/ISSD/sup switchover may cause traffic impact in IOA flows.
<a href="#">CSCvn46861</a>	Standby SUP reloads under circumstances of SAN analytics exceeding recommended scale limits.
<a href="#">CSCvn66653</a>	MDS9148S very high SFP temperature alarms.
<a href="#">CSCvn75741</a>	Shutting down Power Supply in MDS 9148T causes Emergency level Kernel IC2 Nack errors.
<a href="#">CSCvn37920</a>	MDS 9148S Timeout drops after non-disruptive upgrade from 6.2(21) to 6.2(23).
<a href="#">CSCvn36429</a>	Service "AAA Daemon" failed to store its configuration (error-id 0x80480018).
<a href="#">CSCvn37090</a>	Inconsistent telemetry streaming during upgrade from 8.3.1 to 8.3.2.
<a href="#">CSCvn31010</a>	Analytics - acl_mode config timeout; port goes to errdisabled.
<a href="#">CSCvn69965</a>	%ANALYTICS-4-FTMGR_MOD_HIGH_NPU_LOAD syslog is shown during analytics feature disable.

**Table 20**      **Open Caveats in Cisco MDS NX-OS Release 8.3(2) (Continued)**

<b>Identifier</b>	<b>Description</b>
<a href="#">CSCvn92838</a>	Low bit error rate brings down fc interface due to bit error rate too high on 32G modules.
<a href="#">CSCvn60892</a>	Zoneset activation is disruptive for analytics entries.
<a href="#">CSCvo11715</a>	FC port goes into Out of Service state if out-of-service is configured in the startup-config.
<a href="#">CSCvo22269</a>	ISSU/D from some NX-OS versions is disruptive on MDS fabric switches.
<a href="#">CSCvo22835</a>	While moving IOA flow between 2 clusters, all flows are briefly suspended.
<a href="#">CSCvo18791</a>	MDS: SPAN fcip interface cause throttling throughtput.
<a href="#">CSCvo71313</a>	MDS showanalytics command will not output any information if total ITLs is greater than 20000.
<a href="#">CSCvo72141</a>	GPSC returns unknown, speed not established.
<a href="#">CSCvo74692</a>	IPS ports on 40G linecard enter `Hardware Failure` when adjacent switch performs ISSU to 8.3(2).
<a href="#">CSCvo75187</a>	'Link failure Link Reset failed nonempty recv queue' during ISSU to 8.3(2).
<a href="#">CSCvo78766</a>	MDS frames stuck on ingress with DI 0x3FF(1023) when analytics is configured.
<a href="#">CSCvo82025</a>	Devices unable to FLOGI in to a MDS 9718 after module x crash during ISSU.
<a href="#">CSCvo83319</a>	IPS 24/10 module port software failure during ISSU.
<a href="#">CSCvo83652</a>	'show logging onboard flow-control request-timeout' shows wrong Dest Intf for DI.
<a href="#">CSCvo76840</a>	Update Cisco MDS 9132T, MDS 9396, MDS 9148T bios with update for spectre/meltdown microcode fix.
<a href="#">CSCvo75910</a>	ASLR related error message on standby.
<a href="#">CSCvo31940</a>	FCoE: show logging onboard txwait and rxwait shows 100% congestion during ISSU.
<a href="#">CSCvp37076</a>	MDS 9250i Bit errors on one port are attributed to a different port.
<a href="#">CSCvp00465</a>	IntPortLoopback tests fail after FCIP tunnels are closed from the remote side.
<a href="#">CSCvp18930</a>	Supervisor failure after port channel FOP changes.
<a href="#">CSCvp21116</a>	Memory leak causing CDP process to crash.
<a href="#">CSCvp25022</a>	MDS link won't come up with non Cisco peer at 32 Gbps.
<a href="#">CSCvp29084</a>	CPU I2C stuck - both power supply fans reported failed on MDS 9396S.
<a href="#">CSCvp34165</a>	Zone member from SNMP output should contain renamed device alias.
<a href="#">CSCvp47492</a>	MDS 9148S ports fail Link failure Link Reset failed nonempty recv queue - stay in notConnected state.
<a href="#">CSCvp59843</a>	MDS9250i: 'acl' service crash during 'copy run start' causes 0x401E0045 error.
<a href="#">CSCvp04350</a>	Invalid output when using the REST API call for show interface transceiver.
<a href="#">CSCvp10372</a>	Syslog "CARDCLIENT-3-CARDCL_ERR: cardcl_send_all_case_sse. Error on devid:49" during ISSU/ISSD.
<a href="#">CSCvq17673</a>	Connectivity lost to end devices that don't register FC4 features.

**Table 20** *Open Caveats in Cisco MDS NX-OS Release 8.3(2) (Continued)*

Identifier	Description
<a href="#">CSCvs45930</a>	After migration from SUP3 to SUP4 error seen while disabling analytics on range of interfaces.
<a href="#">CSCvs57660</a>	F16_PLDA_RXBUF_MERR error on a single FC ASIC results in a complete module reload.
<a href="#">CSCvs97168</a>	Kickstart pre check fails as /var folder is full with nxapi logs.
<a href="#">CSCvt87216</a>	NX-OS upgrade fails with 0x40930015 or 0x40930081.
<a href="#">CSCvu28005</a>	Timeout drops seen on 32G fabric switches after ISSU.
<a href="#">CSCvw32460</a>	MDS 9718 Kernel panic due to kernel memory corruption when PC FOP index changes by 512
<a href="#">CSCvz61883</a>	Module hangs or resets after 450-460 days uptime due to 'machine check' error.

## Resolved Caveats in Cisco MDS NX-OS Release 8.3(1)

**Table 21** *Resolved Caveats in Cisco MDS NX-OS Release 8.3(1)*

Identifier	Description
<a href="#">CSCCuy49457</a>	Device cannot FLOGI into DPVM port at 16 G on MDS 9700.
<a href="#">CSCCup69479</a>	System default F mode causes FCIP tunnel to drop frames.
<a href="#">CSCCuy83074</a>	fc4-types not synced across fabric.
<a href="#">CSCCuz22707</a>	MDS9710 older PSU PN/SN detected after switchover.
<a href="#">CSCCva20758</a>	MDS 24/10 port SAN extension module: snmpd crash on fetching port-channel member fc port counters.
<a href="#">CSCCva54781</a>	show install all impact failed with free space test failed error.
<a href="#">CSCCvc04449</a>	VL credits configured in Congestion Isolation mode gets lost after toggling the feature.
<a href="#">CSCCvd49251</a>	FICON FTA - Crash occurs when running multiple DFDSS dumps to IBM 3500 tape system.
<a href="#">CSCCvd70693</a>	ER_RDY support for 10G should be removed and configuration check should be in place.
<a href="#">CSCCvd87879</a>	Link will not come up when credits configured is less than 34 in congestion-isolation mode.
<a href="#">CSCCvd89879</a>	USB is not detected in MDS 9148s and MDS 9396s switch with 8.1(1) image.
<a href="#">CSCCvd43653</a>	Rare random frame drops in the absence of congestion on MDS 9700 platforms.
<a href="#">CSCCve24391</a>	Corruption in ACLTCAM index object list.
<a href="#">CSCCve51462</a>	Internal counters in the flogi component are incrementing when flogi is retried with different arguments.
<a href="#">CSCCve53588</a>	Congestion-isolation feature not isolating slow device when upgraded to NX-OS 8.1(1).
<a href="#">CSCCve72490</a>	Offline port RSCN not sent.

**Table 21 Resolved Caveats in Cisco MDS NX-OS Release 8.3(1) (Continued)**

Identifier	Description
<a href="#">CSCve76170</a>	MDS 9148s and 9396s - init system results in corrupted bootflash.
<a href="#">CSCve83189</a>	LC pmon service crashes with signal 6.
<a href="#">CSCvf14690</a>	Need show tech-support slowdrain for MDS 9148/9148S/9396S/9132T in NPV mode.
<a href="#">CSCvf19141</a>	MDS 9700::<<%LIBDCDI-2-DCDI_ERR>> DATACORRUPTION-DATAINCONSISTENCY syslogs are seen after ISSU.
<a href="#">CSCvf68489</a>	Fcd hap reset (heartbeat loss) during ISSU & upgrade aborts.
<a href="#">CSCvf82249</a>	show logging onboard error-stats for FCIP formatting changes.
<a href="#">CSCvf83739</a>	Single bit ECC error is being treated as fatal on the Cisco MDS 32G linecard on MDS 9700 and brings down the port instance.
<a href="#">CSCvf88178</a>	SAN-Analytics: read/write_io_initiation/completion_time_max discrepancy in storage ports.
<a href="#">CSCvf96594</a>	OHMS detects NVRAM test failure for various blocks.
<a href="#">CSCvf98303</a>	MDS 32 Gb speed - show port internal info command displays oper port fec state down status.
<a href="#">CSCvf99665</a>	ISSU/D fails with bootflash busy err; seg fault mounting bootflash (not mounted).
<a href="#">CSCvg07274</a>	WWN beginning with 10:00:00:10:9b listed as wrong vendor in FCNS database.
<a href="#">CSCvg07694</a>	Port Online RSCN sent during ISSU/D when zoned devices are on a remote switch.
<a href="#">CSCvg17573</a>	port-monitor not monitoring NPV NP ports.
<a href="#">CSCvg25642</a>	Credit loss recovery not functioning on MDS switches.
<a href="#">CSCvg36852</a>	Kernel panic on MDS 9132T or 9148T or 9396T with switchport speed auto.
<a href="#">CSCvg50844</a>	Disable HTTP and enable HTTPS in MDS switches.
<a href="#">CSCvg62335</a>	GARP loop/storm or ARP loop.
<a href="#">CSCvg76152</a>	ISL Diagnostics cable length is not accurate on 32G Line card for diagnostics tests.
<a href="#">CSCvh18546</a>	After MDS 9148S upgrade from 6.2(17) to 8.1(1) the link light will be off for mgmt port.
<a href="#">CSCvh18563</a>	After MDS 9148S upgrade from 6.2(17) to 8.1(1) the "logging origin-id" command is missing.
<a href="#">CSCvh19223</a>	ISSU fails when running "show install all status" on a separate window.
<a href="#">CSCvh21454</a>	MDS9250i or MDS9148S reloads due to kernel panic.
<a href="#">CSCvh30932</a>	IP access list corruption after NX-OS upgrade.
<a href="#">CSCvh66178</a>	MDS other than MDS9718 should not have FLOGI Scale optimization enabled.
<a href="#">CSCvh68603</a>	When running the LDAP test "test aaa group username password" it results in system switchover.
<a href="#">CSCvh70372</a>	ISL diagnostics does not display stop statistics when a test ends.

**Table 21 Resolved Caveats in Cisco MDS NX-OS Release 8.3(1) (Continued)**

Identifier	Description
<a href="#">CSCvh72141</a>	MDS 9700: IP ACL log deny messages are not recorded in “show logging log”.
<a href="#">CSCvh77741</a>	pwwn-based zoning cannot be mixed with other zoning modes.
<a href="#">CSCvh87415</a>	Telemetry process core with high number of ITL flows.
<a href="#">CSCvh94844</a>	snmp-server host entry with DNS name cannot be removed.
<a href="#">CSCvh99074</a>	'show tech-support' subcommand on a fully loaded MDS 9700 fails and exits.
<a href="#">CSCvi33036</a>	Add hostname dynamically to the telemetry header.
<a href="#">CSCvi33074</a>	snmpd crashes cause switchover on 8.1(1).
<a href="#">CSCvi44099</a>	MDS 9148S FC ports do not come up, transceiver Tx Power -40.00dBm.
<a href="#">CSCvi56611</a>	MDS 9700 ethanalyzer does not strip headers for FIP traffic.
<a href="#">CSCvi81678</a>	Evaluation of N9k/N7k/N5k/N3k/MDS for LDAP CVEs March 2018.
<a href="#">CSCvi77147</a>	Include “show system internal kernel nvram-messages previous” in show tech for NPV in 6.2.
<a href="#">CSCvj07205</a>	VRRP configuration should be removed from under IPStorage ports
<a href="#">CSCvj14367</a>	Regular zone changes disrupt IVR traffic.
<a href="#">CSCvj24686</a>	FC Port-channel behavior is inconsistent on MDS9148/MDS9148S if miscabling happens.
<a href="#">CSCvj49451</a>	MTS error messages in NVRAM log.
<a href="#">CSCvj51494</a>	XBAR loopback test failures after replacing 32G FC modules with 16G FC modules.
<a href="#">CSCvj55755</a>	logging onboard txwait shows 100% congestion during ISSU and port flap.
<a href="#">CSCvj58687</a>	Intermittent 51 second frame timeout drops without congestion.
<a href="#">CSCvj62547</a>	Delete stale ACL entry after ISSU from NX-OS 8.2(x) to 8.3(x)
<a href="#">CSCvj74742</a>	In NX-OS 8.x, custom created roles have limited privileges compared to NX-OS 6.x release.
<a href="#">CSCvj88112</a>	Seeing LTL packet drops while sending traffic with IVR configuration.

## Open Caveats in Cisco MDS NX-OS Release 8.3(1)

**Table 22** Open Caveats in Cisco MDS NX-OS Release 8.3(1)

Identifier	Description
<a href="#">CSCuv76123</a>	fcdomain for VSAN hung in “Principal Switch Selection ongoing”.
<a href="#">CSCvf08416</a>	MDS 9132T: pam_ftp(ftp:auth): conversation failed - ftpd[8675].
<a href="#">CSCvm74476</a>	Unable to unconfigure NTP server after ntp sync-retry fails on MDS platform.
<a href="#">CSCvm77301</a>	True Copy pair creation fails with WA enabled and 2 MCU/RCU targets.
<a href="#">CSCvk58243</a>	MDS 9700 kernel panic observed after SNMP Get/Getbulk requests are received.
<a href="#">CSCvm97591</a>	Need option cli_array to display single element as list in NXAPI json/xml output for MDS switch.
<a href="#">CSCvm01925</a>	MDS fabric switches ISSU or FCNS process restart on MDS switches FCNS should not send LOGO to host.
<a href="#">CSCvn51187</a>	FPNG (FC Ping CT Command) fails after ISSU to version NX-OS 8.4(1).
<a href="#">CSCvn31010</a>	Analytics - acl_mode config timeout; port goes to errdisabled.
<a href="#">CSCvn42012</a>	Broadcast HB sup->lc is flooded on all eobcsw ports.
<a href="#">CSCvj22775</a>	Devices take a long time or fail to login to 32 Gbps ports at 16 Gbps.
<a href="#">CSCvj53221</a>	MDS 9396T: Discrepancy in credit loss events under creditmon and hardware errors during ISSU.
<a href="#">CSCvj58258</a>	DM fan LED does not change to red when a fan is absent in MDS 9148T.
<a href="#">CSCvj69154</a>	"show system internal statsprofiler" command is not available in MDS 9132T NPV mode.
<a href="#">CSCvj72737</a>	DM: MDS 9396T/9148T system status LED turns off if switch is booted without one of the fans.
<a href="#">CSCvj75180</a>	MDS 9700 DS-X9448-768K9: Incorrect port range displayed in Syslog for device error 0xc0000300.
<a href="#">CSCvj78326</a>	Span session with sfpAbsent destination becomes active after switch reload.
<a href="#">CSCvj84451</a>	MDS 9396S: System does not shutdown when any fan is absent for 5 minutes.
<a href="#">CSCvj84632</a>	MDS 9396S: System does not trigger EEM policy to shutdown in 3 minutes, when both fans are absent.
<a href="#">CSCvj85616</a>	Interface goes to link-failure or not-connected state when the “dpvm activate force” command is issued.
<a href="#">CSCvj89080</a>	Streaming failures are incrementing, data is not seen sometimes in DCNM with gRPC in connected state.
<a href="#">CSCvj89198</a>	MDS 9396S: Incorrect syslog prints after overriding EEM fan policy.
<a href="#">CSCvj90524</a>	Port rotation CLI: show command does not update immediately if analytics is disabled on port.
<a href="#">CSCvj90527</a>	Port rotation CLI: show command does not remove port which has operation status as down.
<a href="#">CSCvj93031</a>	show system login failures does not display IPV6 addresses.
<a href="#">CSCvj63083</a>	slot x show commands should not be logged in the accounting logs.



**Table 22 Open Caveats in Cisco MDS NX-OS Release 8.3(1) (Continued)**

Identifier	Description
<a href="#">CSCvk00570</a>	IPS sub interface creation for VLAN 1024 and above fails.
<a href="#">CSCvk27502</a>	MDS9000:If ip name-server configured in switch, LDAP authentication failing.
<a href="#">CSCvk59664</a>	Port-channel counters do not reflect the Percentage Tx credits not available.
<a href="#">CSCvk74689</a>	Reduced default maximum SNMP Tx frame size causes "too many items in request" errors.
<a href="#">CSCvk21939</a>	MDS 9700 ports can go to notConnected state after reload or when several ports flapped.
<a href="#">CSCvk22116</a>	MDS 9132T/9148T/9396T ports can go to notConnected state after reload or when several ports flapped.
<a href="#">CSCvn36429</a>	Service "AAA Daemon" failed to store its configuration (error-id 0x80480018).
<a href="#">CSCvn92838</a>	Low bit error rate brings down fc interface due to bit error rate too high on 32G modules.
<a href="#">CSCvn37920</a>	MDS 9148S Timeout drops after non-disruptive upgrade from 6.2(21) to 6.2(23).
<a href="#">CSCvn63182</a>	ISSU/ISSD/supervisor switchover may cause traffic impact in IOA flows.
<a href="#">CSCvn66653</a>	MDS9148S very high SFP temperature alarms.
<a href="#">CSCvn75741</a>	Shutting down Power Supply in MDS 9148T causes Emergency level Kernel IC2 Nack errors.
<a href="#">CSCvo22269</a>	ISSU/D from some NX-OS versions is disruptive on MDS fabric switches.
<a href="#">CSCvo22835</a>	While moving IOA flow between 2 clusters, all flows are briefly suspended.
<a href="#">CSCvo72141</a>	GPSC returns unknown, speed not established.
<a href="#">CSCvo74692</a>	IPS ports on 40G linecard enter `Hardware Failure` when adjacent switch performs ISSU to 8.3(2).
<a href="#">CSCvo75187</a>	'Link failure Link Reset failed nonempty recv queue' during ISSU to 8.3(2).
<a href="#">CSCvo76840</a>	Update Cisco MDS 9132T, MDS 9396, MDS 9148T bios with update for spectre/meltdown microcode fix.
<a href="#">CSCvo78766</a>	MDS frames stuck on ingress with DI 0x3FF(1023) when analytics is configured.
<a href="#">CSCvo82025</a>	Devices unable to FLOGI in to a MDS 9718 after module x crash during ISSU.
<a href="#">CSCvo83319</a>	IPS 24/10 module port software failure during ISSU.
<a href="#">CSCvo83652</a>	'show logging onboard flow-control request-timeout' shows wrong Dest Intf for DI.
<a href="#">CSCvn07339</a>	Remove secure option from logging server config.
<a href="#">CSCvo11715</a>	FC port goes into Out of Service state if out-of-service is configured in the startup-config.
<a href="#">CSCvo18791</a>	MDS: SPAN fcip interface cause throttling througput.
<a href="#">CSCvo31940</a>	FCoE: show logging onboard txwait and rxwait shows 100% congestion during ISSU.
<a href="#">CSCvo65409</a>	Logging server config is lost after upgrade, causing remote sys logging to be disabled.

**Table 22** *Open Caveats in Cisco MDS NX-OS Release 8.3(1) (Continued)*

Identifier	Description
<a href="#">CSCvp37076</a>	MDS 9250i Bit errors on one port are attributed to a different port.
<a href="#">CSCvp00465</a>	IntPortLoopback tests fail after FCIP tunnels are closed from the remote side.
<a href="#">CSCvp18930</a>	Supervisor failure after port channel FOP changes.
<a href="#">CSCvp21116</a>	Memory leak causing CDP process to crash.
<a href="#">CSCvp25022</a>	MDS link won't come up with non Cisco peer at 32 Gbps.
<a href="#">CSCvp29084</a>	CPU I2C stuck - both power supply fans reported failed on MDS 9396S.
<a href="#">CSCvp34165</a>	Zone member from SNMP output should contain renamed device alias.
<a href="#">CSCvp47492</a>	MDS 9148S ports fail Link failure Link Reset failed nonempty recv queue - stay in notConnected state.
<a href="#">CSCvp59843</a>	MDS9250i: 'acl' service crash during 'copy run start' causes 0x401E0045 error.
<a href="#">CSCvp04350</a>	Invalid output when using the REST API call for show interface transceiver.
<a href="#">CSCvp10372</a>	Syslog "CARDCLIENT-3-CARDCL_ERR: cardcl_send_all_case_sse. Error on devid:49" during ISSU/ISSD.
<a href="#">CSCvq17673</a>	Connectivity lost to end devices that don't register FC4 features.
<a href="#">CSCvs45930</a>	After migration from SUP3 to SUP4 error seen while disabling analytics on range of interfaces.
<a href="#">CSCvs57660</a>	F16_PLDA_RXBUF_MERR error on a single FC ASIC results in a complete module reload.
<a href="#">CSCvs97168</a>	Kickstart pre check fails as /var folder is full with nxapi logs.
<a href="#">CSCvt87216</a>	NX-OS upgrade fails with 0x40930015 or 0x40930081.
<a href="#">CSCvu28005</a>	Timeout drops seen on 32G fabric switches after ISSU.
<a href="#">CSCvw32460</a>	MDS 9718 Kernel panic due to kernel memory corruption when PC FOP index changes by 512
<a href="#">CSCvz61883</a>	Module hangs or resets after 450-460 days uptime due to 'machine check' error.

## Resolved Caveats in Cisco MDS NX-OS Release 8.2(2)

**Table 23** *Resolved Caveats in Cisco MDS NX-OS Release 8.2(2)*

Identifier	Description
<a href="#">CSCva20758</a>	MDS 24/10 port SAN extension module: snmpd crash on fetching port-channel member fc port counters.
<a href="#">CSCvc04449</a>	VL credits configured in Congestion Isolation mode gets lost after toggling the feature.
<a href="#">CSCvd87879</a>	Link will not come up when credits configured is less than 34 in congestion-isolation mode.
<a href="#">CSCvd89879</a>	USB is not detected in MDS 9148s and MDS 9396s switch with 8.1(1) image.

**Table 23**      *Resolved Caveats in Cisco MDS NX-OS Release 8.2(2) (Continued)*

<b>Identifier</b>	<b>Description</b>
<a href="#">CSCvf88178</a>	SAN-Analytics: read/write_io_initiation/completion_time_max discrepancy in storage ports.
<a href="#">CSCvf99665</a>	ISSU/D fails with bootflash busy err; seg fault mounting bootflash (not mounted).
<a href="#">CSCvh29101</a>	MDS NXOS 7.x & 8.x:: OU name has space in LDAP rootDN, NXOS adding extra backward slash '\'
<a href="#">CSCvh30932</a>	IP access list corruption after NX-OS upgrade
<a href="#">CSCvh99074</a>	'show tech-support' subcommand on a fully loaded MDS 9700 fails and exits

## Open Caveats in Cisco MDS NX-OS Release 8.2(2)

**Table 24**      *Open Caveats in Cisco MDS NX-OS Release 8.2(2)*

Identifier	Description
<a href="#">CSCuv76123</a>	fcdomain for VSAN hung in “Principal Switch Selection ongoing”.
<a href="#">CSCvc75645</a>	9396S/9148S - licmgr crashed while installing incremental port licenses.
<a href="#">CSCvd94841</a>	DCNM SAN Client FCIP Wizard Fails to configure FCIP Tunnels on DS-X9334-K9 module.
<a href="#">CSCvf68489</a>	FICON: Fcd hap reset (heartbeat loss) during ISSU & upgrade aborts.
<a href="#">CSCvg36852</a>	Kernel panic on MDS 9132T or 9148T or 9396T with switchport speed auto.
<a href="#">CSCvh21454</a>	MDS9250i or MDS9148S reloads due to kernel panic.
<a href="#">CSCvi81678</a>	Evaluation of N9k/N7k/N5k/N3k/MDS for LDAP CVEs March 2018.
<a href="#">CSCvj22775</a>	Devices take a long time or fail to login to 32 Gbps ports at 16 Gbps.
<a href="#">CSCvj58687</a>	Intermittent 51 second timeout drops on 32 G module.
<a href="#">CSCvj63083</a>	slot x show commands should not be logged in the accounting logs.
<a href="#">CSCvk28980</a>	MDS 9132T Front Fan Status LED red when less than 4 fantrays (DS-C32T-FAN-E/I) are present.
<a href="#">CSCvk59664</a>	Port-channel counters do not reflect the Percentage Tx credits not available.
<a href="#">CSCvk00570</a>	IPS sub interface creation for VLAN 1024 and above fails.
<a href="#">CSCvk21939</a>	MDS 9700 ports can go to notConnected state after reload or when several ports flapped.
<a href="#">CSCvk22116</a>	MDS 9132T/9148T/9396T ports can go to notConnected state after reload or when several ports flapped.
<a href="#">CSCvm74476</a>	Unable to unconfigure NTP server after ntp sync-retry fails on MDS platform.
<a href="#">CSCvm01925</a>	MDS fabric switches ISSU or FCNS process restart on MDS switches FCNS should not send LOGO to host.
<a href="#">CSCvn51187</a>	FPNG(FC Ping CT Command) fails after ISSU to version NX-OS 8.4(1).
<a href="#">CSCvn66653</a>	MDS9148S very high SFP temperature alarms.
<a href="#">CSCvn75741</a>	Shutting down Power Supply in MDS 9148T causes Emergency level Kernel IC2 Nack errors.
<a href="#">CSCvn37920</a>	MDS 9148S Timeout drops after non-disruptive upgrade from 6.2(21) to 6.2(23).
<a href="#">CSCvm77301</a>	True Copy pair creation fails with WA enabled and 2 MCU/RCU targets.
<a href="#">CSCvn36429</a>	Service "AAA Daemon" failed to store its configuration (error-id 0x80480018).
<a href="#">CSCvo72141</a>	GPSC returns unknown, speed not established.
<a href="#">CSCvo22835</a>	While moving IOA flow between 2 clusters, all flows are briefly suspended.
<a href="#">CSCvo74692</a>	IPS ports on 40G linecard enter `Hardware Failure` when adjacent switch performs ISSU to 8.3(2).
<a href="#">CSCvo75187</a>	'Link failure Link Reset failed nonempty recv queue' during ISSU to 8.3(2).

**Table 24 Open Caveats in Cisco MDS NX-OS Release 8.2(2) (Continued)**

Identifier	Description
CSCvo78766	MDS frames stuck on ingress with DI 0x3FF(1023) when analytics is configured.
CSCvo82025	Devices unable to FLOGI in to a MDS 9718 after module x crash during ISSU.
CSCvo83319	IPS 24/10 module port software failure during ISSU.
CSCvo83652	'show logging onboard flow-control request-timeout' shows wrong Dest Intf for DI.
CSCvo11715	FC port goes into Out of Service state if out-of-service is configured in the startup-config.
CSCvo18791	MDS: SPAN fcip interface cause throttling througput.
CSCvo22269	ISSU/D from some NX-OS versions is disruptive on MDS fabric switches.
CSCvo31940	FCoE: show logging onboard txwait and rxwait shows 100% congestion during ISSU.
CSCvf08416	MDS 9132T: pam_ftp(ftp:auth): conversation failed - ftpd[8675].
CSCvp37076	MDS 9250i Bit errors on one port are attributed to a different port.
CSCvp00465	IntPortLoopback tests fail after FCIP tunnels are closed from the remote side.
CSCvp18930	Supervisor failure after port channel FOP changes.
CSCvp21116	Memory leak causing CDP process to crash.
CSCvp25022	MDS link won't come up with non Cisco peer at 32 Gbps.
CSCvp29084	CPU I2C stuck - both power supply fans reported failed on MDS 9396S.
CSCvp34165	Zone member from SNMP output should contain renamed device alias.
CSCvp47492	MDS 9148S ports fail Link failure Link Reset failed nonempty recv queue - stay in notConnected state.
CSCvp59843	MDS9250i: 'acl' service crash during 'copy run start' causes 0x401E0045 error.
CSCvp04350	Invalid output when using the REST API call for show interface transceiver.
CSCvp10372	Syslog "CARDCLIENT-3-CARDCL_ERR: cardcl_send_all_case_sse. Error on devid:49" during ISSU/ISSD.
CSCvq17673	Connectivity lost to end devices that don't register FC4 features.
CSCvs45930	After migration from SUP3 to SUP4 error seen while disabling analytics on range of interfaces.
CSCvs57660	F16_PLDA_RXBUF_MERR error on a single FC ASIC results in a complete module reload.
CSCvs97168	Kickstart pre check fails as /var folder is full with nxapi logs.
CSCvu28005	Timeout drops seen on 32G fabric switches after ISSU.
CSCvw32460	MDS 9718 Kernel panic due to kernel memory corruption when PC FOP index changes by 512
CSCvz61883	Module hangs or resets after 450-460 days uptime due to 'machine check' error.

## Resolved Caveats in Cisco MDS NX-OS Release 8.2(1)

**Table 25** *Resolved Caveats in Cisco MDS NX-OS Release 8.2(1)*

Identifier	Description
<a href="#">CSCve51462</a>	Internal counters in the flogi component are incrementing when flogi is retried with different arguments.
<a href="#">CSCud43510</a>	LDAP fails when using SSL and port 636.
<a href="#">CSCus58026</a>	Improve diagnostics when MDS reloads due to full volatile DB.
<a href="#">CSCuv42986</a>	Callhome stops working.
<a href="#">CSCuy09742</a>	copy run start times out after removing ntp source-interface mgmt 0.
<a href="#">CSCuz06438</a>	"switchport fill-pattern idle speed 8000" CLI is blocked in 9148S,9250i.
<a href="#">CSCuz22707</a>	MDS9710 Older PSU PN/SN detected after switchover.
<a href="#">CSCva23686</a>	Fill word IDLE not reported correctly in port info.
<a href="#">CSCva54781</a>	show install all impact failed with free space test failed error.
<a href="#">CSCvb49642</a>	Add Tx/Rx datarate threshold counters to OBFL.
<a href="#">CSCvb97552</a>	Display a warning when fcip acceleration is enabled.
<a href="#">CSCvc62072</a>	LC module uptime is wrongly calculated.
<a href="#">CSCvc63852</a>	PLOGI sent from host to target misdirected to supervisor when received on a ISL.
<a href="#">CSCvc67941</a>	MDS 9396S kernel panic on hung read of PSU SPROM.
<a href="#">CSCvc92256</a>	"SSE cmd = 34 failed" error messages in onboard log.
<a href="#">CSCvc97863</a>	'acltcam' service crashes on MDS with IVR configuration.
<a href="#">CSCvd29813</a>	9148s/ 9250i: Incorrect value seen for "fec corrected and uncorrected blocks" under DM Port monitor.
<a href="#">CSCvd34842</a>	Need to log FCIP errors to OBFL.
<a href="#">CSCvd49500</a>	MDS 9396S Fan hardware PID not accurate.
<a href="#">CSCvd62800</a>	Unable to remove SNMP host by ip address/hostname from running configuration.
<a href="#">CSCve00931</a>	Saving configuration eventually causes restart of 'span' service.
<a href="#">CSCve10201</a>	No traffic sent across an FCIP interface with tcp max-bandwidth-mbps 33 or less.
<a href="#">CSCve23084</a>	'New Zoneset <name> is significantly bigger/smaller than current active Zoneset' warning not issued.
<a href="#">CSCve24145</a>	zone/zoneset clone, rename, and convert failures are logged as successful in the accounting log.
<a href="#">CSCve24391</a>	Corruption in acltcam index object list.
<a href="#">CSCve32147</a>	Switch scheduler failing to redirect job outputs to TFTP server.
<a href="#">CSCve47182</a>	SCSI reads over FCIP TA link fail when target device has status confirmation enabled.

**Table 25 Resolved Caveats in Cisco MDS NX-OS Release 8.2(1) (Continued)**

Identifier	Description
<a href="#">CSCve50663</a>	Hardware driver crashes when initialization fails and whole module is powered down.
<a href="#">CSCve58695</a>	Remove the Authentication Method Option Esp-aes-xcbc-mac under FCIP IPsec Configuration.
<a href="#">CSCve70443</a>	Disable Single Bit ECC Errors from being logged in Syslog Message.
<a href="#">CSCve72490</a>	Offline port RSCN not sent.
<a href="#">CSCve97661</a>	Host-Storage Connectivity loss due to misconfiguration of PC between NPV and NPV-Core (NPIV) switch.

## Open Caveats in Cisco MDS NX-OS Release 8.2(1)

**Table 26 Open Caveats in Cisco MDS NX-OS Release 8.2(1)**

Identifier	Description
<a href="#">CSCCuv76123</a>	fcdomain for VSAN hung in “Principal Switch Selection ongoing”.
<a href="#">CSCvc04449</a>	VL credits configured in Congestion Isolation mode gets lost after toggling the feature.
<a href="#">CSCvc75645</a>	9396S/9148S - licmgr crashed while installing incremental port licenses.
<a href="#">CSCvd87879</a>	Link will not come up when credits configured is less than 34 in congestion-isolation mode.
<a href="#">CSCvd43653</a>	Rare random frame drops in the absence of congestion on MDS 9700 platforms.
<a href="#">CSCvd89879</a>	USB is not detected in MDS 9148s and MDS 9396s switch with 8.1(1) image.
<a href="#">CSCvd94841</a>	DCNM SAN Client FCIP Wizard Fails to configure FCIP Tunnels on DS-X9334-K9 module.
<a href="#">CSCvf68489</a>	FICON: Fcd hap reset (heartbeat loss) during ISSU & upgrade aborts.
<a href="#">CSCvf88178</a>	SAN-Analytics: read/write_io_initiation/completion_time_max discrepancy in storage ports.
<a href="#">CSCvf99665</a>	ISSU/D fails with bootflash busy err; seg fault mounting bootflash (not mounted).
<a href="#">CSCvh21454</a>	MDS9250i or MDS9148S reloads due to kernel panic.
<a href="#">CSCvh30932</a>	IP access list corruption after NX-OS upgrade.
<a href="#">CSCvi81678</a>	Evaluation of N9k/N7k/N5k/N3k/MDS for LDAP CVEs March 2018.
<a href="#">CSCvj22775</a>	Devices take a long time or fail to login to 32 Gbps ports at 16 Gbps.
<a href="#">CSCvj58687</a>	Intermittent 51 second timeout drops on 32 G module.
<a href="#">CSCvj63083</a>	slot x show commands should not be logged in the accounting logs.
<a href="#">CSCvk28980</a>	MDS 9132T Front Fan Status LED red when less than 4 fantrays (DS-C32T-FAN-E/I) are present.
<a href="#">CSCvk00570</a>	IPS sub interface creation for VLAN 1024 and above fails.
<a href="#">CSCvk27502</a>	MDS9000:If ip name-server configured in switch, LDAP authentication failing.

**Table 26**      **Open Caveats in Cisco MDS NX-OS Release 8.2(1) (Continued)**

Identifier	Description
CSCvk59664	Port-channel counters do not reflect the Percentage Tx credits not available.
CSCvk21939	MDS 9700 ports can go to notConnected state after reload or when several ports flapped.
CSCvk22116	MDS 9132T/9148T/9396T ports can go to notConnected state after reload or when several ports flapped.
CSCvm74476	Unable to unconfigure NTP server after ntp sync-retry fails on MDS platform.
CSCvm01925	MDS fabric switches ISSU or FCNS process restart on MDS switches FCNS should not send LOGO to host.
CSCvm77301	True Copy pair creation fails with WA enabled and 2 MCU/RCU targets.
CSCvn51187	FPNG (FC Ping CT Command) fails after ISSU to version NX-OS 8.4(1).
CSCvn37920	MDS 9148S Timeout drops after non-disruptive upgrade from 6.2(21) to 6.2(23).
CSCvn36429	Service "AAA Daemon" failed to store its configuration (error-id 0x80480018).
CSCvn66653	MDS9148S very high SFP temperature alarms.
CSCvn75741	Shutting down Power Supply in MDS 9148T causes Emergency level Kernel IC2 Nack errors.
CSCvn92838	Low bit error rate brings down fc interface due to bit error rate too high on 32G modules.
CSCvo11715	FC port goes into Out of Service state if out-of-service is configured in the startup-config.
CSCvo18791	MDS: SPAN fcip interface cause throttling througput.
CSCvo22269	ISSU/D from some NX-OS versions is disruptive on MDS fabric switches.
CSCvo22835	While moving IOA flow between 2 clusters, all flows are briefly suspended.
CSCvo31940	FCoE: show logging onboard txwait and rxwait shows 100% congestion during ISSU.
CSCvo72141	GPSC returns unknown, speed not established.
CSCvo74692	IPS ports on 40G linecard enter `Hardware Failure` when adjacent switch performs ISSU to 8.3(2).
CSCvo75187	'Link failure Link Reset failed nonempty recv queue' during ISSU to 8.3(2).
CSCvo76840	Update Cisco MDS 9132T, MDS 9396, MDS 9148T bios with update for spectre/meltdown microcode fix.
CSCvo78766	MDS frames stuck on ingress with DI 0x3FF(1023) when analytics is configured.
CSCvo82025	Devices unable to FLOGI in to a MDS 9718 after module x crash during ISSU.
CSCvo83319	IPS 24/10 module port software failure during ISSU.
CSCvo83652	'show logging onboard flow-control request-timeout' shows wrong Dest Intf for DI.
CSCvf08416	MDS 9132T: pam_ftp(ftp:auth): conversation failed - ftpd[8675].
CSCvp37076	MDS 9250i Bit errors on one port are attributed to a different port.



**Table 26** *Open Caveats in Cisco MDS NX-OS Release 8.2(1) (Continued)*

Identifier	Description
<a href="#">CSCvp00465</a>	IntPortLoopback tests fail after FCIP tunnels are closed from the remote side.
<a href="#">CSCvp18930</a>	Supervisor failure after port channel FOP changes.
<a href="#">CSCvp21116</a>	Memory leak causing CDP process to crash.
<a href="#">CSCvp25022</a>	MDS link won't come up with non Cisco peer at 32 Gbps.
<a href="#">CSCvp29084</a>	CPU I2C stuck - both power supply fans reported failed on MDS 9396S.
<a href="#">CSCvp34165</a>	Zone member from SNMP output should contain renamed device alias.
<a href="#">CSCvp47492</a>	MDS 9148S ports fail Link failure Link Reset failed nonempty recv queue - stay in notConnected state.
<a href="#">CSCvp59843</a>	MDS9250i: 'acl' service crash during 'copy run start' causes 0x401E0045 error.
<a href="#">CSCvp04350</a>	Invalid output when using the REST API call for show interface transceiver.
<a href="#">CSCvp10372</a>	Syslog "CARDCLIENT-3-CARDCL_ERR: cardcl_send_all_case_sse. Error on devid:49" during ISSU/ISSD.
<a href="#">CSCvq17673</a>	Connectivity lost to end devices that don't register FC4 features.
<a href="#">CSCvs45930</a>	After migration from SUP3 to SUP4 error seen while disabling analytics on range of interfaces.
<a href="#">CSCvs57660</a>	F16_PLDA_RXBUF_MERR error on a single FC ASIC results in a complete module reload.
<a href="#">CSCvs97168</a>	Kickstart pre check fails as /var folder is full with nxapi logs.
<a href="#">CSCvu28005</a>	Timeout drops seen on 32G fabric switches after ISSU.
<a href="#">CSCvw32460</a>	MDS 9718 Kernel panic due to kernel memory corruption when PC FOP index changes by 512
<a href="#">CSCvz61883</a>	Module hangs or resets after 450-460 days uptime due to 'machine check' error.

## Resolved Caveats in Cisco MDS NX-OS Release 8.1(1b)

**Table 27** *Resolved Caveats in Cisco MDS NX-OS Release 8.1(1b)*

Identifier	Description
<a href="#">CSCuz22707</a>	MDS9710 Older PSU PN/SN detected after switchover.
<a href="#">CSCva20758</a>	MDS 24/10 port SAN extension module: snmpd crash on fetching port-channel member fc port counters.
<a href="#">CSCva23686</a>	Fill word IDLE not reported correctly in port info.
<a href="#">CSCva54781</a>	show install all impact failed with free space test failed error.
<a href="#">CSCva56616</a>	ISSU should check linecard ramdisk space before attempting upgrade.
<a href="#">CSCvc62072</a>	LC module uptime is wrongly calculated.
<a href="#">CSCvc74064</a>	Call Home XML files are randomly storing in the internal flash callhome directory.
<a href="#">CSCvd43653</a>	Rare random frame drops in the absence of congestion on MDS 9700 platforms.

**Table 27 Resolved Caveats in Cisco MDS NX-OS Release 8.1(1b) (Continued)**

Identifier	Description
<a href="#">CSCvd74840</a>	OXID based traffic load balancing not working on MDS 9396S in NPV mode on NP Port-channel uplink.
<a href="#">CSCve17470</a>	Cisco MDS 32 Gbps FC modules reload when luxor hash-method is configured.
<a href="#">CSCve23084</a>	'New Zoneset <name> is significantly bigger/smaller than current active Zoneset' warning not issued.
<a href="#">CSCve50663</a>	Hardware driver crashes when initialization fails and whole module is powered down.
<a href="#">CSCve56524</a>	DM renaming vsan is adding "vsan x hash-method luxor-on" entry in running-config.
<a href="#">CSCve70443</a>	Disable Single Bit ECC Errors from being logged in Syslog Message
<a href="#">CSCvf14690</a>	Need show tech-support slowdrain for MDS 9148/9148S/9396S/9132T in NPV mode.
<a href="#">CSCvg07694</a>	Port Online RSCN sent during ISSU/D when zoned devices are on a remote switch.
<a href="#">CSCvg50844</a>	disable http and enable https in MDS switches.
<a href="#">CSCvh21454</a>	MDS 9250i or MDS 9148S spontaneously reloads.
<a href="#">CSCvh77741</a>	pwwn-based zoning cannot be mixed with other zoning modes.
<a href="#">CSCvh94844</a>	snmp-server host entry with DNS name cannot be removed.
<a href="#">CSCvj14367</a>	Regular zone changes disrupt ivr traffic.
<a href="#">CSCvj22775</a>	Devices take a long time or fail to login to 32 Gbps ports at 16 Gbps.
<a href="#">CSCvj35308</a>	ip access list for sl_def_acl show in running-config diff after copy r s.
<a href="#">CSCvj51494</a>	XBAR loopback test failures after replacing 32G FC modules with 16G FC modules.
<a href="#">CSCuv42986</a>	Callhome stops working.

## Open Caveats in Cisco MDS NX-OS Release 8.1(1b)

**Table 28 Open Caveats in Cisco MDS NX-OS Release 8.1(1b)**

Identifier	Description
<a href="#">CSCuv76123</a>	fcdomain for VSAN hung in "Principal Switch Selection ongoing".
<a href="#">CSCvc75645</a>	9396S/9148S - licmgr crashed while installing incremental port licenses.
<a href="#">CSCvf19141</a>	GLDN::m9700::<<%LIBDCDI-2-DCDI_ERR>> DATACORRUPTION-DATAINCONSISTENCY syslogs are seen after ISSU.
<a href="#">CSCvi11757</a>	FEC for 16G FICON does not interoperate with HDS 16G FICON disk arrays.
<a href="#">CSCvi81678</a>	Evaluation of N9k/N7k/N5k/N3k/MDS for LDAP CVEs March 2018.
<a href="#">CSCvk00570</a>	IPS sub interface creation for VLAN 1024 and above fails.
<a href="#">CSCvk59664</a>	Port-channel counters do not reflect the Percentage Tx credits not available.

**Table 28**      **Open Caveats in Cisco MDS NX-OS Release 8.1(1b) (Continued)**

<b>Identifier</b>	<b>Description</b>
<a href="#">CSCvn51187</a>	FPNG (FC Ping CT Command) fails after ISSU to version NX-OS 8.4(1).
<a href="#">CSCvn92838</a>	Low bit error rate brings down FC interface due to bit error rate too high on 32G modules.
<a href="#">CSCvm01925</a>	MDS fabric switches ISSU or FCNS process restart on MDS switches FCNS should not send LOGO to host.
<a href="#">CSCvn37920</a>	MDS 9148S Timeout drops after non-disruptive upgrade from 6.2(21) to 6.2(23).
<a href="#">CSCvn66653</a>	MDS9148S very high SFP temperature alarms.
<a href="#">CSCvn36429</a>	Service "AAA Daemon" failed to store its configuration (error-id 0x80480018).
<a href="#">CSCvm74476</a>	Unable to unconfigure NTP server after ntp sync-retry fails on MDS platform.
<a href="#">CSCvm77301</a>	True Copy pair creation fails with WA enabled and 2 MCU/RCU targets.
<a href="#">CSCvk21939</a>	MDS 9700 ports can go to notConnected state after reload or when several ports flapped.
<a href="#">CSCvo22269</a>	ISSU/D from some NX-OS versions is disruptive on MDS fabric switches.
<a href="#">CSCvo72141</a>	GPSC returns unknown, speed not established.
<a href="#">CSCvo74692</a>	IPS ports on 40G linecard enter `Hardware Failure` when adjacent switch performs ISSU to 8.3(2).
<a href="#">CSCvo75187</a>	'Link failure Link Reset failed nonempty recv queue' during ISSU to 8.3(2).
<a href="#">CSCvo78766</a>	MDS frames stuck on ingress with DI 0x3FF(1023) when analytics is configured.
<a href="#">CSCvo82025</a>	Devices unable to FLOGI in to a MDS 9718 after module x crash during ISSU.
<a href="#">CSCvo83319</a>	IPS 24/10 module port software failure during ISSU.
<a href="#">CSCvo83652</a>	'show logging onboard flow-control request-timeout' shows wrong Dest Intf for DI.
<a href="#">CSCvo11715</a>	FC port goes into Out of Service state if out-of-service is configured in the startup-config.
<a href="#">CSCvo22835</a>	While moving IOA flow between 2 clusters, all flows are briefly suspended.
<a href="#">CSCvo18791</a>	MDS: SPAN fcip interface cause throttling throughtput.
<a href="#">CSCvp37076</a>	MDS 9250i Bit errors on one port are attributed to a different port.
<a href="#">CSCvp00465</a>	IntPortLoopback tests fail after FCIP tunnels are closed from the remote side.
<a href="#">CSCvp18930</a>	Supervisor failure after port channel FOP changes.
<a href="#">CSCvp21116</a>	Memory leak causing CDP process to crash.
<a href="#">CSCvp25022</a>	MDS link won't come up with non Cisco peer at 32 Gbps.
<a href="#">CSCvp29084</a>	CPU I2C stuck - both power supply fans reported failed on MDS 9396S.
<a href="#">CSCvp34165</a>	Zone member from SNMP output should contain renamed device alias.
<a href="#">CSCvp47492</a>	MDS 9148S ports fail Link failure Link Reset failed nonempty recv queue - stay in notConnected state.
<a href="#">CSCvp59843</a>	MDS9250i: 'acl' service crash during 'copy run start' causes 0x401E0045 error.
<a href="#">CSCvp04350</a>	Invalid output when using the REST API call for show interface transceiver.

**Table 28**      **Open Caveats in Cisco MDS NX-OS Release 8.1(1b) (Continued)**

Identifier	Description
<a href="#">CSCvp10372</a>	Syslog "CARDCLIENT-3-CARDCL_ERR: cardcl_send_all_case_sse. Error on devid:49" during ISSU/ISSD.
<a href="#">CSCvs45930</a>	After migration from SUP3 to SUP4 error seen while disabling analytics on range of interfaces.
<a href="#">CSCvs57660</a>	F16_PLDA_RXBUF_MERR error on a single FC ASIC results in a complete module reload.
<a href="#">CSCvs97168</a>	Kickstart pre check fails as /var folder is full with nxapi logs.
<a href="#">CSCvu28005</a>	Timeout drops seen on 32G fabric switches after ISSU.
<a href="#">CSCvw32460</a>	MDS 9718 Kernel panic due to kernel memory corruption when PC FOP index changes by 512
<a href="#">CSCvz61883</a>	Module hangs or resets after 450-460 days uptime due to 'machine check' error.

## Resolved Caveats in Cisco MDS NX-OS Release 8.1(1a)

**Table 29**      **Resolved Caveats in Cisco MDS NX-OS Release 8.1(1a)**

Identifier	Description
<a href="#">CSCve51462</a>	Internal counters in the flogi component are incrementing when flogi is retried with different arguments.
<a href="#">CSCuv42986</a>	Callhome stops working.
<a href="#">CSCvb76482</a>	RDP request for local port/remote port query gets an additional ELS response.
<a href="#">CSCvb93701</a>	ISSU/D fails on MDS 9706/9710 with 'bootflash busy' error; seg fault while mounting bootflash.
<a href="#">CSCvc04449</a>	VL credits configured in Congestion Isolation mode gets lost after toggling the feature.
<a href="#">CSCvc16087</a>	Port Assert Seen On Reloading 24/10 SAN extension Module having FCIP Tunnels.
<a href="#">CSCvd87879</a>	Link will not come up when credits configured is less than 34 in congestion-isolation mode.
<a href="#">CSCvd89879</a>	USB is not detected in MDS 9148s and MDS 9396s switch with 8.1(1) image.
<a href="#">CSCve10201</a>	No traffic sent across an FCIP interface with tcp max-bandwidth-mbps 33 or less.
<a href="#">CSCve27707</a>	Base port should not checkout licenses in smart mode for 9148s,9250i,9396s.
<a href="#">CSCve29398</a>	Zone server fails when a zone has 255+ members.
<a href="#">CSCve53588</a>	Congestion-isolation feature not isolating slow device when ISSU to NX-OS 8.1(1).
<a href="#">CSCve76170</a>	MDS 9148s and 9396s - init system results in corrupted bootflash.
<a href="#">CSCvf68489</a>	FICON: Fcd hap reset (heartbeat loss) during ISSU & upgrade aborts.

**Table 29 Resolved Caveats in Cisco MDS NX-OS Release 8.1(1a) (Continued)**

Identifier	Description
<a href="#">CSCvf99665</a>	ISSU/D fails with bootflash busy err; seg fault mounting bootflash (not mounted).
<a href="#">CSCvg02575</a>	Kernel panic on fabric switch during ISSU to or ISSD from 8.1(1).
<a href="#">CSCvh30932</a>	IP access list corruption after NX-OS upgrade.
<a href="#">CSCvh99074</a>	'show tech-support' subcommand on a fully loaded MDS 9700 fails and exits.

## Open Caveats in Cisco MDS NX-OS Release 8.1(1a)

**Table 30 Open Caveats in Cisco MDS NX-OS Release 8.1(1a)**

Identifier	Description
<a href="#">CSCCuv76123</a>	fedomain for VSAN hung in "Principal Switch Selection ongoing".
<a href="#">CSCCvc75645</a>	9396S/9148S - licmgr crashed while installing incremental port licenses.
<a href="#">CSCCvd94841</a>	Cisco DCNM SAN Client FCIP Wizard fails to configure FCIP tunnels on DS-X9334-K9 module.
<a href="#">CSCCvh21454</a>	MDS9250i or MDS9148S reloads due to kernel panic.
<a href="#">CSCCvi11757</a>	FEC for 16G FICON does not interoperate with HDS 16G FICON disk arrays.
<a href="#">CSCCvi81678</a>	Evaluation of N9k/N7k/N5k/N3k/MDS for LDAP CVEs March 2018.
<a href="#">CSCCvj22775</a>	Devices take a long time or fail to login to 32 Gbps ports at 16 Gbps.
<a href="#">CSCCvj40760</a>	ISSU from 6.2(21) to 8.1(1a) is incorrectly disruptive for all FC ports all platforms.
<a href="#">CSCCvk59664</a>	Port-channel counters do not reflect the Percentage Tx credits not available.
<a href="#">CSCCvk00570</a>	IPS sub interface creation for VLAN 1024 and above fails.
<a href="#">CSCCvk27502</a>	MDS9000:If ip name-server configured in switch, LDAP authentication failing.
<a href="#">CSCCvk21939</a>	MDS 9700 ports can go to notConnected state after reload or when several ports flapped.
<a href="#">CSCCvm74476</a>	Unable to unconfigure NTP server after ntp sync-retry fails on MDS platform.
<a href="#">CSCCvn37920</a>	MDS 9148S Timeout drops after non-disruptive upgrade from 6.2(21) to 6.2(23).
<a href="#">CSCCvn51187</a>	FPNG (FC Ping CT Command) fails after ISSU to version NX-OS 8.4(1).
<a href="#">CSCCvn66653</a>	MDS9148S very high SFP temperature alarms.
<a href="#">CSCCvn95605</a>	Callhome HTTP does not transport message for MDS OS version 8.x
<a href="#">CSCCvn92838</a>	Low bit error rate brings down FC interface due to bit error rate too high on 32G modules.
<a href="#">CSCCvn36429</a>	Service "AAA Daemon" failed to store its configuration (error-id 0x80480018).
<a href="#">CSCCvm01925</a>	MDS fabric switches ISSU or FCNS process restart on MDS switches FCNS should not send LOGO to host.
<a href="#">CSCCvo72141</a>	GPSC returns unknown, speed not established.

**Table 30 Open Caveats in Cisco MDS NX-OS Release 8.1(1a) (Continued)**

Identifier	Description
CSCvo74692	IPS ports on 40G linecard enter `Hardware Failure` when adjacent switch performs ISSU to 8.3(2).
CSCvo75187	'Link failure Link Reset failed nonempty recv queue' during ISSU to 8.3(2).
CSCvo78766	MDS frames stuck on ingress with DI 0x3FF(1023) when analytics is configured.
CSCvo22835	While moving IOA flow between 2 clusters, all flows are briefly suspended.
CSCvo82025	Devices unable to FLOGI in to a MDS 9718 after module x crash during ISSU.
CSCvo83319	IPS 24/10 module port software failure during ISSU.
CSCvo83652	'show logging onboard flow-control request-timeout' shows wrong Dest Intf for DI.
CSCvo11715	FC port goes into Out of Service state if out-of-service is configured in the startup-config.
CSCvo18791	MDS: SPAN fcip interface cause throttling throughtput.
CSCvo22269	ISSU/D from some NX-OS versions is disruptive on MDS fabric switches.
CSCvm77301	True Copy pair creation fails with WA enabled and 2 MCU/RCU targets.
CSCvp37076	MDS 9250i Bit errors on one port are attributed to a different port.
CSCvp00465	IntPortLoopback tests fail after FCIP tunnels are closed from the remote side.
CSCvp18930	Supervisor failure after port channel FOP changes.
CSCvp21116	Memory leak causing CDP process to crash.
CSCvp25022	MDS link won't come up with non Cisco peer at 32 Gbps.
CSCvp29084	CPU I2C stuck - both power supply fans reported failed on MDS 9396S.
CSCvp34165	Zone member from SNMP output should contain renamed device alias.
CSCvp47492	MDS 9148S ports fail Link failure Link Reset failed nonempty recv queue - stay in notConnected state.
CSCvp59843	MDS9250i: 'acl' service crash during 'copy run start' causes 0x401E0045 error.
CSCvp04350	Invalid output when using the REST API call for show interface transceiver.
CSCvp10372	Syslog "CARDCLIENT-3-CARDCL_ERR: cardcl_send_all_case_sse. Error on devid:49" during ISSU/ISSD.
CSCvs45930	After migration from SUP3 to SUP4 error seen while disabling analytics on range of interfaces.
CSCvs57660	F16_PLDA_RXBUF_MERR error on a single FC ASIC results in a complete module reload.
CSCvs97168	Kickstart pre check fails as /var folder is full with nxapi logs.
CSCvu28005	Timeout drops seen on 32G fabric switches after ISSU.
CSCvw32460	MDS 9718 Kernel panic due to kernel memory corruption when PC FOP index changes by 512
CSCvz61883	Module hangs or resets after 450-460 days uptime due to 'machine check' error.

## Resolved Caveats in Cisco MDS NX-OS Release 8.1(1)

**Table 31** *Resolved Caveats in Cisco MDS NX-OS Release 8.1(1)*

Identifier	Description
<a href="#">CSCus21289</a>	mts set options returned -1 errno=2 for pid=7286 opc=106513.
<a href="#">CSCuu23485</a>	OpenSSL to CISCO SSL Migration for Vulnerability Fixes.
<a href="#">CSCuw78551</a>	MDS9250i IPStorage port is in init state though connected switch is up.
<a href="#">CSCux20090</a>	Unable to attach module on MDS fabric switch.
<a href="#">CSCuy04686</a>	Changing user password results in clear text sent to TACACS server logs.
<a href="#">CSCuy20167</a>	Remove the second "txbytes compressed" for auto compression.
<a href="#">CSCuy60295</a>	Fix potential code path for ACL TCAM usage going negative.
<a href="#">CSCuy96388</a>	Unable to install port activation license on MDS 9396S and 9148S.
<a href="#">CSCuz07307</a>	Getting password prompt even when entering password in copy ftp command.
<a href="#">CSCuz33342</a>	Logging level port link-failure critical fails to work after ISSU.
<a href="#">CSCuz55997</a>	Fan hardware info not displayed.
<a href="#">CSCva64432</a>	Switch Accepts GPN_ID when port is already offline.
<a href="#">CSCva64534</a>	Include "sh system internal kernel nvram-messages previous" in show tech.
<a href="#">CSCvb17477</a>	MDS 9500: Power Supply capacity shows n/a on DM after powering off/on PSU.
<a href="#">CSCvb18873</a>	During port-mon initialization LC configuration download fails.
<a href="#">CSCvb21271</a>	Enable per-process memory usage limit on MDS linecards.
<a href="#">CSCvb26079</a>	Port-monitor does not alert sync-loss when port is flapping continuously.
<a href="#">CSCvb68546</a>	NX-OS "show tech ivr" missing asterisks for active IVR zoneset.
<a href="#">CSCvb94242</a>	MDS 9396S PSU#2 fan failure alerts flapping.
<a href="#">CSCvc17723</a>	Port crashes during Port license installation.
<a href="#">CSCvc23058</a>	Spurious SFP alarms.
<a href="#">CSCvc23945</a>	Implement proper validation of WWN in port security.
<a href="#">CSCvc23955</a>	Certain WWNs erroneously declared invalid.
<a href="#">CSCvc43884</a>	Switch crash due to acl hap reset.
<a href="#">CSCvc55114</a>	Module fails to initialize when ports in speed group 10g and switchport fcrxbbcredit extended.
<a href="#">CSCvc62286</a>	LDAP rootDN has an extra ' ' in debug if it has the value "dc=il" and LDAP is failing.
<a href="#">CSCvc69321</a>	'install all' command blocked after original 'install' command session is terminated.
<a href="#">CSCvc97863</a>	'aclcam' service crashes on MDS with IVR configuration.
<a href="#">CSCvd47149</a>	LUN zoning is not supported when zone commit is done.

**Table 31** *Resolved Caveats in Cisco MDS NX-OS Release 8.1(1)*

Identifier	Description
<a href="#">CSCvd49251</a>	FICON FTA - Crash on CU side when running multiple DFDSS dumps to IBM 3500 tape system.
<a href="#">CSCvd49500</a>	MDS 9396S Fan hardware PID not accurate.

## Open Caveats in Cisco MDS NX-OS Release 8.1(1)

**Table 32** *Open Caveats in Cisco MDS NX-OS Release 8.1(1)*

Identifier	Description
<a href="#">CSCuv76123</a>	fcdomain for VSAN hung in “Principal Switch Selection ongoing”.
<a href="#">CSCve51462</a>	Internal counters in the flogi component are incrementing when flogi is retried with different arguments.
<a href="#">CSCvb76482</a>	RDP request for local port/remote port query gets an additional ELS response.
<a href="#">CSCvb93701</a>	ISSU/D fails on MDS 9706/9710 with 'bootflash busy' error; seg fault while mounting bootflash.
<a href="#">CSCvc04449</a>	VL credits configured in Congestion Isolation mode gets lost after toggling the feature.
<a href="#">CSCvc16087</a>	Port Assert Seen On Reloading 24/10 SAN extension Module having FCIP Tunnels.
<a href="#">CSCvc75645</a>	9396S/9148S - licmgr crashed while installing incremental port licenses.
<a href="#">CSCvd43653</a>	Rare random frame drops in the absence of congestion on MDS 9700 platforms.
<a href="#">CSCvd87879</a>	Link will not come up when credits configured is less than 34 in congestion-isolation mode.
<a href="#">CSCvd89879</a>	USB is not detected in MDS 9148s and MDS 9396s switch with 8.1(1) image.
<a href="#">CSCvd94841</a>	DCNM SAN Client FCIP Wizard Fails To configure FCIP Tunnels on DS-X9334-K9 module.
<a href="#">CSCve10201</a>	No traffic sent across an FCIP interface with tcp max-bandwidth-mbps 33 or less.
<a href="#">CSCve27707</a>	Base port should not checkout licenses in smart mode for 9148s,9250i,9396s.
<a href="#">CSCve29398</a>	Zone server fails when a zone has 255+ members.
<a href="#">CSCve53588</a>	Congestion-isolation feature not isolating slow device when ISSU to NX-OS 8.1(1).
<a href="#">CSCve76170</a>	MDS 9148s and 9396s - init system results in corrupted bootflash.
<a href="#">CSCvf68489</a>	FICON: Fcd hap reset (heartbeat loss) during ISSU & upgrade aborts.
<a href="#">CSCvf99665</a>	ISSU/D fails with bootflash busy err; seg fault mounting bootflash (not mounted).
<a href="#">CSCvg02575</a>	Kernel panic on fabric switch during ISSU to or ISSD from 8.1(1).
<a href="#">CSCvh21454</a>	MDS9250i or MDS9148S reloads due to kernel panic.
<a href="#">CSCvh30932</a>	IP access list corruption after NX-OS upgrade.



**Table 32 Open Caveats in Cisco MDS NX-OS Release 8.1(1) (Continued)**

Identifier	Description
<a href="#">CSCvi81678</a>	Evaluation of N9k/N7k/N5k/N3k/MDS for LDAP CVEs March 2018.
<a href="#">CSCvj22775</a>	Devices take a long time or fail to login to 32 Gbps ports at 16 Gbps.
<a href="#">CSCvm74476</a>	Unable to unconfigure NTP server after ntp sync-retry fails on MDS platform.
<a href="#">CSCvm01925</a>	MDS fabric switches ISSU or FCNS process restart on MDS switches FCNS should not send LOGO to host.
<a href="#">CSCvm77301</a>	True Copy pair creation fails with WA enabled and 2 MCU/RCU targets.
<a href="#">CSCvn37920</a>	MDS 9148S Timeout drops after non-disruptive upgrade from 6.2(21) to 6.2(23).
<a href="#">CSCvn36429</a>	Service "AAA Daemon" failed to store its configuration (error-id 0x80480018).
<a href="#">CSCvn51187</a>	FPNG (FC Ping CT Command) fails after ISSU to version NX-OS 8.4(1).
<a href="#">CSCvn92838</a>	Low bit error rate brings down fc interface due to bit error rate too high on 32G modules.
<a href="#">CSCvo22269</a>	ISSU/D from some NX-OS versions is disruptive on MDS fabric switches.
<a href="#">CSCvk00570</a>	IPS sub interface creation for VLAN 1024 and above fails.
<a href="#">CSCvk27502</a>	MDS9000:If ip name-server configured in switch, LDAP authentication failing.
<a href="#">CSCvk59664</a>	Port-channel counters do not reflect the Percentage Tx credits not available.
<a href="#">CSCvk21939</a>	MDS 9700 ports can go to notConnected state after reload or when several ports flapped.
<a href="#">CSCvo72141</a>	GPSC returns unknown, speed not established.
<a href="#">CSCvo74692</a>	IPS ports on 40G linecard enter `Hardware Failure` when adjacent switch performs ISSU to 8.3(2).
<a href="#">CSCvo75187</a>	'Link failure Link Reset failed nonempty recv queue' during ISSU to 8.3(2).
<a href="#">CSCvo78766</a>	MDS frames stuck on ingress with DI 0x3FF(1023) when analytics is configured.
<a href="#">CSCvo82025</a>	Devices unable to FLOGI in to a MDS 9718 after module x crash during ISSU.
<a href="#">CSCvo22835</a>	While moving IOA flow between 2 clusters, all flows are briefly suspended.
<a href="#">CSCvo83319</a>	IPS 24/10 module port software failure during ISSU.
<a href="#">CSCvo83652</a>	'show logging onboard flow-control request-timeout' shows wrong Dest Intf for DI.
<a href="#">CSCvo11715</a>	FC port goes into Out of Service state if out-of-service is configured in the startup-config.
<a href="#">CSCvo18791</a>	MDS: SPAN fcip interface cause throttling througput.
<a href="#">CSCvp37076</a>	MDS 9250i Bit errors on one port are attributed to a different port.
<a href="#">CSCvp00465</a>	IntPortLoopback tests fail after FCIP tunnels are closed from the remote side.
<a href="#">CSCvp18930</a>	Supervisor failure after port channel FOP changes.
<a href="#">CSCvp21116</a>	Memory leak causing CDP process to crash.
<a href="#">CSCvp25022</a>	MDS link won't come up with non Cisco peer at 32 Gbps.
<a href="#">CSCvp29084</a>	CPU I2C stuck - both power supply fans reported failed on MDS 9396S.

**Table 32**      **Open Caveats in Cisco MDS NX-OS Release 8.1(1) (Continued)**

Identifier	Description
<a href="#">CSCvp34165</a>	Zone member from SNMP output should contain renamed device alias.
<a href="#">CSCvp47492</a>	MDS 9148S ports fail Link failure Link Reset failed nonempty recv queue - stay in notConnected state.
<a href="#">CSCvp59843</a>	MDS9250i: 'acl' service crash during 'copy run start' causes 0x401E0045 error.
<a href="#">CSCvp04350</a>	Invalid output when using the REST API call for show interface transceiver.
<a href="#">CSCvp10372</a>	Syslog "CARDCLIENT-3-CARDCL_ERR: cardcl_send_all_case_sse. Error on devid:49" during ISSU/ISSD.
<a href="#">CSCvs45930</a>	After migration from SUP3 to SUP4 error seen while disabling analytics on range of interfaces.
<a href="#">CSCvs57660</a>	F16_PLDA_RXBUF_MERR error on a single FC ASIC results in a complete module reload.
<a href="#">CSCvs97168</a>	Kickstart pre check fails as /var folder is full with nxapi logs.
<a href="#">CSCvu28005</a>	Timeout drops seen on 32G fabric switches after ISSU.
<a href="#">CSCvw32460</a>	MDS 9718 Kernel panic due to kernel memory corruption when PC FOP index changes by 512
<a href="#">CSCvz61883</a>	Module hangs or resets after 450-460 days uptime due to 'machine check' error.

## 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)

## Release Notes

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

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## 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>

## 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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