Cisco MDS 9000 Series Release Notes, Release 8.5(1)

This document describes the features, issues, and deployment guidelines for the Cisco MDS NX-OS software for the use on the Cisco MDS 9000 Series Switches.

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

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

Date	Description
November 06, 2023	Added CSCvv93277 in the Resolved Caveats section.
July 03, 2023	Added CSCwe08911 in the Open Caveats section.
June 16, 2023	Add restriction for over subscription caused by FPIN notifications.
April 04, 2023	Added CSCvw32460 in the Resolved Caveats section.
March 16, 2023	Added CSCwb48133 in the Open Caveats section.
March 23, 2022	Added CSCwb14523 in the Open Caveats section.
March 2, 2022	Added CSCwb07996 in the Open Caveats section.
December 15, 2021	Added CSCuv76123 in the Open Caveats section.
September 20, 2021	Added CSCvz09012 in the Open Caveats section.
August 26, 2021	Added ISSD guideline for OBFL TxWait.
July 9, 2021	Added CSCvu52058 in the Resolved Caveats section.
May 21, 2021	Updated the nondisruptive upgrade and downgrade paths for Cisco MDS NX-OS Release 8.4(2c).
April 16, 2021	Added CSCvy01176 in the Open Caveats section. Added CSCvk36805 in the Resolved Caveats section. Also, updated the nondisruptive upgrade and downgrade paths.
April 7, 2021	Added CSCvx69774 in the Open Caveats section.
March 31, 2021	Added CSCvx45711 in the Open Caveats section.
March 9, 2021	Added CSCvs83114, CSCvw35209, CSCvw64733, CSCvw91963, CSCvx06226, CSCvx11676, CSCvx19452, and CSCvx20461 in the Open Caveats section.
March 4, 2021	Added CSCvv99177 and CSCvx56588 in the Open Caveats section.
February 24, 2021	Initial release.

Introduction

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

About Software Images

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

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

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

Choosing Between Cisco MDS NX-OS Open Systems Releases

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

Details about the new features and hardware supported by Cisco MDS NX-OS Release 8.5(1) can be found in the New Hardware and Software Features section. 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

Cisco MDS NX-OS Release 8.5(1) is not IBM FICON qualified. For more information on releases that are IBM FICON qualified, see http://www.cisco.com/c/en/us/support/storage-networking/mds-9000-nx-os-san-os-software/products-release-notes-list.html.

Upgrading Cisco MDS NX-OS Software Image

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

- General Upgrading Guidelines

- Open Systems Nondisruptive Upgrade Paths

For detailed instructions for performing a software upgrade using Cisco DCNM, see the Cisco DCNM Release Notes.

General Upgrading Guidelines

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

- Install and configure dual supervisor modules before the upgrade.

- Issue the **show install all impact** *upgrade-image* command to determine if the upgrade will be nondisruptive.

- Some features are impacted whether an upgrade is disruptive or nondisruptive:

  ◦ **Fibre Channel Ports**: Fibre Channel ports can be nondisruptively upgraded without affecting traffic on the ports. See the "Open Systems Nondisruptive Upgrade Paths" section for all MDS NX-OS releases.

  ◦ **Fibre Channel over Ethernet (FCoE) Ports**: FCoE ports can be nondisruptively upgraded without affecting traffic on the ports. See the "Open Systems Nondisruptive Upgrade Paths" section for all MDS NX-OS releases.

  ◦ **IP Storage (IPS) Ports**: Traffic on IPS ports on Cisco MDS 9220i, MDS 9250i, and Cisco MDS 24/10-Port SAN Extension Modules is disrupted during an upgrade or downgrade. Nodes that are members of VSANs traversing an FCIP ISL are impacted, and a fabric reconfiguration may occur. If supported, iSCSI initiators connected to the IPS ports lose connectivity to iSCSI targets while the upgrade is in progress.

    Note: In addition to these guidelines, review the information in the "Limitations and Restrictions" section before a software upgrade to determine if a feature may possibly behave differently following the upgrade.

  ◦ To upgrade or downgrade to a Cisco MDS NX-OS release version, the same release version of the kickstart and system images in the install all command must be used.

  ◦ If you are upgrading Cisco MDS 9700 Series Directors from Cisco MDS NX-OS Release 8.3(1), Release 8.3(2), Release 8.4(1), or Release 8.4(1a) to Release 8.4(2) or later, ensure that you perform a switchover before upgrading. For more information, see CSCvt87216.

Open Systems Nondisruptive Upgrade Paths

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

Note: If the SAN Analytics feature is enabled, then disable the SAN Analytics feature using the **no feature analytics** command before upgrading from Cisco MDS NX-OS 8.2(x) or Cisco MDS NX-OS 8.3(x) to Cisco MDS NX-OS Release 8.5(1). However, you can upgrade from Cisco MDS NX-OS Release 8.4(1) and above releases to Cisco MDS NX-OS Release 8.5(1) without disabling the feature.

Table 1. Nondisruptive Upgrade Paths to Cisco MDS NX-OS Release 8.5(1)

Target Release	Nondisruptive Upgrade Paths and Ordered Upgrade Steps
MDS NX-OS:	

Target Release	Nondisruptive Upgrade Paths and Ordered Upgrade Steps	
8.4(2c)[1]	Step 1.	Downgrade directly to MDS NX-OS Release 8.4(2b)
	Step 2.	Upgrade to MDS NX-OS Release 8.5(1)
8.1(1) until 8.4(2b)	Upgrade directly to MDS NX-OS Release 8.5(1)	
All 7.3(x) releases	Step 3.	Upgrade directly to MDS NX-OS Release 8.1(1b)
	Step 4.	Upgrade to MDS NX-OS Release 8.5(1)
6.2(29) and above releases	Step 1.	Upgrade directly to MDS NX-OS Release 8.1(1b), Release 8.4(2), Release 8.4(2a), or Release 8.4(2b)
	Step 2.	Upgrade to MDS NX-OS Release 8.5(1)
6.2(13a) until 6.2(27)	Step 1.	Upgrade directly to MDS NX-OS Release 8.1(1b)
	Step 2.	Upgrade to MDS NX-OS Release 8.5(1)
All 6.2(x) releases prior to 6.2(13a)	Step 1.	Upgrade directly to MDS NX-OS Release 6.2(13a)
	Step 2.	Upgrade to MDS NX-OS Release 8.1(1b)
	Step 3.	Upgrade to MDS NX-OS Release 8.5(1)

Downgrading Cisco MDS NX-OS Software Image

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

- General Downgrading Guidelines
- Open Systems Nondisruptive Downgrade Paths

General Downgrading Guidelines

Follow these general guidelines before performing a software downgrade:

- Disable all features that are not supported by the downgrade release. Use the **show incompatibility system** *downgrade-image* command to determine the features that needs to be disabled.

- Use the **show install all impact** *downgrade-image* command to determine if the downgrade is nondisruptive.

- The following features are impacted during a downgrade, whether it is a nondisruptive downgrade or a disruptive downgrade:

  ◦ **Fibre Channel Ports**: Fibre Channel ports can be nondisruptively downgraded without affecting traffic on the ports. See the "Open Systems Nondisruptive Downgrade Paths" section for all MDS NX-OS releases.

  ◦ **Fibre Channel over Ethernet (FCoE) Ports**: FCoE ports can be nondisruptively downgraded without affecting traffic on the ports. See the "Open Systems Nondisruptive Downgrade Paths" section for all MDS NX-OS releases.

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[1] Upgrading from Cisco MDS NX-OS Release 8.4(2c) directly to Cisco MDS NX-OS Release 8.5(1) is not supported. To perform this upgrade, set the boot variables and reload the switch - this process is disruptive. To upgrade nondisruptively, first downgrade from Cisco MDS NX-OS Release 8.4(2c) to an earlier release and from there upgrade to Cisco MDS NX-OS Release 8.5(1). For more information, see CSCvx99164.

- **FCoE Port**: FCoE ports can be nondisruptively downgraded without affecting traffic on the ports.

- **IPS Ports**: Traffic on IPS ports on Cisco MDS 9220i, MDS 9250i, and Cisco MDS 24/10-Port SAN Extension Modules is disrupted during an upgrade or downgrade. Nodes that are members of VSANs traversing an FCIP ISL are impacted, and a fabric reconfiguration may occur. If supported, iSCSI initiators connected to the IPS ports lose connectivity to iSCSI targets while the upgrade is in progress.

Find the MDS NX-OS image that you want to downgrade to in the To MDS NX-OS Release column of the Table 2 and follow the steps in the order specified to perform the downgrade.

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

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

Note: 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*.

ISSD Guidelines for Cisco MDS 9396S Switch

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

- Downgrading from Cisco MDS NX-OS Release 8.x to Cisco MDS NX-OS Release 6.2(13) is not supported on the Cisco MDS 9396S Multilayer Fabric Switch. The minimum recommended image for Cisco MDS 9396S Multilayer Fabric Switch is 6.2(13a).

ISSD Guidelines for Cisco MDS 9250i Switch

- Downgrading from Cisco MDS NX-OS Release 8.x to Cisco MDS NX-OS Release 7.3(0)D1(1), or 6.2(13a) and lower is not supported on a Cisco MDS 9250i Switch which has only one online PSU.

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

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

Open Systems Nondisruptive Downgrade Paths

- Downgrading directly from Cisco MDS NX-OS Release 8.1(1) and Release 8.1(1b) to releases before Cisco MDS NX-OS Release 6.2(9) is not supported. In such a scenario, we recommend that you first downgrade to Cisco MDS NX-OS Release 6.2(13a) or higher and then downgrade to the required release.

- Downgrading directly from Cisco MDS NX-OS Release 8.1(1) to Cisco MDS NX-OS Release 7.3(0)DY(1) is not supported. In such a scenario, we recommend that you first downgrade to Cisco MDS NX-OS Release 7.3(0)D1(1) and then upgrade to 7.3(0)DY(1).

- Downgrading directly from Cisco MDS NX-OS Release 8.1(1) to Cisco MDS NX-OS Release 7.3(1)DY(1) is not supported. In such a scenario, we recommend that you first downgrade to Cisco MDS NX-OS Release 7.3(0)D1(1) and then upgrade to 7.3(1)DY(1).

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

Table 2.   Nondisruptive Downgrade Paths from NX-OS Release 8.5(1)

Target Release	Nondisruptive Downgrade Paths and Ordered Downgrade Steps	
MDS NX-OS:		
8.4(2c)[2]	**Step 1.**	Downgrade directly to MDS NX-OS Release 8.4(2b)
	Step 2.	Upgrade to MDS NX-OS Release 8.4(2c)
8.1(1) until 8.4(2b)	Downgrade to the target release	
All 7.3(x) releases	**Step 1.**	Downgrade directly to MDS NX-OS Release 8.1(1b)
	Step 2.	Downgrade to the target release
6.2(29) and above releases	**Step 1.**	Downgrade directly to MDS NX-OS Release 8.1(1b), Release 8.4(2), Release 8.4(2a), or Release 8.4(2b)
	Step 2.	Downgrade to the target release
6.2(13a) until 6.2(27)	**Step 1.**	Downgrade directly to MDS NX-OS Release 8.1(1b)
	Step 2.	Downgrade to the target release
All 6.2(x) releases prior to 6.2(13a)	**Step 1.**	Downgrade directly to MDS NX-OS Release 8.1(1b)
	Step 2.	Downgrade to MDS NX-OS Release 6.2(13a)
	Step 3.	Downgrade to the target release

New Hardware and Software Features

- New Hardware Features in Cisco MDS NX-OS Release 8.5(1)
- New Software Features and Enhancements in Cisco MDS NX-OS Release 8.5(1)

New Hardware Features in Cisco MDS NX-OS Release 8.5(1)

Cisco MDS 9220i Fabric Switch

The Cisco MDS 9220i Fabric switch is a powerful and compact 1-rack unit (1RU) SAN fabric switch with SAN extension capabilities. For more information, see *Cisco MDS 9220i Fabric Switch Hardware Installation Guide*.

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[2] Downgrading from Cisco MDS NX-OS Release 8.5(1) directly to Cisco MDS NX-OS Release 8.4(2c) is not supported. To perform this downgrade, set the boot variables and reload the switch - this process is disruptive. To downgrade nondisruptively, first downgrade from Cisco MDS NX-OS Release 8.5(1) to Cisco MDS NX-OS Release 8.4(2b) and from there upgrade to Cisco MDS NX-OS Release 8.4(2c). For more information, see CSCvx99164.

New Software Features and Enhancements in Cisco MDS NX-OS Release 8.5(1)

Congestion Isolation

This feature is now handled by Fabric Performance Monitor (FPM).

The following commands were introduced:

- **feature fpm**
- **fpm congested-device {exclude | static} list**
- **member pwwn** *pwwn* **vsan** *id* [**credit-stall**]

The following commands were deprecated:

- **congestion-isolation {include | exclude} pwwn** *pwwn* **vsan** *vsan-id*
- **feature congestion-isolation**
- **show congestion-isolation {exclude-list | global-list | ifindex-list | include-list | pmon-list | remote-list | status}**

For more information, see the "Congestion Management" section in *Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x*.

Congestion Isolation Recovery

The Congestion Isolation Recovery feature automatically recovers flows, which were moved to the low priority virtual link, after they have not exhibited any slow indications for a specified time. The recovered flows are moved back to the normal virtual link.

The **port-monitor cong-isolation-recover** {**recovery-interval** *seconds* | **isolate-duration** *hours* **num-occurrence** *number*} command was introduced.

The **counter** port monitor command was modified to add the **cong-isolate-recover** portguard action.

For more information, see the "Congestion Management" section in *Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x*.

Fabric Notifications

Note: The Fabric Notification – FPIN and Congestion Signal feature is currently in preview (beta) status for use in non-production environment only. Contact your account teams or Cisco MDS marketing team to understand the use case before enabling this feature. This preview (beta) status and restriction will change to regular production status in an upcoming release.

Fabric Notifications are used to notify end devices of performance impacting conditions and behaviors that affect the normal flow of IO such as link integrity degradation and congestion.

The following commands were introduced:

- **feature fpm**
- **fpm congested-device {exclude | static} list**
- **member pwwn** *pwwn* **vsan** *id* [**credit-stall**]
- **fpm congested-device recover pwwn** *pwwn* **vsan** *id*
- **fpm fpin period** *seconds*

- **fpm congestion-signal period** *seconds*
- **show fpm {fpin | registration {congestion-signal | summary} | congested-device database {exclude | local | remote | static}} vsan** *id*
- The **counter** port monitor command was modified to add the **FPIN** portguard action.

For more information, see the "Congestion Management" section in *Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x*.

Dynamic Ingress Rate Limiting (DIRL)

DIRL is a new congestion mitigation feature in MDS. It will incrementally limit the ingress rate of traffic on an interface that has been detected to cause congestion. By limiting the ingress rate of traffic, congestion will be reduced or eliminated in the fabric.
DIRL is supported on Cisco MDS 9132T, MDS 9148T, MDS 9220i, and MDS 9396T switches and is not supported on Cisco MDS 9250i, MDS 9148S, and MDS 9396S switches.

DIRL is supported on MDS 9706, MDS 9710, and MDS 9718 switches using 48-port 32-Gbps Fibre Channel Switch module and 48-port 64-Gbps Fibre Channel Switch module and is not supported on Cisco MDS 9700 48-Port 16-Gbps Fibre Channel Switching Module and Cisco MDS 9700 24/10-Port SAN Extension Module.

The following commands were introduced:

- **fpm dirl {exclude list | reduction** *percentage* **recovery** *percentage*}
- **member {fc4-feature target | interface fc** *slot/port*}
- **fpm dirl recover interface fc** *slot/port*
- **show fpm {dirl exclude | fpin vsan** *id* **| ingress-rate-limit {events | status} interface fc** *slot/port*}
- The **counter** port monitor command was modified to add the **DIRL** portguard action.

For more information, see the "Congestion Management" section in *Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x*.

Port Monitor Portguard Action for FPIN

Note: The Fabric Notification—FPIN and Congestion Signal feature is currently in preview (beta) status for use in non-production environment only. Contact your account teams or Cisco MDS marketing team to understand the use case before enabling this feature. This preview (beta) status and restriction will change to regular production status in an upcoming release.

A new portguard action **FPIN** is introduced for fabric notifications.

The **counter** port monitor command was modified to add the **FPIN** portguard action.

Port Monitor Portguard Action for DIRL

A new portguard action **DIRL** is introduced to automatically limit the rate of ingress commands and other traffic to reduce or eliminate the congestion that is occurring in the egress direction.

The **counter** port monitor command was modified to add the **DIRL** portguard action.

Port Monitor TxWait Configuration for Congestion Signals

Note: The Fabric Notification–FPIN and Congestion Signal feature is currently in preview (beta) status for use in non-production environment only. Contact your account teams or Cisco MDS marketing team to understand the use case before enabling this feature. This preview (beta) status and restriction will change to regular production status in an upcoming release.

End devices register with switches for receiving congestion signal primitives at specific interval. This interval is negotiated by the end device with the switch and cannot be configured. The **congestion-signals** portguard action is introduced to send alerts to the end devices at the specified interval.

The following command was introduced:

counter txwait warning-signal-threshold *count1* **alarm-signal-threshold** *count2* **portguard congestion-signals**

Port Monitor Early Warning

Port monitor counters are monitored every second so that port monitor can detect errors and send alerts as soon as a rising threshold is detected. There is no change in the falling threshold behavior.

For more information on port monitor counters and portguard feature, see the "Port Monitor" section in *Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x*.

Port Monitor Alerts

Port monitor allows you to configure alerts for each counter so that you can prioritize the alerts that you want to monitor. You can configure syslog, RMON, OBFL, or none alert types.

You can also configure an event ID (severity-level) for the syslogs that are generated when a rising or falling threshold is detected so that you can filter the logs using the severity level.

For more information, see the "Port Monitor" section in *Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x*.

Port Monitor Input Errors Counter

A new *input errors* counter is introduced to detect and alert input frame errors, including non CRC errors. For more information, see the "Port Monitor" section in *Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x*.

Port Monitor SFP Counters

The port monitor SFP counters allow you to configure the low-warning thresholds for *Tx Power* and *Rx Power* for SFPs so that you receive an alert when these values drop below the configured values.

The following are the SFP counters:

- sfp-rx-power-low-warn
- sfp-tx-power-low-warn

For more information, see the "Port Monitor" section in *Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x*.

Port Monitor Datarate Burst Counters

The port monitor datarate burst counters monitor the number of times the datarate crosses the configured threshold datarate. If the number crosses the configured number for raising threshold, alerts are generated as the condition is met. Datarate burst counters are polled every second.

The following are the datarate burst counters:

- rx-datarate-burst
- tx-datarate-burst

For more information, see the "Port Monitor" section in *Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x*.

License for Cisco MDS 9220i Fabric Switch

Default license for IPS ports is available only in the 1-Gbps speed mode. In any other speed mode (10 Gbps or 40 Gbps), ports need additional port activation license. For more information, see *Cisco MDS 9000 Series Licensing Guide, Release 8.x*.

Configuring IPS Ports on Cisco MDS 9220i Switch

You can configure 1 or 10 Gbps IPS ports and one 40 Gbps IPS port on Cisco MDS 9220i switch. For more information, see the "Configuring IP Storage Services" section in *Cisco MDS 9000 Series IP Services Configuration Guide, Release 8.x*.

Configuring 40 Gbps Speed on Cisco MDS 24/10 port SAN Extension Module

You can configure 40 Gbps on the IPS ports of Cisco MDS 24/10 port SAN Extension Module. For more information, see the "Configuring IP Storage Services" section in *Cisco MDS 9000 Series IP Services Configuration Guide, Release 8.x*.

SPAN for IPS Source Ports

Traffic that is sent to a Fibre Channel port that is configured as an SD port can be spanned on the ingress of FCIP interfaces. For more information, see the "IPS Source Ports" section in *Cisco MDS 9000 Series System Management Configuration Guide, Release 8.x*.

Cisco NPV Load Balancing

The Cisco NPV load balancing scheme is enhanced to propose a mapping of server interfaces to external interfaces based on the throughput value so that the traffic can be evenly distributed on the external interfaces.

The following commands were introduced:

- **show npv traffic-map proposed**
- **npv traffic-map analysis clear**

For more information, see *Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x*.

Autozone

Autozone can now be enabled on VSANs different from VSAN 1.

The maximum number of devices supported by zones in Autozone is increased to 250.

The **autozone --enable --vsan** *id* command was modified.

SAN Analytics

Virtual Machine Identifier (VMID) Analytics

The VMID Analytics feature was introduced to monitor, analyze, identify, and troubleshoot performance issues at VM level and not just at the host level.

The **analytics vm-tag veid** command was introduced.

ShowAnalyticsOverlay CLI

Added the **--outfile** option to copy the command output to a file and the **--appendfile** option to append the command output to a file for the **ShowAnalytics** command.

The **ShowAnalytics --help** command output was modified.

ShowAnalyticsConsistency

The **ShowAnalyticsConsistency** command is introduced to identify inconsistencies in SAN analytics components such as NPU, modules, queries, database, port-sampling configuration and so on.

For more information, see *Cisco MDS 9000 Series SAN Analytics and SAN Telemetry Streaming Configuration Guide, Release 8.x*.

Device Aliases

The default device alias mode is changed to enhanced mode. For more information, see the "Distributing Device Alias Services" section in *Cisco MDS 9000 Series Fabric Configuration Guide, Release 8.x*.

The following syslog was introduced to alert when the device alias mode is changed to enhanced mode:

```
%DEVICE-ALIAS-2-DDAS_DEFAULT_MODE: Device alias mode has been set to enhanced mode
```

For more information, see *Cisco MDS 9000 Family and Nexus 7000 Series NX-OS System Messages Reference*.

NX-API

Certificates for NX-API can now be installed with encrypted private keys and imported via trust point.

The **nx-api certificate** *certfile* **key** *keyfile* **password** *passphrase* command was modified to add a password option.

The **nxapi trustpoint label** command was introduced.

For more information, see the "NX-API" chapter in the *Cisco MDS 9000 Series Programmability Guide, Release 8.x*.

Zone Member Ratio Threshold

Fan-out ratio is the number of target ports zoned to a single initiator. Fan-in ratio is the number of initiators zoned to a single target port. Zone member ratio is a superset of fan-out and fan-in ratios. The zone member ratio threshold can now be configured to trigger an Embedded Event Manager (EEM) event. The **show zone analysis active** command was modified to display the zone member ratio after the threshold has been configured in EEM.

The following commands were modified:

- **event zone {zones max-per-switch | zonesets max-per-switch | zonemembers max-per-switch | dbsize max-per-vsan | zone-member-ratio}** *count*
- **show zone analysis [pending] {active {member-ratio [detail] vsan** *id* **| vsan** *id*} **| vsan** *id* **| zoneset** *name* **vsan** *id*}

For more information, see *Cisco MDS 9000 Series Command Reference, Release 8.x*.

The following syslog was introduced to alert when the zone member ratio is exceeded:

```
SCRIPT-INFO: ZONE-2-SWITCH_ZONE_MEMBER_RATIO: VSAN-[dec]: Zoneset [char] has [dec] devices
that exceed the zone member ratio of 1:[dec].
```

For more information, see *Cisco MDS 9000 Family and Nexus 7000 Series NX-OS System Messages Reference*.

Copy Running Configuration to Startup Configuration

A warning is added in the **copy startup-config running config** command to alert users about overwriting the running configuration with startup configuration. For more information, see *Cisco MDS 9000 Series Command Reference, Release 8.x*.

Call Home

The ability to control which RMON alerts generate Call Home events by filtering on the RMON alert's event id was added.

The following command was modified:

alert-group {All | Cisco-TAC | Crash | Environmental | Inventory | License | Linecard-Hardware | RMON permit event-id *id* **| Supervisor-Hardware | Syslog-group-port | System | Test} {script-name** *script.tar* **| user-def-cmd** *commands*}

For more information, see *Cisco MDS 9000 Series Command Reference, Release 8.x*.

Unsupported Features

Data Mobility Manager

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

Zoning Features

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

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

Slow Drain Detection and Congestion Isolation Enhancements

ER_RDY is not supported on FC interfaces running at 10 Gbps.

XRC Acceleration License

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

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.

Data Encryption Standard (DES) Encryption for SNMP

From Cisco MDS NX-OS Release 8.5(1), AES-128 is the default encryption mechanism for SNMPv3. DES encryption for SNMP is supported only for DES users who upgrade from previous releases to Cisco MDS NX-OS Release 8.5(1). Ensure that you delete all the SNMPv3 users configured with DES encryption before upgrading to Cisco MDS NX-OS Release 8.5(1) and later releases. Any downgrades from Cisco MDS NX-OS Release 8.5(1) will be restricted if any of the SNMPv3 users have DES encryption configured as the privacy protocol. All such users will either need to be deleted or reconfigured to use no privacy protocol or AES128 encryption before downgrading.

For more information, see *Cisco MDS 9000 Series System Management Configuration Guide, Release 8.x*.

Deprecated Hardware

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

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

Limitations and Restrictions

SAN Extension Tuner

SAN Extension Tuner (SET) is not supported on Cisco MDS 9220i switches in Cisco MDS NX-OS Release 8.5(1).

Fibre Channel Read Diagnostic Parameters

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

DIRL and FPIN

DIRL and FPIN are not supported on switches that are operating in the Cisco NPV mode.

DIRL and FPIN are not supported on the following switches:

- Cisco MDS 9250i Switches

- Cisco MDS 9148S Switches

FPIN Notifications

FPIN Notification for oversubscription-based congestion is not supported.

FCIP Support

- In Cisco MDS NX-OS Release 8.1(1) or later, FCIP Write Acceleration is not supported between 24/10 San Extension Module and Cisco 18+4 MSM module and between 24/10 San Extension Module and Cisco SSN16 module.

- In Cisco MDS NX-OS Release 8.1(1) or later, FCIP Write Acceleration along with IVR is not supported on FCIP tunnels configured on Cisco MDS 9700 Series switches.

- FCIP tunnels using Cisco MDS 24/10 Port SAN Extension Module cannot be used across FSPF equal cost paths.

- On Cisco MDS 9220i switches, the maximum throughput on a single FCIP tunnel is 7 Gbps. On the 40 Gbps IPS port, the maximum throughput is 28.5 Gbps when 4 FCIP tunnels are created on separate VLAN interfaces.

- On Cisco MDS 24/10 Port SAN Extension Module, configuring multiple ECMP port channels with FCIP members in the same VSAN is not a valid configuration. If this is configured, then the traffic will flow through only one of the port channels.

iSCSI Support

iSCSI is not supported on Cisco MDS 9700 Directors with Cisco MDS 24/10 port SAN Extension Modules and Cisco MDS 9220i Fabric Switch.

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 is available only on certain ports for the following modules:

- 48-port 2/4/8/16-Gbps Fibre Channel switching module (DS-X9448-768K9)

- 48-port 4/8/16/32-Gbps Fibre Channel switching module (DS-X9648-1536K9)

- 48-port 32-Gbps Fibre Channel Switching Module (DS-X9648-1536K9)

- Cisco MDS 9000 24/10-Port SAN Extension Module (DS-X9334-K9)

- Cisco MDS 9132T 32-Gbps 32-Port Fibre Channel Fabric Switch

- Cisco MDS 9148T 32-Gbps 48-Port Fibre Channel Fabric Switch

- Cisco MDS 9396T 32-Gbps 96-Port Fibre Channel Fabric Switch

- Cisco MDS 9396S 16-Gbps 96-Port Fibre Channel Fabric Switch

- Cisco MDS 9220i Fabric Switch

Caveats

- [Subscribing for Important Product Update Notifications](#)
- [Resolved Caveats in Cisco MDS NX-OS Release 8.5(1)](#)
- [Open Caveats in Cisco MDS NX-OS Release 8.5(1)](#)

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.

Note: You must renew your notification subscriptions annually.

Resolved Caveats in Cisco MDS NX-OS Release 8.5(1)

Bug ID	Description	Known Impacted Releases
CSCvc43884	Switch crash due to acl hap reset.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvk36805	F32_TMM_PORT_FRAME_DROP , F16_TMM_PORT_FRM_DROP_CNT not logged in OBFL.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvk61450	Telemetry does send event notifications without `nxapi http port 80`.	8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)

Bug ID	Description	Known Impacted Releases
CSCvr33431	Unable to add interfaces to a port-channel.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvs99211	FLOGI PSS inconsistency seen with DPVM configuration.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvt36085	Port-channel member goes error disabled during ISSU but still is sent frames which are discarded.	8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvt58972	'show interface' command parsing failure message and incorrect counters displayed for port channel.	8.4(1), 8.4(1a), 8.4(2) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvt70421	DM https download certificate valid date exceeds standards.	8.4(1a), 8.4(2)
CSCvt91294	Switch drops all incoming traffic.	8.4(1), 8.4(1a) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvu09101	configuration of " ssh name" brings down mgmt0 interface.	8.4(1), 8.4(1a), 8.4(2)
CSCvu24244	Invalid port-channel bundle-index on fabric switches.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvu28005	Timeout drops seen on 32G fabric switches after ISSU.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)

Bug ID	Description	Known Impacted Releases
CSCvu41929	%PORT-CHANNEL-5-PORT_DOWN message issued in syslog for sync loss but no corresponding link up message.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvu52058	ISSU/D is disruptive on MDS fabric switches with error 0x40930073 after SFTP to bootflash.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)
CSCvu73734	FLOGI implicit logout needs to transmit F Port Server LOGO to device being logged out.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvu86801	fc32_mac process is unresponsive while running diagnostic latency test on ISL.	8.4(2), 8.4(2a)
CSCvu99475	Invalid port-resource configuration can trigger boot loop.	8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)
CSCvv07846	Port error disables due to debounce timer shows – Link reset failed due to re-negotiation failure.	8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)
CSCvv27812	Supervisor stack trace not displayed in 'show logging onboard' or 'show tech details'.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvv40384	Autozone cli change not working.	8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)
CSCvv49843	f32mac crashed in M9396T while doing ISSU.	8.4(2b)
CSCvv53024	Daylight time is not considered when we use plus option with one-shot start time configuration.	8.4(2), 8.4(2a), 8.4(2b)
CSCvv54821	Port manager service logfile can consume all partition space.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(2)
CSCvv54837	%SYSMGR-2-TMP_DIR_FULL syslog repeated endlessly, flushing out other needed logs.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(2)
CSCvv77164	ISSU fails in 9396T with hardware driver HA policy reset.	8.4(2b)

Bug ID	Description	Known Impacted Releases
CSCvv84472	Add new N9K OUI to default OUI list.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(2)
CSCvv86192	MDS fails to authorize correct role when using "memberOf" attribute name in Secure LDAP search map.	8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)
CSCvv93277	Interface CRCs not incrementing on MDS F32/F16 modules/switches.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvv93541	F32_MAC_KLM_CNTR_RX_FEC_UNCORRECTED_BLOCKS not being recorded in OBFL error-stats counter-stats.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvw04750	IOA tape acceleration fails for already compressed data.	8.4(1a), 8.4(2b)
CSCvw21395	All MDS switches rebooted when the zoneset activated.	8.4(1a), 8.4(2b)
CSCvw26332	lc_port_channel core.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvw30191	MDS Front panel 'PSU Status' LED is red when one PSU is installed in MDS 9132T.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)
CSCvw66366	Fix module number formatting problem in 'show module' command output.	8.4(2), 8.4(2a), 8.4(2b)
CSCvw32460	MDS 9718 Kernel panic due to kernel memory corruption when PC FOP index changes by 512	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvw66708	MTS failure leads to vqi-map discrepancy.	8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)
CSCvw71873	MDS 9700 Supervisor 1 crash spinlock lockup suspected on CPU#.	8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)

Bug ID	Description	Known Impacted Releases
CSCvw89323	Fabric switch ISSU/D successful but system reset reason reports 'Fatal System Error'.	8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2)
CSCvw91665	MDS9148S running 8.4(2) crashes with "Anon_Resident_Mem 0 KB being killed due to lack of memory".	8.4(2), 8.4(2a), 8.4(2b)

Open Caveats in Cisco MDS NX-OS Release 8.5(1)

Bug ID	Description	Known Impacted Releases
CSCuv76123	fcdomain for VSAN hung in "Principal Switch Selection ongoing".	8.x 7.x 6.x
CSCvf08416	M9132T, M9396S MDS9148T : pam_ftp(ftp:auth): conversation failed syslog is in the show tech details.	8.5(1) 8.4(1), 8.4(2), 8.4(2a), 8.4(2b) 8.3(2), 8.3(1) 8.2(2), 8.2(1)
CSCvj93031	ST:: show system login failures does not display ipv6 addresses.	8.5(1) 8.4(1), 8.4(2), 8.4(2a), 8.4(2b) 8.3(2), 8.3(1)
CSCvo13212	ST:: running snmpwaon ipv6 throws error "Received source port is zero".	8.5(1) 8.4(1), 8.4(2), 8.4(2a), 8.4(2b)
CSCvo22835	While moving IOA flow between 2 clusters, all flows are briefly suspended.	8.5(1) 8.4(1), 8.4(2), 8.4(2a), 8.4(2b) 8.3(2), 8.3(1) 8.2(2), 8.2(1) 8.1(1b), 8.1(1a), 8.1(1)
CSCvp48050	MDS 9700 Control Plane Packet drop seen during when switch comes up.	8.5(1) 8.4(1), 8.4(2), 8.4(2a), 8.4(2b)
CSCvp70681	MDS: Receiver stays in "idle"; no streaming to one receiver; single threaded telemetry.	8.5(1) 8.4(1), 8.4(2), 8.4(2a), 8.4(2b)

Bug ID	Description	Known Impacted Releases
CSCvs15569	IKE negotiation fails when configured with authentication type to rsa-signature.	8.5(1) 8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvs23106	IPS_mgr running even after removal of DS-X9334-K9 card.	8.5(1) 8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvs83114	aclqos crashed when Cisco MDS 24/10-Port SAN Extension Module with fcip config pulled out and insert back.	8.5(1) 8.4(1), 8.4(1a), 8.4(2)
CSCvt15096	MDS 9250i/MDS 9148s port goes to not-connected state after cable pull.	8.5(1) 8.4(2b)
CSCvt15761	Non-disruptive reload cmd is causing reinitializing of the error disabled ports on other line cards.	8.5(1) 8.4(2), 8.4(2a), 8.4(2b)
CSCvt22913	FCIP Links flaps with ioa traffic while adding few more links.	8.5(1) 8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2)
CSCvt64521	IPSec enabled FCIP tunnels don't come up after switch or module reload if tunnels are more than 18.	8.5(1) 8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvt70406	Certificate for Device Manager HTTPS download from switch is self signed.	8.5(1) 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvv00538	Remove misleading merge failed message for ficonstat in non-FICON VSAN.	8.5(1) 8.4(2b)

Bug ID	Description	Known Impacted Releases
CSCvv27832	MDS:Kernel panic on DS-X97-SF4-K9 model supervisor.	8.5(1) 8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)
CSCvv98829	97xx Chassis information missing and logging error message %PLATFORM-2-PS_UNSUPPORTED.	8.5(1) 8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)
CSCvv99177	MDS 9220i : Stack trace not logging to obfl after kernel panic hit.	8.5(1)
CSCvw03816	Port Speed coming as 8G when connecting 16G Brocade AG to MDS 9250i/9148s switches.	8.5(1) 8.4(2a), 8.4(2b)
CSCvw35209	MDS9132T: EXT3-fs error (device sda1): ext3_free_blocks_sb: bit already cleared for block 71414.	8.5(1)
CSCvw64733	M9220I- 40G CSR4 and LR40G optics link length and nominal bitrate values are not proper.	8.5(1)
CSCvw75655	MDS 9710 NS GA_NXT query from DELL storage missing zoned members.	8.5(1) 8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(2)
CSCvw91963	M9220i: IPS interface stuck in license not available state after MTU change to 1500bytes.	8.5(1)
CSCvx06226	DIRL events (logs) from previous active not visible after switchover.	8.5(1)
CSCvx11676	Congested device pwwn does not get removed from database after changing its logical type.	8.5(1)
CSCvx19452	MDS DS-X9648-1536K9 ports went to notConnected state after many port flaps.	8.5(1)
CSCvx20461	PMON disable not removing the ports under quarantine.	8.5(1)
CSCvx22763	No SSH or telnet login prompt after upgrade to 8.4.	8.5(1) 8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvx24216	MDS 9718 with Supervisor1 panics with 'general protection fault'.	8.5(1) 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b)
CSCvx31119	Supervisors crashed within secs one after other with warning \" Service: port hap reset \" .	8.5(1) 8.4(1a)

Bug ID	Description	Known Impacted Releases
CSCvx37367	MDS9220I - IPS 40G port beacon function, port LED blinking as amber instead of green colour.	8.5(1)
CSCvx37657	Need to log nonvolatile logs about BIOS programming errors.	8.5(1) 8.3(2)
CSCvx37747	Supervisor 4 usb-storage timeout.	8.5(1) 8.4(1a)
CSCvx43070	MDS 9396S reloads due to Fatal Module Error, Service: System Manager when f16_mac_usd crashes.	8.5(1) 8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b) 8.3(1), 8.3(2) 8.2(1), 8.2(2) 8.1(1), 8.1(1a), 8.1(1b)
CSCvx45711	9220i: FCIP-ECMP PC traffic is not flowing after bringing down one pc with "no use-profile".	8.5(1)
CSCvx47078	f32_mac_sw_creditmon: Port 0 Port mode not valid errors floods under fcmac event-history.	8.5(1)
CSCvx47195	Device Manager(DM) doesn't support IBM 8977-R16.	8.5(1)
CSCvx47587	"Some klm entries are missing" logs when collecting tech-support in M9710.	8.5(1)
CSCvx56588	Copy SCP doesn't work on MDS switches from kickstart prompt.	8.5(1)
CSCvx69774	No longer able to log in with passwordless SSH after upgrade to NX-OS 8.5(1).	8.5(1)
CSCvy01176	%PORT-5-IF_DOWN_HW_FAILURE: %$VSAN 100%$ Interface fcx/y is down (Hardware Failure).	8.5(1)
CSCvz09012	End devices encounter errors or do not respond after MDS Fabric switch ISSU.	8.5(1) 8.4(1), 8.4(1a), 8.4(2), 8.4(2a), 8.4(2b), 8.4(2c)
CSCwb07996	port-monitor not triggering on err-pkt-to-xbar and err-pkt-from-xbar on NX-OS 8.5(1) and later.	8.5(1)
CSCwb14523	Service "zone" (PID XXXX) hasn't caught signal 6 (core will be saved).	9.2(1), 9.2(2) 8.4(2), 8.4(2a), 8.4(2b), 8.4(2c), 8.4(2d)
CSCwb48133	MDS 9250i Interface IPStorage1/2 is transmitting with IPStorage1/1's MAC address	9.2(1), 9.2(1a), 9.2(2) 8.5(1)

Bug ID	Description	Known Impacted Releases
CSCwe08911	Sending clear FPIN to end device, immediately after congestion clear	9.3(2a), 9.3(2), 9.3(1), 9.2(2), 9.2(1a), 9.2(1) 8.5(1)

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

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

Release Notes

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

Licensing Information

https://www.cisco.com/c/en/us/td/docs/switches/datacenter/mds9000/sw/8_x/config/licensing/cisco_mds9000_licensing_guide_8x.html

Regulatory Compliance and Safety Information

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

Compatibility Information

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

Installation and Upgrade

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

Configuration Guides

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

Command-Line Interface

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

Troubleshooting and Reference

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

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