Cisco MDS 9000 Series Release Notes

Release 9.3(2)

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 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 issues. Refer to the following website for the most recent version of the Cisco MDS 9000 Series Release Notes.

Date	Description
August 29, 2025	Upgrading and Downgrading Cisco MDS NX-OS Software Image sections are moved to Cisco MDS 9000 NX-OS Software Upgrade and Downgrade Guide, Release 9.x.
August 28, 2025	Added CSCwd37654 in the Resolved Issues section.
May 15, 2025	Added CSCwd00610 in the Resolved Issues section.
March 25, 2025	Added CSCwo03706 to the Open Issues section.
December 22, 2023	Added CSCwi36075 to the Open Issues section. Added CSCwf85545 to the Open Issues section.
November 06, 2023	Added CSCvv93277 in the Resolved Issues section.
July 03, 2023	Added CSCwe08911 in the Open Issues section.
June 16, 2023	Add restriction for over subscription caused by FPIN notifications.
January 12, 2023	Added CSCwd74002 in the Open Issues section. Added CSCwd94053 in the Resolved Issues section.
December 21, 2022	Added CSCwd82287 and CSCwd55552 in the Resolved Issues section. Added HBA ER-RDY to the new software features section.
December 16, 2022	Release 9.3(2) became available.

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 has the flexibility to fit small deployments as well as to 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 9.x.

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

Upgrade and Downgrade Paths

Cisco MDS NX-OS Release 9.3(2) supports non-disruptive upgrade and downgrade to other Cisco MDS NX-OS Releases. For upgrade and downgrade paths, and guidelines that are recommended for upgrading or downgrading Cisco MDS NX-OS software images, see Cisco MDS 9000 NX-OS Software Upgrade and Downgrade Guide, Release 9.x.

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.

For information about other releases, refer to the Release Notes on Cisco MDS 9000 NX-OS and SAN-OS Software documentation page. For Cisco recommended MDS NX-OS releases for each type of hardware, see Recommended Releases for Cisco MDS 9000 Series Switches document.

Components Supported

For information on supported software and hardware components, see Cisco MDS 9000 Series Compatibility Matrix.

IBM FICON Qualification Status

Cisco MDS NX-OS Release 9.3(2) is not IBM FICON qualified.

Cisco TrustSec FC Link Encryption

For more information about which set of interfaces on each module support FC-SP, see the Configuring Cisco TrustSec Fibre Channel Link Encryption chapter of the *Cisco MDS 9000 Series Security Configuration Guide, Release 9.x*.

New Hardware Features

Product Impact	Feature	Description

Product Impact	Feature	Description
Ease of Use	Cisco 1200 W HVAC/HVDC Power Supply is supported in Cisco MDS 9124V and Cisco MDS 9148V switches	Support for the Cisco 1200 W HVAC/HVDC Power Supply in Cisco MDS 9124V and 9148V Fabric Switches has been introduced. This power supply has Climate Savers Platinum Efficiency (80Plus Platinum certified) for lower energy consumption and waste heat. It supports n+n PSU redundancy. The PSU is hot swappable to allow replacement in an operational switch and supports bidirectional airflow for compatibility with all hot/cold aisle deployments with a single PID. Use the **show environment power** command to display the Cisco MDS 1200-Watt power supply unit on Cisco MDS 9124V-K9 and Cisco MDS 9148V-K9 switches. For more information, see: • Cisco MDS 9124V-K9 Switch Hardware Installation Guide • Cisco MDS 9148V-K9 Switch Hardware Installation Guide • Cisco MDS 9000 Series Command Reference, Release 9.x

New Software Features

Product	Feature	Description
Analytics	Cisco MDS SAN Analytics Scale Increase	The SAN Analytics total switch ITL limit has been increased from 40,000 to 100,000 per module for the Cisco MDS 48-Port 64-Gbps Fibre Channel Switching Module (DS-X9748-3072K9) module. The 48-Port 64-Gbps Fibre Channel Switching Module (DS-X9748-3072K9) line card ITL limit has been increased from 20,000 to 40,000. For more information, see Cisco MDS NX-OS Configuration Limits, Release 9.x.
	Slow Drain Analysis capacity for 48-Port 64-Gbps Fibre Channel Switching Module (DS-X9748-3072K9)	The RxWait counter is introduced on the 48-Port 64-Gbps Fibre Channel Switching Module (DS-X9748-3072K9). This quantifies ingress congestion on an interface. For more information, see Cisco MDS 9000 Series Interfaces Configuration Guide, Release 9.x.
Diagnostics and Servicablity	HBA ER-RDY	The HBA ER-RDY feature has been made available for production. The feature is an extension of ER-RDY feature on ISLs. ER-RDY mode is extended to include F ports and NP ports. HBA ER-RDY is not supported on switches in NPV mode. In these situations, DIRL is the recommended congestion management approach. For more information, see Cisco MDS 9000 Series Interfaces Configuration Guide, Release 9.x.

Product	Feature	Description
Ease of Use	Intersight Device Connector	Device connector for Intersight Device Connector is available for MDS switches from Cisco MDS NX-OS Release 9.3(2). For more information, see Cisco MDS NX-OS Fundamentals Configuration Guide, Release 9.x.
	64 Gbps FC Transceivers	64 Gbps FC transceivers are supported in 64 Gbps-capable interfaces only on the following platforms: • Cisco MDS 9700 48-Port 64-Gbps Fibre Channel Switching Module (DS-X9748-3072K9) • Cisco MDS 9148V Fabric Switch (DS-C9148V) • Cisco MDS 9124V Fabric Switch (DS-C9124V) Qualified 64 Gbps FC transceiver firmware version 1.0 with NX-OS 9.3(2).
Performance and scalability	FCIP performance	FCIP performance has been improved on 40 Gbps IPS ports. For more information, see Cisco MDS 9000 Series IP Services Configuration Guide, Release 9.x.

Unsupported Features

SDV feature

Cisco MDS NX-OS Release 9.3(2) and/or later does not support Cisco SAN device virtualization (SDV).

Traditional and Smart Licensing Version 1.0 Licenses

Cisco MDS NX-OS Release 9.2(2) and/or later does not support installation of Product Authorization Key (PAK) or Smart Licensing version 1.0 licenses.

For more information such as how to migrate licenses software updates, see *Smart Licensing Using Policy* chapter in Cisco MDS 9000 Series Licensing Guide, Release 9.x.

Python 2

Support for Python 2 is deprecated from Cisco MDS NX-OS Release 9.2(2). Python 3 continues to be supported instead. Python 2 scripts should be checked for compatibility with Python 3 to ensure they continue to function as expected.

For more information, see *Python API* chapter in Cisco MDS 9000 Series Programmability Guide, Release 9.x.

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 boot any module. In addition, you cannot configure these features after you bring up any module.

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 9.x.

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) or later.

Fibre Channel Read Diagnostic Parameters

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

Slow Drain Detection and Congestion Isolation

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

FPIN

FPIN is not supported on switches that are operating in NPV mode.

FPIN Notification for oversubscription-based congestion is not supported.

FCIP Support

- In Cisco MDS NX-OS Release 9.2(2) or later releases, 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 9.2(2) or later releases, Simultaneous use of IVR and FCIP Write Acceleration features is not supported on FCIP tunnels configured on Cisco MDS 9700 Series switches.
- FCIP tunnels using Cisco MDS 24/10 Port SAN Extension Module cannot be used across FSPF equal cost paths.

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

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.

Resolved Issues

Severity 2 (Severe) Issues

Bug ID	Headline	Known Impacted Releases
CSCwd00610	MDS switch slow or unresponsive after reset of multiple interfaces	9.2(1) 8.5(1) 8.1(1)
CSCwd27053	Multiple SNMPD crashes during switchover and there is a corrupt SNMP server host configuration	8.4(1a)
CSCwd37654	Provide syslog msg for FC SerDes version mismatch during ISSU/64G SFP insertion	9.3(1)
CSCwd41293	core-dmon process crashes and reloads unexpectedly due to HA policy of Reset	9.3(1), 9.2(1), 9.2(1a) 8.5(1) 8.4(1) 8.3(1) 8.2(1) 8.1(1)
CSCwd55552	IPS 10/40G port moves to HW_failure state while upgrade/downgrade to 9.x releases with 64G line card	9.3(1)

Severity 3 (Moderate) Issues

Bug ID	Headline	Known Impacted Releases
CSCvk27502	LDAP authentication is failing only when the ip name-server configured on the switch	8.4(2d) 8.3(1) 8.2(1) 8.1(1a), 8.1(1) 6.2(19), 6.2(7)

Bug ID	Headline	Known Impacted Releases
CSCvo13212	IPv6 snmpwalk triggers " Received source port is zero" error on switch	8.4
CSCvv93277	Interface CRCs not incrementing on MDS 32G modules/switches.	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)
CSCvx67356	After performing ISSU/reload the snmpd process stops functioning due " hasn't caught signal 11"	8.4(2a)
CSCwc29558	Object fcIfElpNbrPortName at OID 1.3.6.1.4.1.9.9.289.1.1.6.1.2 only display trunk ISL information	9.2(2) 8.4(2)
CSCwc58086	Service Telemetry on MDS stops functioning properly with signal 6 error.	
CSCwc58092	fcTrunkIfUpNotify and fcTrunkIfDownNotify traps missing for MDS 9700 director switches	9.2(1) 8.4(2d) 8.1(1) 7.3
CSCwc70047	Command 'clear ips stats all' does not clear all IPS counters	8.5(1)
CSCwd08590	MDS reboots due to Service " f32mac" hasn't caught signal 11 (core will be saved).	9.3(1) 8.4(2d)
CSCwd19680	SNMPD process crash due to MTS congestion causing snmpd to miss heartbeats.	8.4(2c)
CSCwd24991	Server interfaces on an NPV switch don't come up	9.2(1), 9.2(1a) 8.5(1) 8.4(2d), 8.4(2c), 8.4(2a), 8.4(2) 8.4(1a), 8.4(1) 8.3(1) 8.1(1b), 8.1(1a)
CSCwd26914	ACL consistency checker displays failures and errors	8.4(1a)
CSCwd31826	" fdmi" service stops functioning properly with signal 11 (core will be saved)	9.2(2)
CSCwd54301	ips port stuck in init with switch reload multiple iterations	9.3(1)
CSCwd61297	Device unable to communicate with other devices using IVR	8.3(2)

Bug ID	Headline	Known Impacted Releases
CSCwd63288	" Ldap Daemon" crashes on MDS 9000 due to heartbeat failure.	8.5(1)
CSCwd82287	analytics data is not populated for some ports after 64 Gpbs line card reloads	9.3(2)
CSCwd94053	Improve 64G link Bit Error Rate(BER) performance stability from flap to flap	9.3(2)

Severity 4 (Minor) Issues

Bug ID	Headline	Known Impacted Releases
CSCva69645	show tech ivr is included in the show tech detail for all 1RU boxes	8.5(1)
CSCwb57583	in-order-guarantee takes more than 500 ms when an individual Port Channel member fails	8.4(2b) 8.1(1)
CSCwc50719	Logging level configuration for facility kern is changing after switchover.	8.4(2d)
CSCwc62285	Spurious TrustSec violation on FC port with TrustSec drops after ISSU	8.1(1)
CSCwc85040	Add OUI cc:ed4d to default MDS OUI list to establish port-channel between MDS and Nexus 9000	9.3(1) 8.5(1)
CSCwc98686	Notifications are needed when links go down due to missing peer OUI	8.3(1)
CSCwd03045	SSL LDAP fails in MDS 9700 with a work CA certificate with other model of MDS switches.	9.3(1) 9.2(1), 9.2(1a), 9.2(2) 8.4(2d) 8.3(2) 8.1(1b)
CSCwd06349	Mismatch information in the DCNM - SAN Client while deleting members in the cloned zones	9.2(1) 8.1(1)

Severity 6 (Enhancement) Issues

Bug ID	Headline	Known Impacted Releases
CSCux74965	Add IVR plogi-drop and plogi-rejects logs to 'show tech ivr'	6.2(1)
CSCvk14774	LDAP search-filter character limit should be increased to at least 512 characters	8.2(2) 6.2(2)
CSCvu05563	Need SFP insertion/removal syslog messages including SFP type and serial number	8.1(1)
CSCvv69399	Add ingress CRC errors to logging onboard error-stats	8.1(1)

Bug ID	Headline	Known Impacted Releases
CSCvz50540	PSU fan speed varies randomly causing unwanted noise	9.2(1) 8.4(2c), 8.4(1a)
CSCwa76582	Add no-credit-drop counters to show logging onboard error-stats	9.2(1)
CSCwa86535	'Unexpected NMI' message incorrectly logged for watchdog reset of supervisor	9.2(1)
CSCwc56047	MDS Port-Channel towards N9K standalone switch OUI 0x1859F5 (18:59:F5) does not come up or trunk	9.2(2) 8.4(2c)
CSCwc58783	TLS v1.2 Qualays QID 38863: Weak SSL/TLS Key Exchange on port 443 or 8443	9.2(2)
CSCwc65552	Need a command to check the fan led status on MDS Fabric switches	8.4(1)
CSCwd69614	Add Nexus 9000 OUI 0xe069ba to the default MDS OUI database for port-channel to stay online	8.4(2d)

Open Issues

Severity 1 (Catastrophic) Issues

Bug ID	Headline	Known Impacted Releases
CSCwo03706	An FC interface will not come up / switch to soft zoning	9.3(2), 9.3(1) 9.2(2), 9.2(1a), 9.2(1) 8.5(1)

Severity 3 (Moderate) Issues

Bug ID	Headline	Known Impacted Releases
CSCwd56551	Stale analytics ACL entries present in 9.3(1) persist after ISSU	9.3(1)
CSCwd76449	Software issues while bringing up the ISL with 64G SFPs	9.3(2)
CSCwf85545	" port" service crash	9.3(2), 9.3(1) 9.2(2), 9.2(1a) 8.4(2f), 8.4(2e)
CSCwi36075	Interfaces stuck in offline status after storage processor upgrade	9.4(1a), 9.4(1) 9.3(2a), 9.3(2), 9.3(1)

Severity 4 (Minor) Issues

Bug ID	Headline	Known Impacted Releases
CSCwd74002	CISCO-ACCELINK DS-SFP-FC64G-SW SFPs reporting high Rx/Tx power warnings when operating at 16G speed	9.3(2)

Severity 5 (Cosmetic) Issues

Bug ID	Headline	Known Impacted Releases
CSCvs67788	" rmon event 5" displays as PMON@INFO instead of NOTIFICATION(5) owner PMON@NOTIFICATION	8.4(1)
CSCwd36586	Display issue with standby information in 'show tech-support ha'	9.3(1)

Severity 6 (Enhancement) Issues

Bug ID	Headline	Known Impacted Releases
CSCvj89590	Enhancement to allow disabling of unused power supplies installed in MDS 9700 chassis	8.2(1)
CSCvw77444	Need to automatically sync bootflash:/scripts directory between active and standby sups	8.1(1a)
CSCwa89654	Enhancement: Upgrade MDS 9000 nginx to >= 1.20.1	8.4(2c)
CSCwb13413	Repeated XBAR temporary sync loss is not bringing down crossbar	8.4(1)
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/dcn/mds9000/sw/9x/configuration/licensing/cisco-mds-9000-nx-os-licensing-guide-9x.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

Documentation Feedback

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