Overview

This document describes how to upgrade or downgrade the Cisco MDS NX-OS software for Cisco MDS 9000 Series Multilayer Switches.

Introduction

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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.

Table 1: Change History

Date	Description
August 18, 2023	Updated the nondisruptive ISSU and ISSD paths for the Cisco MDS NX-OS Release 9.4(1).
May 17, 2023	Updated the nondisruptive ISSU and ISSD paths for the Cisco MDS NX-OS Release 9.3(2a).
March 31, 2023	Updated the nondisruptive ISSU and ISSD paths for the Cisco MDS NX-OS Release 9.3(2).
January 27, 2022	Updated the nondisruptive ISSU and ISSD paths for the Cisco MDS NX-OS Release 9.2(2).
August 25, 2021	Updated the nondisruptive ISSU and ISSD paths for the Cisco MDS NX-OS Release 9.2(1).

About Software Images

Cisco MDS switch is shipped with the Cisco MDS NX-OS operating system for the Cisco MDS 9000 Series Multilayer Directors and Fabric 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.

Note   Do not rename the standard image filenames.

Note   To download a new Cisco MDS 9000 Series software, including Cisco NX-OS and Cisco NDFC management software, go to the Storage Networking Software download website at http://www.cisco.com/cisco/software/navigator.html.

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

Dependent Factors for Software Installation

The software image install procedure depends on the following factors:

- Software images — The kickstart and system image files reside in directories or folders that can be accessed from the Cisco MDS 9000 Series Multilayer switch prompt.

- Image version — Each image file has a version.

- Flash disks on the switch — The bootflash: resides on the supervisor module, and the CompactFlash disk is inserted into the slot0: device.

- Supervisor modules — Either single or dual supervisor modules are present.

Supported Components

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

Determining the Software Version

To determine the version of the Cisco MDS NX-OS software that is currently running on a Cisco MDS 9000 switch using the CLI, log in to the switch and run the **show version** command in privileged EXEC mode.

To determine the version of the Cisco MDS NX-OS software currently running on a Cisco MDS 9000 switch using Cisco DCNM for SAN, click the Switches tab in the Information pane, locate the relevant switch using

the corresponding IP address, logical name, or worldwide name (WWN), and check its version in the Release column.

Downloading Software

The Cisco MDS NX-OS software is designed for mission-critical high-availability environments. To realize the benefits of nondisruptive upgrade on the Cisco MDS 9700 Series Multilayer Directors, we recommend that you install dual supervisor modules. See Cisco MDS 9700 Series Supervisor-4 Module Data Sheet.

Note All the CLI session examples that are provided in this document are intended only for reference. The actual switch output differs based on your switch model.

To download the latest Cisco MDS NX-OS software, access the Software Center.

Use the **show incompatibility-all system bootflash** : *system image filename* command to determine which features are incompatible with the destination upgrade release.

```
switch(config)# show incompatibility-all system bootflash:m9700-sf4ek9-mz.9.2.1.bin

Checking incompatible configuration(s):
No incompatible configurations

Checking dynamic incompatibilities:
No incompatible configurations
```

To request a copy of the source code under the terms of either GPL (General Public License) or LGPL (Lesser General Public License), email mds-software-disclosure@cisco.com.

Software Image for a Cisco MDS Switch

The following table lists the system and kickstart image that you can use for a Cisco MDS switch.

Table 2: Software Images for Cisco MDS Switches

Cisco MDS Switch	Naming Convention
Cisco MDS 9396T	Filenames begin with m9300-s2ek9
Cisco MDS 9148T	Filenames begin with m9148-s6ek9
Cisco MDS 9132T	Filenames begin with m9100-s6ek9
Cisco MDS 9148S	Filenames begin with m9100-s5ek9
Cisco MDS 9220i	Filenames begin with m9220-s7ek9
Cisco MDS 9250i	Filenames begin with m9250-s5ek9
Cisco MDS 9396S	Filenames begin with m9300-s1ek9

Cisco MDS Switch	Naming Convention
Cisco MDS 9718, 9710, and 9706	Filenames begin with m9700-sf3ek9 [1] Filenames begin with m9700-sf4ek9 [2]
Cisco MDS 9124V	Filenames begin with m9124v-s8ek9
Cisco MDS 9148V	Filenames begin with m9148v-s8ek9
Cisco MDS 9396V	Filenames begin with m9396v-s3ek9

[1] The m9700-sf3ek9 filename images are supported only on Cisco MDS 9700 Series Supervisor-1 Module on Cisco MDS 9710 and 9706 Director Switches, and Cisco MDS 9700 Series Supervisor-1E Module on Cisco MDS 9718 Director Switches.

[2] The m9700-sf4ek9 filename images are supported only on Cisco MDS 9700 Series Supervisor-4 Module on Cisco MDS 9718, 9710, and 9706 Director Switches.

No Payload Encryption Software Images

No payload encryption (NPE) images are available with the Cisco MDS NX-OS Release 9.3(2) software. The NPE images are intended for countries that have import restrictions on products that encrypt payload data.

To differentiate an NPE image from a standard software image, the letters npe are included in the image name as follows:

- m9100-s6ek9-kickstart-mz-npe.9.3.2.bin

- m9100-s6ek9-mz-npe.9.3.2.bin

- m9100-s5ek9-kickstart-mz-npe.9.3.2.bin

- m9100-s5ek9-mz-npe.9.3.2.bin

- m9148-s6ek9-kickstart-mz-npe.9.3.2.bin

- m9148-s6ek9-mz-npe.9.3.2.bin

- m9300-s1ek9-kickstart-mz-npe.9.3.2.bin

- m9300-s1ek9-mz-npe.9.3.2.bin

- m9300-s2ek9-kickstart-mz-npe.9.3.2.bin

- m9300-s2ek9-mz-npe.9.3.2.bin

- m9396v-s3ek9-kickstart-mz-npe.9.4.1.bin

- m9396v-s3ek9-mz-npe.9.4.1.bin

- m9220-s7ek9-kickstart-mz-npe.9.3.2.bin

- m9220-s7ek9-mz-npe.9.3.2.bin

- m9700-sf4ek9-kickstart-mz-npe.9.3.2.bin

- m9700-sf4ek9-mz-npe.9.3.2.bin

- m9700-sf3ek9-kickstart-mz-npe.9.3.2.bin

- m9700-sf3ek9-mz-npe.9.3.2.bin

- m9700-sf4ek9-kickstart-mz-npe.9.3.2.bin

- m9700-sf4ek9-mz-npe.9.3.2.bin

Note   When downloading software, ensure that you select the correct software image for your Cisco MDS 9000 Series Multilayer switch. Nondisruptive software upgrades or downgrades between NPE images and non-NPE images are not supported.

No Payload Encryption Software Images