Cisco Nexus 9000 Series and Cisco Nexus 3164Q FPGA/EPLD Upgrade Release Notes, Release 6.1(2)I3(5)

Revised: August 5, 2015,

Update History

This document lists the current and past versions of EPLD images and describes how to update them for use with the Cisco Nexus 9000 Series switches.

The following table shows the history of changes for this document.

Date	Description
October 2014	Created the release notes for Release 6.1(2)i3(1).
November 10, 2014	Created the release notes for Release 6.1(2)i3(2).
December 23, 2014	Created the release notes for Release 6.1(2)i3(3).
February 4, 2015	Created the release notes for Release 6.1(2)i3(3a).
March 24, 2015	Created the release notes for Release 6.1(2)i3(4).
May 27, 2015	Created the release notes for Release 6.1(2)i3(4a).
July 5, 2015	Created the release notes for Release 6.1(2)i3(4b).
August 7, 2015	Created the release notes for Release 6.1(2)i3(5).

Introduction

The Cisco Nexus 9000 Series switches contain several programmable logical devices (PLDs) that provide hardware functionalities in all modules. Cisco provides electronic programmable logic device (EPLD) image upgrades to enhance hardware functionality or to resolve known issues. PLDs include electronic programmable logic devices (EPLDs), field programmable gate arrays (FPGAs), and complex programmable logic devices (CPLDs), but they do not include ASICs. In this document, the term EPLD is used for FPGA and CPLDs.

The advantage of having EPLDs for some module functions is that when you need to upgrade those functions, you just upgrade their software images instead of replacing their hardware.

Note EPLD image upgrades for an I/O module disrupt the traffic going through the module because the module must power down briefly during the upgrade. The system performs EPLD upgrades on one module at a time, so at any one time the upgrade disrupts only the traffic going through one module.

Cisco provides the latest EPLD images with each release. Typically, these images are the same as provided in earlier releases but occasionally some of these images are updated. These EPLD image updates are not mandatory unless otherwise specified. The EPLD image upgrades are independent from the Cisco NX-OS In Service Software Upgrade (ISSU) process, which upgrades the system and kickstart images with no impact on the network environment.

When Cisco makes an EPLD image upgrade available, these release notes announce their availability, and you can download them from http://www.cisco.com.

Deciding When to Upgrade EPLDs

When new EPLD images are available, the upgrades are always recommended if your network environment allows for a maintenance period in which some level of traffic disruption is acceptable. If such a disruption is not acceptable at this time, then you might consider postponing the upgrade until a better time.

Note The EPLD upgrade operation is a disruptive operation. You should execute this operation only at a programmed maintenance time. The system/kickstart ISSU upgrade is a nondisruptive upgrade.

Note Do not perform an EPLD upgrade during an ISSU system/kickstart upgrade.

Switch Requirements

The Cisco Nexus 9000 Series switch must be running the Cisco NX-OS operating system and include the following hardware:

- Supervisor modules—one or two, each with at least 200 MB of available bootflash memory (Cisco Nexus 95*xx* switches only)
- System controller modules—one or two (Cisco Nexus 95*xx* switches only)
- I/O modules (Cisco Nexus 95*xx* switches only)
  - One to four for the Cisco Nexus 9504 switch
  - One to eight for the Cisco Nexus 9508 switch
  - One to sixteen for the Cisco Nexus 9516 switch
- Fabric modules—three or six (Cisco Nexus 95*xx* switches only)
- Fan modules
  - Three for the Cisco Nexus 93128TX, 9396PX, 9396TX, and 95*xx* switches
  - Four for the Cisco Nexus 9332PQ, 9372PX, and 9372TX switches
- Power supplies
  - One or two 650-W AC power supplies for the Cisco Nexus 9332PQ, 9372PX, 9372TX, 9396PX, and 9396TX switches
  - One or two 1200-W AC power supplies for the Cisco Nexus 93128TX, and 9336PQ switches
  - Up to four 3000-W AC power supplies for the Cisco Nexus 9504 switch
  - Up to eight 3000-W AC power supplies for the Cisco Nexus 9508 switch
  - Up to 10 3000-W AC power supplies for the Cisco Nexus 9516 switch
- Uplink module (Cisco Nexus 93*xxx* switches only)

- M6PQ
- M12PQ

You must be able to access the switch through a console, SSH, or Telnet (required for setting up a switch running in NX-OS mode but not required for a switch running in ACI-mode).

You must have administrator privileges to work with the Cisco Nexus 9000 Series switch.

EPLD Upgrades Available for Releases 6.1(2)I3(3) to 6.1(2)I3(5)

Each EPLD image that you can download from http://www.cisco.com is a bundle of EPLD upgrades. To see the updated EPLD versions for the Cisco Nexus 3164Q switch, Cisco Nexus 93*xxx* switches, and the Cisco Nexus 95*xx* switches, see the following tables.

Note All updates to an image are shown in boldface.

Table 1: EPLD images for the Cisco Nexus 3164Q Switch

EPLD Device	Release 6.1(2)I3(3) (12/2014)	Release 6.1(2)I3(3a) (1/2015)	Release 6.1(2)I3(4) (2/2015)	Release 6.1(2)I3(4a) (5/2015)	Release 6.1(2)I3(4b) (6/2015)	Release 6.1(2)I3(5) (8/2015)
IO FPGA	0x4 (0.004)	0x4 (0.004)	**0x6 (0.006)**	0x6 (0.006)	0x6 (0.006)	0x6 (0.006)
MI FPGA	0x19 (0.025)	0x19 (0.025)	**0x20 (0.032)**	0x20 (0.032)	0x20 (0.032)	0x20 (0.032)

Table 2: EPLD images for the Cisco Nexus 93xxx Fixed Switches

Component	EPLD Device	Release 6.1(2)I3(3) (12/2014)	Release 6.1(2)I3(3a) (1/2015)	Release 6.1(2)I3(4) (2/2015)	Release 6.1(2)I3(4a) (5/2015)	Release 6.1(2)I3(4b) (6/2015)	Release 6.1(2)I3(5) (8/2015)
Cisco Nexus 93128TX Switch (N9K-C93128TX)	IO FPGA	0x8 (0.008)	0x8 (0.008)	**0x9 (0.009)**	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)
	MI FPGA	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)
Cisco Nexus 9332PQ Switch (N9K-C9332PQ)	IO FPGA	0x8 (0.008)	0x8 (0.008)	**0x10 (0.016)**	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)
	MI FPGA	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)
Cisco Nexus 9372PX Switch (N9K-C9372PX)	IO FPGA	0x5 (0.005)	0x5 (0.005)	**0x6 (0.006)**	0x6 (0.006)	0x6 (0.006)	0x6 (0.006)
	MI FPGA	0x11 (0.017)	0x11 (0.017)	0x11 (0.017)	0x11 (0.017)	0x11 (0.017)	0x11 (0.017)

Component	EPLD Device	Release 6.1(2)I3(3) (12/2014)	Release 6.1(2)I3(3a) (1/2015)	Release 6.1(2)I3(4) (2/2015)	Release 6.1(2)I3(4a) (5/2015)	Release 6.1(2)I3(4b) (6/2015)	Release 6.1(2)I3(5) (8/2015)
Cisco Nexus 9372TX Switch (N9K-C9372TX)	IO FPGA	0x3 (0.003)	0x3 (0.003)	**0x4 (0.004)**	0x4 (0.004)	0x4 (0.004)	0x4 (0.004)
	MI FPGA	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)
Cisco Nexus 9396PX Switch (N9K-C9396PX)	IO FPGA	0x13 (0.019)	0x13 (0.019)	**0x14 (0.020)**	0x14 (0.020)	0x14 (0.020)	0x14 (0.020)
	MI FPGA	0x14 (0.020)	0x14 (0.020)	0x14 (0.020)	0x14 (0.020)	0x14 (0.020)	0x14 (0.020)
Cisco Nexus 9396TX Switch (N9K-C9396TX)	IO FPGA	0x6 (0.006)	0x6 (0.006)	**0x7 (0.007)**	0x7 (0.007)	0x7 (0.007)	0x7 (0.007)
6-port optical uplink module (N9K-M6PQ)	MI FPGA	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)
12-port optical uplink module (N9K-M12PQ)	MI FPGA	0x18 (0.024)	0x18 (0.024)	0x18 (0.024)	0x18 (0.024)	0x18 (0.024)	0x18 (0.024)

Table 3: EPLD images for the Cisco Nexus 95xx Modular Switches

Component	EPLD Device	Release 6.1(2)I3(3) (12/2014)	Release 6.1(2)I3(3a) (1/2015)	Release 6.1(2)I3(4) (2/2015)	Release 6.1(2)I3(4a) (5/2015)	Release 6.1(2)I3(4b) (6/2015)	Release 6.1(2)I3(5) (8/2015)
Supervisor A(N9K-SUP-A)	IO FPGA	0x22 (0.034)	0x22 (0.034)	0x22 (0.034)	0x22 (0.034)	0x22 (0.034)	0x22 (0.034)
Supervisor B(N9K-SUP-B)	IO FPGA	0x22 (0.034)	0x22 (0.034)	0x22 (0.034)	0x22 (0.034)	0x22 (0.034)	0x22 (0.034)
System Controller (N9K-SC-A)	IO FPGA	0x17 (0.023)	0x17 (0.023)	0x17 (0.023)	0x17 (0.023)	0x17 (0.023)	0x17 (0.023)
36-port 40-Gigabit QSFP+ aggragation I/O module (N9K-X9636PQ)	MI FPGA	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)
	IO FPGA	0x15 (0.021)	0x16 (0.022)	0x16 (0.022)	0x16 (0.022)	0x16 (0.022)	0x16 (0.022)

Component	EPLD Device	Release 6.1(2)I3(3) (12/2014)	Release 6.1(2)I3(3a) (1/2015)	Release 6.1(2)I3(4) (2/2015)	Release 6.1(2)I3(4a) (5/2015)	Release 6.1(2)I3(4b) (6/2015)	Release 6.1(2)I3(5) (8/2015)
36-port 40-Gigabit QSFP+ I/O module (N9K-X9536PQ)	IO FPGA	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)
	MI FPGA	0x6 (0.006)	0x6 (0.006)	0x6 (0.006)	0x6 (0.006)	0x6 (0.006)	0x6 (0.006)
48-port 1-/10-Gigabit SFP+ and 4-port 40-Gigabit QSFP+ I/O module (N9K-X9564PX)	IO FPGA	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)
	MI FPGA	**0x9 (0.009)**	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)
48-port 1-/10-Gigabit BASE-T and 4-port 40-Gigabit QSFP+ I/O module (N9K-X9564TX)	IO FPGA	0x8 (0.008)	0x8 (0.008)	0x8 (0.008)	0x8 (0.008)	0x8 (0.008)	0x8 (0.008)
	MI FPGA	**0x7 (0.007)**	0x7 (0.007)	0x7 (0.007)	0x7 (0.007)	0x7 (0.007)	0x7 (0.007)
48-port 1-/10-Gigabit SFP+ and 4-port QSFP+ I/O module (N9K-X9464PX)	IO FPGA	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)	0x10 (0.016)
	MI FPGA	**0x9 (0.009)**	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)	0x9 (0.009)
48-port 1-/10-Gigabit BASE-T and 4-port QSFP+ I/O module (N9K-X9464TX)	IO FPGA	0x8 (0.008)	0x8 (0.008)	0x8 (0.008)	0x8 (0.008)	0x8 (0.008)	0x8 (0.008)
	MI FPGA	**0x7 (0.007)**	0x7 (0.007)	0x7 (0.007)	0x7 (0.007)	0x7 (0.007)	0x7 (0.007)
32-port 40-Gigabit QSFP+ I/O module (N9K-X9432PQ)	IO FPGA	0x15 (0.021)	0x15 (0.021)	**0x16 (0.022)**	0x16 (0.022)	0x16 (0.022)	0x16 (0.022)
	MI FPGA	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)	0x13 (0.019)
Fabric module for Cisco Nexus 9504 chassis	IO FPGA	0x18 (0.024)	0x18 (0.024)	0x18 (0.024)	0x18 (0.024)	0x18 (0.024)	0x18 (0.024)

Component	EPLD Device	Release 6.1(2)I3(3) (12/2014)	Release 6.1(2)I3(3a) (1/2015)	Release 6.1(2)I3(4) (2/2015)	Release 6.1(2)I3(4a) (5/2015)	Release 6.1(2)I3(4b) (6/2015)	Release 6.1(2)I3(5) (8/2015)
Fabric module for Cisco Nexus 9508 chassis	IO FPGA	0x18 (0.024)	0x18 (0.024)	0x18 (0.024)	0x18 (0.024)	0x18 (0.024)	0x18 (0.024)
Fabric module for Cisco Nexus 9516 chassis	IO FPGA	0x12 (0.018)	0x12 (0.018)	0x12 (0.018)	0x12 (0.018)	0x12 (0.018)	0x12 (0.018)

Determining Whether to Upgrade EPLD Images

You can use the **show install impact epld bootflash:** command to determine whether the EPLDs can be upgraded for all the modules or for specific modules on a switch. This command indicates the current EPLD images, new EPLD images, and whether the upgrades would be disruptive to switch operations. If the currently installed EPLD version number is greater than the new EPLD image number, you can skip the upgrade.

The following example shows the results of using the **show install impact epld bootflash:** command on a Cisco Nexus 93*xxx* switch. In this case, the MI FPGA and IO FPGA EPLD images can be upgraded for the switch supervisor (slot 1) and the MI FPGA2 EPLD image can be upgraded for the supervisor in the uplink module (slot 2). Both upgrades are disruptive.

```
Nexus93xx_switch# show install all impact epld bootflash:n9000-epld.6.1.2.I3.5.img
Compatibility check:
Module        Type         Upgradable        Impact   Reason
------  -----------------  ----------    ----------   ------
     1            SUP           Yes       disruptive   Module Upgradable
     2      Expansion           Yes       disruptive   Module Upgradable

Retrieving EPLD versions... Please wait.

Images will be upgraded according to following table:
Module  Type           EPLD      Running-Version   New-Version  Upg-Required
------  ----  -------------      ---------------   -----------  ------------
     1   SUP  MI FPGA                   0x11        0x14            Yes
     1   SUP  IO FPGA                   0x08        0x13            Yes
     2   SUP  MI FPGA2                  0x15        0x18            Yes
Nexus93xx_switch#
```

The following example shows the results of using the **show install impact epld bootflash:** command on a Cisco Nexus 95*xx* switch.

```
Nexus95xx_switch# show install all impact epld bootflash:n9000-epld.6.1.2.I3.5.img
Compatibility check:
Module        Type         Upgradable        Impact   Reason
------  -----------------  ----------    ----------   ------
     2             LC           Yes       disruptive   Module Upgradable
     6             LC            No             none   Module is not Online
     7             LC           Yes       disruptive   Module Upgradable
    22             FM           Yes       disruptive   Module Upgradable
    23             FM           Yes       disruptive   Module Upgradable
    24             FM           Yes       disruptive   Module Upgradable
    25             FM           Yes       disruptive   Module Upgradable
    26             FM           Yes       disruptive   Module Upgradable
    27            SUP           Yes       disruptive   Module Upgradable
    29             SC           Yes       disruptive   Module Upgradable

Retrieving EPLD versions... Please wait.

Images will be upgraded according to following table:
Module  Type           EPLD      Running-Version   New-Version  Upg-Required
------  ----  -------------      ---------------   -----------  ------------
```

```
     2    LC  MI FPGA                    0x09        0x13            Yes
     2    LC  IO FPGA                    0x14        0x15             No
     7    LC  MI FPGA                    0x09        0x13             No
     7    LC  IO FPGA                    0x14        0x15            Yes
    22    FM  IO FPGA                    0x15        0x18            Yes
    23    FM  IO FPGA                    0x15        0x18             No
    24    FM  IO FPGA                    0x15        0x18            Yes
    25    FM  IO FPGA                    0x15        0x18             No
    26    FM  IO FPGA                    0x15        0x18            Yes
    27   SUP  IO FPGA                    0x16        0x20             No
    29    SC  IO FPGA                    0x14        0x17             No
```

The following example shows the results of using the **show install impact epld bootflash:** command on a Cisco Nexus 3164PQ switch.

```
Nexus3164PQ_switch# show install all impact epld n9000-epld.6.1.2.I3.5.img
Compatibility check:
Module        Type         Upgradable        Impact   Reason
------  -----------------  ----------    ----------   ------
     1            SUP           Yes       disruptive   Module Upgradable

Retrieving EPLD versions... Please wait.

Images will be upgraded according to following table:
Module  Type   EPLD              Running-Version   New-Version  Upg-Required
------  ----  -------------      ---------------   -----------  ------------
     1   SUP  MI FPGA                   0x22        0x22             No
     1   SUP  IO FPGA                   0x06        0x06             No
     1   SUP  MI FPGA2                  0x22        0x22             No
```

Downloading the EPLD Images

Before you can prepare the EPLD images for installation, you must download them to the FTP or management server.

Procedure

Step 1 From a browser, go to http://www.cisco.com.
The browser will display the Cisco website.

Step 2 From the Products & Services tab, choose **Switches**.
The Switches page opens.

Step 3 In the Data Center area, click the arrow next to View Products.
The page lists the Data Center products.

Step 4 Click **Nexus 9000**.
The Cisco Nexus 9000 Series Switches page opens.

Step 5 In the Support area, click **Download Software**.
The Downloads page opens and lists the Data Center switches.

Step 6 Choose a Cisco Nexus 9000 Series switch from the list under **Data Center Switches** > **Cisco Nexus 9000 Series Switches**.
The Log In page opens.

Step 7 Log in as follows:

- If you are an existing user, enter your username in the **User Name** field and your password in the **Password** field.
- If you are a new user, click **Register Now** and provide the required information before returning to the Log In page and logging in with your new username.

The Downloads page lists the software types that can be downloaded for the switch that you specified.

Step 8 Click **NX-OS EPLD Updates**.
The Downloads page lists software releases that you can download.

Step 9 Choose **Latest Releases** > **6.1(2)I3(5)**.
The Downloads page displays image information, including a link to the downloadable Tar file, to the right of the releases.

Step 10 Click the link for the Tar file.
The Downloads page displays a Download button and lists information for the Tar file.

Step 11 Click **Download**.
The Supporting Documents page opens to display the rules for downloading the software.

Step 12 Read the rules and click **Agree**.
A File Download dialog box opens to ask if you want to open or save the images file.

Step 13 Click **Save**.
The Save As dialog box appears.

Step 14 Indicate where to save the Tar file and click **Save**.
The Tar file saves to the location that you specified.

What to Do Next

You are ready to prepare the EPLD images for Installation (see Upgrading the EPLD Images).

Installation Guidelines

You can upgrade EPLDs using CLI commands on the Cisco Nexus 9000 Series switch. Follow these guidelines when you upgrade EPLDs:

- Before you upgrade any EPLD images, be sure that you have updated the Cisco NX-OS operating system to the level required for the images and be sure that you have an EPLD image file.
- You can execute an upgrade from the active supervisor module only. This upgrade is for one or all of the modules as follows:
  - You can upgrade a module individually.
  - You can upgrade all modules sequentially.
  - You can upgrade all modules in parallel.
- You can update the images for one or all modules whether the switch is online or offline as follows:
  - If the modules are online, only the EPLD images with version numbers that differ from the new EPLD images are upgraded.
  - If the modules are offline, all of the EPLD images are upgraded.
- On a Cisco Nexus 95*xx* switch that has two supervisor modules, upgrade the EPLDs for the standby supervisor and then switch the active supervisor to the standby mode to upgrade its EPLDs (the supervisor switchover is not disruptive to traffic on Cisco Nexus 95*xx* switches). On a switch that has only one supervisor module, you can upgrade the active supervisor, but this will disrupt its operations during the upgrade.

- If you interrupt an upgrade, you must upgrade the module that is being upgraded again.
- The upgrade process disrupts traffic on the targeted module.
- Do not insert or remove any modules while an EPLD upgrade is in progress.

Upgrading the EPLD Images

If you have a Cisco Nexus 9000 Series switch that is running Cisco NX-OS Release 6.1(2)I1(3) build or later build, follow the special upgrade steps presented here.

Procedure

Step 1 Copy the n9000-dk9.6.1.2.I3.5.bin and n9000-epld.6.1.2.I3.5.img images to bootflash.

Step 2 To determine if you need to upgrade the BIOS for the image, use the **show install all impact** command.

```
 switch# sh install all impact
Installer will perform impact only check. Please wait.
Installer is forced disruptive

Verifying image bootflash:/I3.5.12 for boot variable "nxos".
[####################] 100% -- SUCCESS

Verifying image type.
[####################] 100% -- SUCCESS

Preparing "nxos" version info using image bootflash:/I3.5.12.
[####################] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/I3.5.12.
[####################] 100% -- SUCCESS

Performing module support checks.
[####################] 100% -- SUCCESS

Notifying services about system upgrade.
[####################] 100% -- SUCCESS



Compatibility check is done:
Module  bootable          Impact  Install-type  Reason
------  --------  --------------  ------------  ------
     1       yes  non-disruptive          none



Images will be upgraded according to following table:
Module       Image                 Running-Version(pri:alt)           New-Version  Upg-Required
------  ----------  ----------------------------------------  --------------------  ------------
     1        nxos                                6.1(2)I3(5)           6.1(2)I3(5)            no
     1        bios     v08.06(09/10/2014):v08.06(09/10/2014)    v08.06(09/10/2014)            no
```

Step 3 If you do not need to upgrade the BIOS, set the boot variable using the **boot nxos boot flash:n9000-dk9.6.1.2.I3.5.bin** command.

Step 4 Enter the **copy running-config startup-config** command to set the startup boot variables to the NX-OS image.

Step 5 If you need to upgrade the BIOS, enter the **install all nxos bootflash:n9000-dk9.6.1.2.I3.5.bin** command.

Step 6 Enter the **install epld bootflash:n9000-epld.6.1.2.I3.5.img module all** command to upgrade the EPLD. The chassis will reboot automatically.

Verifying the EPLD Upgrades

You can verify the EPLD upgrades for each slot in a modular switch by using the command the **show version module** *slot_number***epld** command.

Displaying the Status of EPLD Upgrades

To display the status of EPLD upgrades on the switch, use the **show install epld status** command.

Limitations

When EPLDs are upgraded, the following guidelines and observations apply:

- If a module is not online, you cannot upgrade its EPLD images.
- If there are two supervisors installed in the switch (Cisco Nexus 9504, 9508, and 9516 only), you can either upgrade only the standby supervisor from the active supervisor or upgrade all modules (including both supervisor modules) by using the following commands:
  - **install epld bootflash:** *image* **module** *standby_supervisor_slot_number* (upgrades only the standby supervisor module)

    Note After you use this command, you can switchover the active and standby supervisor modules and then upgrade the other supervisor.

  - **install epld bootflash:** *image* **module all** (upgrades all of the modules)
- If there is only one supervisor installed in the switch, your upgrading or downgrading of EPLD images is disruptive.

Related Documentation

The entire Cisco NX-OS 9000 Series documentation set is available at the following URL:

http://www.cisco.com/en/US/products/ps13386/tsd_products_support_series_home.html

Release Notes

The release notes are available at the following URL:

http://www.cisco.com/en/US/products/ps13386/prod_release_notes_list.html

Configuration Guides

These guides are available at the following URL:

http://www.cisco.com/en/US/products/ps13386/products_installation_and_configuration_guides_list.html

The documents in this category include:

- *Cisco Nexus 2000 Series NX-OS Fabric Extender Software Configuration Guide for Cisco Nexus 9000 Series Switches*
- *Cisco Nexus 9000 Series NX-OS Fundamentals Configuration Guide*
- *Cisco Nexus 9000 Series NX-OS High Availability and Redundancy Guide*
- *Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide*
- *Cisco Nexus 9000 Series NX-OS Layer 2 Switching Configuration Guide*
- *Cisco Nexus 9000 Series NX-OS Multicast Routing Configuration Guide*
- *Cisco Nexus 9000 Series NX-OS Quality of Service Configuration Guide*
- *Cisco Nexus 9000 Series NX-OS Security Configuration Guide*
- *Cisco Nexus 9000 Series NX-OS System Management Configuration Guide*
- *Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide*
- *Cisco Nexus 9000 Series NX-OS Verified Scalability Guide*
- *Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide*

Other Software Documents

- *Cisco Nexus 7000 Series and 9000 Series NX-OS MIB Quick Reference*
- *Cisco Nexus 9000 Series NX-OS Programmability Guide*
- *Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide*
- *Cisco Nexus 9000 Series NX-OS System Messages Reference*
- *Cisco Nexus 9000 Series NX-OS Troubleshooting Guide*
- *Cisco NX-OS Licensing Guide*
- *Cisco NX-OS XML Interface User Guide*

Hardware Documents

- *Cisco Nexus 3000 Series Hardware Installation Guide*
- *Cisco Nexus 93128TX NX-OS-Mode Switch Hardware Installation Guide*
- *Cisco Nexus 9332PQ NX-OS-Mode Switch Hardware Installation Guide*
- *Cisco Nexus 9372PX NX-OS-Mode Switch Hardware Installation Guide*

- *Cisco Nexus 9372TX NX-OS-Mode Switch Hardware Installation Guide*
- *Cisco Nexus 9396PX NX-OS-Mode Switch Hardware Installation Guide*
- *Cisco Nexus 9396TX NX-OS-Mode Switch Hardware Installation Guide*
- *Cisco Nexus 9504 NX-OS-Mode Switch Hardware Installation Guide*
- *Cisco Nexus 9508 NX-OS-Mode Switch Hardware Installation Guide*
- *Cisco Nexus 9516 NX-OS-Mode Switch Hardware Installation Guide*
- *Regulatory, Compliance, and Safety Information for the Cisco Nexus 3000 and 9000 Series*

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to apic-docfeedback@cisco.com. We appreciate your feedback.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation*, at: http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html.

Subscribe to *What's New in Cisco Product Documentation*, which lists all new and revised Cisco technical documentation as an RSS feed and delivers content directly to your desktop using a reader application. The RSS feeds are a free service.

The following information is for FCC compliance of Class A devices: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to correct the interference at their own expense.

The following information is for FCC compliance of Class B devices: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If the equipment causes interference to radio or television reception, which can be determined by turning the equipment off and on, users are encouraged to try to correct the interference by using one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications to this product not authorized by Cisco could void the FCC approval and negate your authority to operate the product

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA 95134-1706
USA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV
Amsterdam, The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.