



Cisco Nexus 7000 Series FPGA/EPLD Upgrade Release Notes, Release 6.1

Part Number: OL-27673-04
Release Date: May 20, 2013

[Table 1](#) shows the online history changes for this document.

Table 1 **Online History Change**

Part Number	Date	Description
OL-27673-01	August 2012	Created for Cisco NX-OS Release 6.1(1).
	September 18, 2012	Added two notes explaining how to specify software images for use with Supervisor 1 and Supervisor 2/2E modules.
OL-27673-02	October 12, 2012	Added EPLDs for NX-OS Release 6.1(2).
	November 5, 2012	Included the N7K-F248XP-25E and N7K-F248XT-25E I/O modules.
	November 7, 2012	Included the fan controller for the Cisco Nexus 7004 switch.
	November 9, 2012	Removed guideline for doing individual updates only.
	December 5, 2012	Revised EPLD images to download for Releases 6.1(1) and 6.1(2).
	December 13, 2012	Corrected IOFPGA images for the 48-port 10Gigabit modules.
OL-27673-03	February 20, 2013	Updated for the Cisco NX-OS Release 6.1(3).
	March 20, 2013	Corrected misspelling.
OL-27673-04	May 17, 2013	Updated for the Cisco NX-OS Release 6.1(4).
	May 20, 2013	Reworded Introduction and moved CSCud23258 to Resolved Caveats for Release 6.1(3).
	October 14, 2013	Added information about release 6.1(4a) images.

This document includes the following sections:



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Introduction

The Cisco Nexus 7000 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. To determine if there are any updated images, see [Table 3 on page 5](#). 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

You do not always need to upgrade EPLD images but the following circumstances do require that you upgrade these images:

- If you are upgrading Supervisor 1 modules with Supervisor 2 or Supervisor 2E modules and the switch has Fabric 2 modules (For the Cisco Nexus 7009 switch, make sure that you are using image 1.003 or later image for the fabric 2 modules. For Cisco Nexus 7010 and 7018 switches, make sure that you are using image 0.007 or later image.)



Note Supervisor 1 modules are not used with the Cisco Nexus 7004, 7710, and 7718 switches.

- If you are enabling software features (LISP, VPCs, and so on) that require EPLDs
- If you are using M2 Series 100-Gbps Ethernet I/O modules that remain powered down after booting up the switch

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.

[Table 2](#) provides high-level guidelines to help network administrators determine whether an EPLD upgrade is necessary when upgrading the Cisco NX-OS Release 5.0(1) or later releases. If you are upgrading an earlier release, see one of the following earlier versions of the release notes:

- *Cisco Nexus 7000 Series FPGA/EPLD Upgrade Release Notes, Release 4.0*
- *Cisco Nexus 7000 Series FPGA/EPLD Upgrade Release Notes, Release 4.1*

Table 2 **Conditions For Upgrading EPLD Images**

Condition	Modules Recommended for Upgrades ¹
M2 Series I/O modules remain powered down after booting up the switch for Cisco NX-OS Release 6.1(1) or 6.1(2).	Download one of the following EPLD images and use the no poweroff module command for each powered down M2 Series I/O module: <ul style="list-style-type: none"> • For Release 6.1(1) and supervisor 1 modules download n7000-s1-epld.6.1.1a.img. • For Release 6.1(1) and supervisor 2 modules download n7000-s2-epld.6.1.1a.img. • For Release 6.1(2) and supervisor 1 modules download n7000-s1-epld.6.1.2a.img. • For Release 6.1(2) and supervisor 2 modules download n7000-s2-epld.6.1.2a.img.
Upgrading the Cisco NX-OS operating system from Release 4.x to Release 5.0 or later releases.	Update all supervisor, I/O, and fabric modules with the latest EPLD images.
Moving 32-port 10-Gbps Ethernet I/O modules from a Cisco Nexus 7010 switch to a Cisco Nexus 7018 switch.	32-port 10-Gbps Ethernet I/O modules (N7K-M132XP-12)
Moving 48-port 10/100/1000 Ethernet I/O modules from a Cisco Nexus 7010 switch to a Cisco Nexus 7018 switch.	48-port 10/100/1000 Ethernet I/O modules (N7K-M148GT-11)
Moving the supervisor (N7K-SUP1) modules from a Cisco Nexus 7010 switch to a Cisco Nexus 7018 switch.	Supervisor (N7K-SUP1) modules

1. We recommend (not mandatory) that you upgrade the EPLD images for the supervisor, I/O, and fabric modules.

Switch Requirements

The Cisco Nexus 7000 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 120 MB of available bootflash or slot0 memory
- I/O modules—at least one
- Fabric modules—at least three (Cisco Nexus 7009, 7010, and 7018 only)
- Fan trays
 - For the Cisco Nexus 7004, one fan tray
 - For the Cisco Nexus 7009 chassis, one fan tray
 - For the Cisco Nexus 7010 chassis, two system fan trays and two fabric fan trays
 - For the Cisco Nexus 7018 chassis, two system fan trays

You must be able to access the switch through a console, SSH, or Telnet.

You must have administrator privileges to work with the Cisco Nexus 7000 Series switch.

EPLDs Available for Releases 5.2(1) through 6.1(4a)

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 each release, see [Table 3](#).



Note

[Table 3](#) shows EPLD image numbers in X.00y format but the **show** commands might display these numbers in an older X.y format (without leading zeros) for earlier EPLD images.

Table 3 EPLD Upgrades for Cisco NX-OS Releases

Module Type EPLD Device	Module	Releases							
	Versions	5.2(1)	6.0(1)	6.0(2)	6.1(1)	6.1(2)	6.1(3)	6.1(4)	6.1(4a)
Supervisor 1 module (N7K-SUP1)									
Power Manager	All	3.009	—	—	—	—	—	—	—
IO	All	3.028	—	—	3.029	—	—	—	—
INBAND	All	1.008	—	—	—	—	—	—	—
Local Bus and CPLD	All	3.000	—	—	—	—	—	—	—
CMP CPLD	All	6.000	—	—	—	—	—	—	—
Supervisor 2 and 2E modules (N7K-SUP2 and N7K-SUP2E)									
Power Manager	All	N/A ¹	N/A ¹	N/A ¹	2.004	—	—	—	—
IO	All	N/A ¹	N/A ¹	N/A ¹	1.012	1.013	—	—	—
F1 Series 32-port, 1- and 10-Gigabit Ethernet I/O module (N7K-F132XP-15)									
Power Manager	All	1.001	—	—	—	—	—	—	—
IO	All	0.045	—	—	—	—	—	—	—
F2 Series 48-port, 1- and 10-Gigabit Ethernet I/O modules (N7K-F248XP-25)									
Power Manager	All	N/A ¹	1.006	—	—	—	—	—	—
IO	All	N/A ¹	0.006	—	—	—	—	—	—
F2 Series 48-port, 1- and 10-Gigabit Ethernet I/O modules (enhanced) (N7K-F248XP-25E)									
Power Manager	All	N/A ¹	N/A ¹	N/A ¹	N/A ¹	1.006	—	—	—
IO	All	N/A ¹	N/A ¹	N/A ¹	N/A ¹	0.001	—	—	—
F2 Series 48-port, 1- and 10-GBASE-T Ethernet I/O modules (enhanced) (N7K-F248XT-25E)									
Power Manager	All	N/A ¹	N/A ¹	N/A ¹	N/A ¹	1.009	—	—	—
IO	All	N/A ¹	N/A ¹	N/A ¹	N/A ¹	0.016	—	—	—
M1 Series 48-port, 1-Gigabit Ethernet I/O module (N7K-M148GS-11)									
Power Manager	All	4.008	—	—	—	—	—	—	—
IO	All	1.006	—	—	—	—	—	—	—
SFP	All	1.004	—	—	—	—	—	—	—
Forwarding Engine	All	1.006	—	—	—	—	—	—	—
M1 Series 48-port, 1-Gigabit Ethernet I/O module with XL (N7K-M148GS-11L)									

Table 3 *EPLD Upgrades for Cisco NX-OS Releases (continued)*

Module Type EPLD Device	Module Versions	Releases							
		5.2(1)	6.0(1)	6.0(2)	6.1(1)	6.1(2)	6.1(3)	6.1(4)	6.1(4a)
Power Manager	All	4.008	—	—	—	—	—	—	—
IO	All	1.006	—	—	—	—	—	—	—
SFP	All	1.004	—	—	—	—	—	—	—
Forwarding Engine	V01-V04	1.006	—	—	—	—	—	—	—
	V05+	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²	2.005	2.009	—
M1 Series 48-port, 10/100/1000 Ethernet I/O module (N7K-M148GT-11)									
Power Manager	All	5.006	—	—	—	—	—	—	—
IO	All	2.014	—	—	—	—	—	—	—
Forwarding Engine	All	1.006	—	—	—	—	—	—	—
M1 Series 48-port, 10/100/1000 Ethernet I/O module with XL (N7K-M148GT-11L)									
Power Manager	All	5.006	—	—	—	—	—	—	—
IO	All	2.014	—	—	—	—	—	—	—
Forwarding Engine	V01-V03	1.006	—	—	—	—	—	—	—
	V04+	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²	2.005	2.009	—
M1 Series 32-port, 10-Gigabit Ethernet I/O module (N7K-M132XP-12)									
Power Manager	All	4.008	—	—	—	—	—	—	—
IO	All	1.016	—	—	—	—	—	—	—
LinkSec Engine	All	2.007	—	—	—	—	—	—	—
FE Bridge	All	186.008	—	—	—	—	—	—	—
Forwarding Engine	All	1.006	—	—	—	—	—	—	—
M1 Series 32-port, 10-Gigabit Ethernet I/O module with XL (N7K-M132XP-12L)									
Power Manager	All	4.008	—	—	—	—	—	—	—
IO	All	1.016	—	—	—	—	—	—	—
LinkSec Engine	All	2.007	—	—	—	—	—	—	—
FE Bridge	All	186.008	—	—	—	—	—	—	—
Forwarding Engine	V01-V03	1.006	—	—	—	—	—	—	—
	V04+	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²	2.005	2.009	—
M1 Series 8-port, 10-Gigabit Ethernet I/O module with XL (N7K-M108X2-12L)									
Power Manager	All	4.008	—	—	—	—	—	—	—
IO	All	2.007	—	—	—	—	—	—	—
CDL FPGA	All	2.004	—	—	—	—	—	—	—
Forwarding Engine	V01-V05	1.006	—	—	—	—	—	—	—
	V06+	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²	2.005	2.009	—
M2 Series 24-port, 10-Gigabit Ethernet I/O module with XL (N7K-M224XP-23L)									
Power Manager	All	N/A ¹	N/A ¹	N/A ¹	1.006	—	—	—	—

Table 3 *EPLD Upgrades for Cisco NX-OS Releases (continued)*

Module Type EPLD Device	Module Versions	Releases							
		5.2(1)	6.0(1)	6.0(2)	6.1(1)	6.1(2)	6.1(3)	6.1(4)	6.1(4a)
IO	All	N/A ¹	N/A ¹	N/A ¹	1.003	—	—	—	—
SFP	All	N/A ¹	N/A ¹	N/A ¹	1.002	—	—	—	—
Forwarding Engine	V01-V02	N/A ¹	N/A ¹	N/A ¹	1.006	—	—	—	—
	V03+	N/A ¹	N/A ¹	N/A ¹	N/A ²	N/A ²	2.005	2.009	—
M2 Series 6-port, 40-Gigabit Ethernet I/O module with XL (N7K-M206FQ-23L)									
Power Manager	All	N/A ¹	N/A ¹	N/A ¹	1.006	—	—	—	—
IO	All	N/A ¹	N/A ¹	N/A ¹	0.011	—	—	—	—
SFP	All	N/A ¹	N/A ¹	N/A ¹	2.008	—	—	—	—
Forwarding Engine	V01-V02	N/A ¹	N/A ¹	N/A ¹	1.006	—	—	—	—
	V03+	N/A ¹	N/A ¹	N/A ¹	N/A ²	N/A ²	2.005	2.009	—
M2 Series 2-port, 100-Gigabit Ethernet I/O module with XL (N7K-M202CF-22L)									
Power Manager	All	N/A ¹	N/A ¹	N/A ¹	1.006	—	1.007	—	—
IO	All	N/A ¹	N/A ¹	N/A ¹	0.009	—	—	—	—
SFP	All	N/A ¹	N/A ¹	N/A ¹	0.004	—	—	—	—
Forwarding Engine	V01-V02	N/A ¹	N/A ¹	N/A ¹	1.006	—	—	—	—
	V03+	N/A ¹	N/A ¹	N/A ¹	N/A ²	N/A ²	2.005	2.009	—
NAM service module (N7K-SM-NAM-K9)									
Power Manager	All	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
IO	All	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
Azuma	All	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
Promenade	All	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
Fabric-1 module (Cisco Nexus 7010) (N7K-C7010-FAB1)									
Power Manager	All	2.010	—	—	—	—	—	—	—
Fabric-1 module (Cisco Nexus 7018) (N7K-C7018-FAB1)									
Power Manager	All	1.003	—	—	—	—	—	—	—
Fabric-2 module (Cisco Nexus 7009) (N7K-C7009-FAB2)									
Power Manager	All	1.003	—	—	—	—	—	—	—
Fabric-2 module (Cisco Nexus 7010) (N7K-C7010-FAB2)									
Power Manager	All	N/A ¹	0.006	—	0.007	—	—	—	—
Fabric-2 module (Cisco Nexus 7018) (N7K-C7018-FAB2)									
Power Manager	All	N/A ¹	0.006	—	0.007	—	—	—	—
Fan (Cisco Nexus 7004)									
Fan Controller	All	N/A ¹	N/A ¹	N/A ¹	N/A ¹	0.005	—	—	—
Fan (Cisco Nexus 7009)									
Fan Controller	All	0.007	—	0.009	—	—	—	—	—

Table 3 *EPLD Upgrades for Cisco NX-OS Releases (continued)*

Module Type EPLD Device	Module	Releases							
	Versions	5.2(1)	6.0(1)	6.0(2)	6.1(1)	6.1(2)	6.1(3)	6.1(4)	6.1(4a)
Fan (Cisco Nexus 7010)									
Fan Controller	All	0.007	—	—	—	—	—	—	—
Fan (Cisco Nexus 7018)									
Fan Controller	All	0.002	—	—	—	—	—	—	—

1. Module and EPLD are not available for that release.
2. This module version did not exist until a later software release.

**Note**

To list the EPLDs running on your switch, use the **show version module *module_number* epld** command. If any of the versions that you list are older than what is listed in [Table 3](#), we recommend that you update the EPLDs.

Determining Whether EPLDs to Upgrade

As shown in [Table 4](#), you can use various show commands to determine whether the EPLDs can be upgraded for all the modules or for specific modules on a switch. These commands indicate the current EPLD images, new EPLD images, and whether the upgrades would be disruptive to switch operations.

Table 4 *Displaying the EPLD Upgrade Status for the Switch and its Modules*

Modules to Verify EPLD Status	Command
All modules on the switch	show install all impact epld bootflash:filename
I/O and supervisor modules	show install module <i>slot_number</i> impact epld bootflash:filename
Fabric modules	show install xbar-module <i>slot_number</i> impact epld bootflash:filename
Fan-tray modules	show install fan-module <i>slot_number</i> impact epld bootflash:filename

If there are different EPLD images to use depending on the version ID (VID) of a hardware module (see [Table 3 on page 5](#)), then you must determine the version number of the module by using the **show sprom module *number*** command as shown in [Example 1](#).

Example 1 *Determining the Version Number of a Supervisor or I/O Module*

```
switch# show sprom module 8 1
DISPLAY linecard sprom contents of module 8:
Common block:
Block Signature : 0xabab
Block Version   : 3
Block Length    : 160
Block Checksum  : 0x198b
EEPROM Size     : 65535
```



```

Block Count      : 3
...
H/W Version      : 0.102
Mfg Bits         : 0
Engineer Use     : 0
snmpOID          : 9.12.3.1.9.66.5.0
Power Consump    : -600
RMA Code         : 0-0-0-0
CLEI Code        : COUIAY6CAA
VID              : V01          <-----Version ID
...

```

Downloading the EPLD Images

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

To download the EPLD images, follow these steps:

-
- Step 1** From a browser, go to the following URL:
<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 7000**.
 The Cisco Nexus 7000 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 7000 Series switch from the list under **Data Center Switches > Cisco Nexus 7000 Series Switches**.
 The Log In page opens.
 - Step 7** 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(4)**.
 The Downloads page displays image information, including a link to the downloadable Tar file, to the right of the releases.



Note

For Releases 6.1(1) or 6.1(2), you must download EPLD image files for 6.1(1a) or 6.1(2a).

- 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.

You are ready to prepare the EPLD images for Installation (see the [“Preparing the EPLD Images for Installation” section on page 12](#)).

EPLD Images Needed for vPCs

The virtual port channel (vPC) feature is available beginning with Cisco NX-OS Release 4.1(3). When you enable vPC on the chassis, you must have EPLD image 186.3 (or later image) on the 32-port 10-Gigabit Ethernet types of I/O modules (N7K-M132XP-12 and N7K-M132XP-12L).



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.

Most of the N7K-M132XP-12 modules in the chassis already meet this minimum EPLD requirement, but if you are working with an N7K-M132XP-12 module that was shipped before June 2008, you might need to upgrade the EPLD version.

To determine the EPLD version for all N7K-M132XP-12 modules, enter the **show version module slot_number epld** command. If the line FE Bridge(x) version displays a version earlier than 186.7, you should schedule an EPLD upgrade to a version that is compatible with the target Cisco NX-OS release. For example, if you want to run Cisco NX-OS Release 6.1(1), you should choose Release 6.1(1) EPLDs.

The following example shows Release 186.008 on the FE Bridge line, which is a correct EPLD version:

```
Nexus-7k(config)# show version module 7 epld
```

EPLD Device	Version
Power Manager	4.008
IO	1.016
Forwarding Engine	1.006
FE Bridge(1)	186.008 << OK!
FE Bridge(2)	186.008 << OK!
Linksec Engine(1)	2.007
Linksec Engine(2)	2.007

Linksec Engine(3)	2.007
Linksec Engine(4)	2.007
Linksec Engine(5)	2.007
Linksec Engine(6)	2.007
Linksec Engine(7)	2.007
Linksec Engine(8)	2.007

EPLD Images Needed for LISP

The Locator/ID Separator Protocol (LISP) feature is available beginning with Cisco NX-OS Release 5.2(1). When you enable LISP on the chassis, you must have EPLD image 186.008 (or later image) on the 32-port 10-Gigabit Ethernet types of I/O modules (N7K-M132XP-12 and N7K-M132XP-12L).



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.

If you are working with an N7K-M132XP-12 module that was shipped before July 2011, you might need to upgrade the EPLD version.

To determine the EPLD version for all N7K-M132XP-12 and N7K-M132XP-12L modules, enter the **show version module *module_id* epld**. If the line FE Bridge(x) version displays a version earlier than 186.008, you should schedule an EPLD upgrade to a version that is compatible with the target Cisco NX-OS release. For example, if you want to run Cisco NX-OS Release 5.2(1), you should choose Release 5.2(1) EPLDs.

The following example shows Release 186.008 on the FE Bridge line, which is the correct EPLD version:

```
Nexus-7k(config)# show version module 7 epld
```

EPLD Device	Version
-----	-----
Power Manager	4.008
IO	1.016
Forwarding Engine	1.006
FE Bridge(1)	186.008 << OK!
FE Bridge(2)	186.008 << OK!
Linksec Engine(1)	2.007
Linksec Engine(2)	2.007
Linksec Engine(3)	2.007
Linksec Engine(4)	2.007
Linksec Engine(5)	2.007
Linksec Engine(6)	2.007
Linksec Engine(7)	2.007
Linksec Engine(8)	2.007

Installation Guidelines

You can upgrade (or downgrade) EPLDs using CLI commands on the Cisco Nexus 7000 Series switch. Follow these guidelines when you upgrade or downgrade 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 one of the following EPLD image files:
 - n7000-s1-kickstart.6.1.4.bin (for switches with Supervisor 1 modules)
 - n7000-s2-kickstart.6.1.4.bin (for switches with Supervisor 2 or Supervisor 2E modules)



Note EPLD and software images for a chassis with Supervisor 1 modules include “s1” in the image name and images for Supervisor 2 and Supervisor 2E have “s2” in the image name.

- 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 system 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 7000 Series 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.

Preparing the EPLD Images for Installation

Before you can update the EPLD images for each of your switch modules, you must determine the Cisco NX-OS version that your switch is using, make sure that there is space for the new EPLD images, and download the images.

To prepare the EPLD images for installation, follow these steps:

-
- Step 1** Log in to the switch through the console port, an SSH session, or a Telnet session.

- Step 2** Verify that the switch is using the expected version of the Cisco NX-OS operating system. The kickstart and system lines indicate the Cisco NX-OS version. This step determines the versions of EPLD images that you must download.

```
switch# show version
...
Software
  BIOS:          version 3.17.0
  kickstart:     version 6.1(4)
  system:        version 6.1(4)
  BIOS compile time:      03/23/08
  kickstart image file is: bootflash:///n7000-s1-kickstart.6.1.4.bin
  kickstart compile time: 12/25/2020 12:00:00 [04/22/2013 21:51:35]
  system image file is:   bootflash:///n7000-s1-dk9.6.1.4.bin
  sysem compile time:     3/11/2013 23:00:00 [04/22/2013 23:05:03]
```

- Step 3** Verify that you have 120 MB of free space on the active or standby supervisor memory devices for the EPLD images that you will be downloading by using the **dir bootflash:** or **dir slot0:** commands.

By default, these commands display the used and free memory for the active supervisor. If your switch has an additional supervisor (a standby supervisor), use the **show module** command to find the module number for the other supervisor, use the **attach module** command to attach to the module number, and then use the **dir bootflash:** or **dir slot0:** command to determine the amount of used and free memory. See [Example 2](#) to determine the amount of available bootflash memory, and see [Example 3](#) to determine the amount of available slot0 memory.

Example 2 Determining the Amount of Available Bootflash Memory

```
switch# dir bootflash:
...
 3020665    Oct 30 07:47:36 2012  n7000-s1-debug-sh-bash.6.1.2.bin
207238398   Oct 30 18:51:20 2012_ n7000-s1-dk9.6.1.2.bin
207917070   Apr 23 19:45:54 2013_  n7000-s1-dk9.6.1.4.bin
29479424    Oct 30 18:49:18 2012_  n7000-s1-kickstart.6.1.2.bin
29721600    Apr 23 19:39:15 2013_  n7000-s1-kickstart.6.1.4.bin
...

Usage for bootflash://sup-local
1860947968 bytes used
 57700352 bytes free
1918648320 bytes total

switch# show module
Mod  Ports  Module-Type                Model                Status
---  -
6    8       10 Gbps Ethernet XL Module N7K-M108X2-12L      ok
7    48      1/10 Gbps Ethernet Module N7K-F248XP-25       ok
8    48      1000 Mbps Optical Ethernet XL Mo N7K-M148GS-11L      ok
9     0      Supervisor module-1X       N7K-SUP1             ha-standby
10    0      Supervisor module-1X       N7K-SUP1             active *
...

switch# attach module 9
Attaching to module 9 ...
To exit type 'exit', to abort type '$.'
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2013, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained in this software are
owned by other third parties and used and distributed under
license. Certain components of this software are licensed under
the GNU General Public License (GPL) version 2.0 or the GNU
Lesser General Public License (LGPL) Version 2.1. A copy of each
```

```
such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php
switch#
```

Example 3 Determining the Amount of Available Slot0 Memory

```
switch# dir slot0:
...
```

```
Usage for slot0://sup-local
    4096 bytes used
  2044850176 bytes free
  2044854272 bytes total
```

```
switch# show module
Mod  Ports  Module-Type                Model                Status
---  -
2    48     10/100/1000 Mbps Ethernet Module N7K-M148GT-11      ok
3    48     10/100/1000 Mbps Ethernet Module N7K-M148GT-11      ok
4    48     10/100/1000 Mbps Ethernet Module N7K-M148GT-11      ok
5    0      Supervisor module-1X        N7K-SUP1            ha-standby
6    0      Supervisor module-1X        N7K-SUP1            active *
7    32     1/10 Gbps Ethernet Module    N7K-F248XP-25       ok
9    48     1000 Mbps Optical Ethernet Modul N7K-M148GS-11       ok
...
switch(standby)# dir slot0://sup-standby/
...
Usage for slot0://sup-standby
    1376256 bytes used
  2073870336 bytes free
  2075246592 bytes total
```

- Step 4** If there is not at least 120 MB of memory free for the EPLD files, delete some unneeded files, such as earlier images, so there is enough free memory.

```
switch# delete bootflash:n7000-s1-kickstart.5.2.0.bin
```

- Step 5** Copy the EPLD image file from the FTP or management server to the bootflash or slot0 memory in the active supervisor module. The following example shows how to copy from the FTP server to the bootflash memory:

```
switch# copy ftp://10.1.7.2/n7000-s1-epld.6.1.4.img bootflash:n7000-s1-epld.6.1.4.img
```



Note

For NX-OS Release 6.1(1), you must copy the n7000-s1-epld.6.1.1a.img (for supervisor 1 modules) or n7000-s2-epld.6.1.1a.img (for supervisor 2 modules) files. For NX-OS Release 6.1(2), you must copy the n7000-s1-epld.6.1.2a.img (for supervisor 1 modules) or n7000-s1-epld.6.1.2a.img (for supervisor 2 modules) files.

- Step 6** Copy the EPLD image to the standby supervisor.

```
switch# copy bootflash:n7000-s1-epld.6.1.4.img
bootflash://sup-standby/n7000-s1-epld.6.1.4.img
```

You are ready to upgrade the EPLD images (see the “Upgrading the EPLD Images” section on page 15).

Upgrading the EPLD Images

You can upgrade the EPLD images for either all of the modules installed in your switch or specific modules installed in your switch. When you request an upgrade, the Cisco NX-OS software lists the current and new versions for each EPLD image with the following results:

- If a module is installed and online, the software lists the installed and new versions for each EPLD. Where there is a difference in versions, the software indicates an upgrade or downgrade to occur when you confirm the process.
- If a module is installed and offline, the software cannot list its current EPLD versions so all EPLDs will be updated when you confirm the upgrade.
- If a module is not installed, the software displays an error message and does not upgrade the EPLDs.

If you need to know which modules can be updated and which upgrades are disruptive to switch operations, see the [“Determining Whether EPLDs to Upgrade” section on page 8](#).

To upgrade the EPLD images for a Cisco Nexus 7000 Series switch, you use one of the **install** commands listed in [Table 5](#). These commands enable you to upgrade the EPLD images for all of the modules on the switch, multiple modules of one or two types, or single modules. When specifying a *slot_number*, use one number. When specifying *slot_numbers*, you can specify **all** for all slots, multiple slots separated by commas (*x,y,z*) or a range of slot numbers (*x-y*).

Table 5 *EPLD Upgrade Commands*

Modules Upgraded	Command
All installed modules with one module upgraded at a time	install all epld <i>epld_image</i>
All installed modules with the I/O modules upgraded in parallel	install all epld <i>epld_image</i> parallel
One or more I/O and supervisor modules with the I/O modules upgraded in parallel	install all epld <i>epld_image</i> parallel module { all <i>slot_numbers</i> }
One or more I/O and supervisor modules with the I/O modules upgraded in parallel and one or more fan-tray modules	install all epld <i>epld_image</i> parallel module { all <i>slot_numbers</i> } fan-module { all <i>slot_numbers</i> }
One or more I/O and supervisor modules with the I/O modules upgraded in parallel and one or more fabric (xbar) modules	install all epld <i>epld_image</i> parallel module { all <i>slot_numbers</i> } xbar-module { all <i>slot_numbers</i> }
One or more fan-tray modules and one or more fabric (xbar) modules	install all epld <i>epld_image</i> parallel fan-module { all <i>slot_numbers</i> } xbar-module { all <i>slot_numbers</i> }
One I/O or supervisor module	install module <i>slot_number</i> epld <i>epld_image</i>
One fan module	install fan-module <i>slot_number</i> epld <i>epld_image</i>
One fabric module	install xbar-module <i>slot_number</i> epld <i>epld_image</i>

When you upgrade both supervisor modules in a switch, Cisco NX-OS upgrades the EPLD images for the standby supervisor module and then upgrades the active supervisor module. This action enables the upgrade of supervisor modules to be nondisruptive to switch operations.


Note

When upgrading EPLD images for Supervisor 2 or Supervisor 2E modules in a dual-supervisor switch, the standby supervisor will reset twice towards the end of that upgrade but the upgrade continues to completion and the console displays the upgrade status.

When you upgrade supervisor module in a single-supervisor switch, the operation is disruptive to switch operations if the switch is active.

To start the installation of all new EPLD images for all modules in a switch, use the **install all epld** command as shown in either [Example 4](#) (switches with Supervisor 1 modules) or [Example 5](#) (switches with Supervisor 2 or Supervisor 2E modules).


Note

EPLD and software images for a chassis with Supervisor 1 modules include “s1” in the image name and images for Supervisor 2 and Supervisor 2E have “s2” in the image name.

Example 4 Installing EPLD Images in Parallel for Switches with Supervisor 1 Modules

```
switch# install all epld bootflash:n7000-s1-epld.6.1.4.img parallel
```

Example 5 Installing EPLD Images in Parallel for Switches with Supervisor 2 or Supervisor 2E Modules

```
switch# install all epld bootflash:n7000-s2-epld.6.1.4.img parallel
```

[Example 6](#) shows how to start the installation of all new EPLD images for all of the I/O and supervisor modules and the fan-tray module in fan-tray slot 1 (in this case for a switch with Supervisor 1 modules).

Example 6 Installing Supervisor and I/O Modules Plus Other Specific Modules (for Switches with Supervisor 1 Modules)

```
switch# install all epld bootflash:n7000-s1-epld.6.1.4.img parallel module all fan-module 1
```

For Releases 6.1(1) and 6.1(2), if there are any powered down M2 Series I/O modules, use the **no poweroff module** command to power up that module.

```
switch# no poweroff module slot_number
```

For Release 4.0(2) or earlier releases, if you updated the power management EPLD image, you must reset the power for the module so that EPLD can take effect (this is not required for release 4.0(3) or later). You can reset the power in one of the following two ways:

- To reset the power for the module, physically remove the module and reinstall it.


Note

A module reload or just pressing the ejector buttons on the module is not sufficient for this reset requirement.

- To reset the entire switch, power cycle the switch.

**Caution**

Resetting the power disrupts any data traffic going through the affected modules. If you power cycle the entire switch, all data traffic going through the switch at the time of the power cycling is disrupted. This is not necessary for Release 4.0(3) or later releases.

**Note**

For Release 4.0(3) and later releases, the switch automatically loads the new power management EPLD after an upgrade, so it is no longer necessary to reset the power for the module or switch.

To confirm the EPLD upgrades, see the [“Verifying the EPLD Upgrades” section on page 17](#).

Verifying the EPLD Upgrades

You can verify the EPLD upgrades for each slot in the switch by using the commands listed in [Table 6](#).

Table 6 *Commands Used to Display EPLD Information for Modules*

Command	Modules Verified
<code>show version module slot_number epld</code>	I/O and supervisor modules
<code>show version fan slot_number epld</code>	Fan-tray modules
<code>show version xbar slot_number epld</code>	Fabric modules

This example shows how to verify the EPLD images for the Cisco Nexus 7018 supervisor module in slot 9:

```
switch# show version module 9 epld
```

This example shows how to verify the EPLD images for the fan-tray module in fan-tray module slot 2:

```
switch# show version fan 2 epld
```

This example shows how to verify the EPLD images for the fabric module in fabric module slot 4:

```
switch# show version xbar 4 epld
```

Displaying the Available EPLD Versions

To view the available EPLD versions in an EPLD image file, use the `show version epld url` command as shown in [Example 7](#).

Example 7 *Displaying the Available EPLD Versions*

```
switch# show version epld bootflash:n7000-s1-epld.6.1.4.img

...
Module Type                               EPLD Device          Version
-----
Supervisor-1X                             Power Manager         3.009
Supervisor-1X                             IO                    3.029
```

Supervisor-1X	Inband	1.008
Supervisor-1X	Local Bus CPLD	3.000
Supervisor-1X	CMP CPLD	6.000
...		
10/100/1000 Mbps Eth Module	Power Manager	5.006
10/100/1000 Mbps Eth Module	IO	2.014
10/100/1000 Mbps Eth Module	Forwarding Engine	1.006
...		
10 Gbps Ethernet Module	Power Manager	4.008
10 Gbps Ethernet Module	IO	1.016
10 Gbps Ethernet Module	Forwarding Engine	1.006
10 Gbps Ethernet Module	FE Bridge	186.008
10 Gbps Ethernet Module	Linksec Engine	2.007
...		
1000 Mbps Optical Ethernet Module	Power Manager	4.008
1000 Mbps Optical Ethernet Module	IO	1.006
1000 Mbps Optical Ethernet Module	Forwarding Engine	1.006
1000 Mbps Optical Ethernet Module	SFP	1.004
...		
Fabric Module 2	Power Manager	1.003
...		
Fabric Module 2	Power Manager	1.003
...		
Fan<Cisco Nexus 7009>	Fan Controller	0.009
Fan<Cisco Nexus 7009>	Fan Controller	0.009

Displaying the Status of EPLD Upgrades

To display the status of EPLD upgrades on the switch, use the **show install epld status** command as shown in [Example 8](#).

Example 8 Displaying EPLD Upgrades

```
switch# show install epld status

1) Xbar Module 4 upgraded on Wed Oct 26 16:36:27 2011 (524778 us)
Status: EPLD Upgrade was Successful

EPLD                      Curr Ver    Old Ver
-----
Power Manager              1.003      1.003

2) Module 14 upgraded on Mon May 23 19:45:55 2011 (835895 us)
Status: EPLD Upgrade was Successful

...
```

Caveats

This section includes the following topics:

- [Open Caveats, page 19](#)
- [Resolved Caveats in Releases, page 19](#)

Open Caveats

There are no open caveats for Release 6.1(4).

Resolved Caveats in Releases

- CSCto97736 (Release 6.1[1])

Symptom

System Reset can occur if a Cisco Nexus 7000 Series supervisor 1 module is powered-down for high air inlet temperature conditions (above 122°F [50°C]). All hardware in the system is reset by the command.

Condition

Customers did not report this problem—it was found during testing at Cisco.

Workaround

Upgrade to IOFPGA EPLD Version 3.029 or later version.

Resolution

Upgrade to IOFPGA EPLD Version 3.029 or later version.

- CSCtz71139 (Release 6.1[1])

Symptom

A Cisco Nexus 7000 Series switch presents the following log message:

```
%KERN-3-SYSTEM_MSG: [ 145.724281] p ci 0000:2e:05.0: BAR 8: can't allocate mem
resource [0x10000000-0x3fffffff] - kernel
%KERN-3-SYSTEM_MSG: [ 145.724284] p ci 0000:2e:01.0: BAR 8: can't allocate mem
resource [0x10000000-0x1fffffff] - kernel
```

Conditions

Cisco Nexus 7000 Series switch running Cisco NX-OS Release 6.1(1). The switch displays these messages when the fabric modules are powered up.

Workaround:

Upgrade to FPGA version 0.7 (EPLD image for the Cisco NX-OS Release 6.1[1]). The release notes for that release have been updated with the following information:

The new hardware introduced in Cisco NX-OS Release 6.1(1) and Release 6.1(2) includes new EPLD images. It is not necessary to upgrade existing EPLD images to use Cisco NX-OS Release 6.1(1) or Release 6.1(2). However, if you plan to migrate from a Supervisor 1 to a Supervisor 2 or Supervisor 2E module, and you have a Fabric 2 module in your system, you must upgrade the EPLD image on the Fabric 2 module. For instructions about upgrading EPLD images, see the Cisco Nexus 7000 Series FPGA/EPLD Upgrade Release Notes, Release 6.1.

- CSCtz86401 (Release 6.1[2])

Symptom

This is a feature enhancement in the supervisor 2 IOFPGA Version 1.013. Implemented ECC checking and correction on accesses to NVRAM in the Cisco Nexus 7000 Series supervisor 2 module.

Condition

This is not a defect.

This enhancement feature in hardware stays disabled unless enabled by the Cisco Nexus 7000 Series NX-OS software. If enabled, it corrects single-bit errors in NVRAM.

Workaround

The Cisco NX-OS software Release 6.1(1) and later releases perform a background scan and repair of the NVRAM contents using checksum. The Cisco NX-OS software therefore does not enable hardware ECC checking or correction in FPGA.

Resolution

This is not a defect. This entry is for information only for IOFPGA Version 1.013.

An EPLD upgrade to this version is not mandatory.

- CSCtz86433 (Release 6.1[2])

Symptom

On Cisco Nexus 7000 Series supervisor 2 module, PEC errors on the Standby PMbus are not detected by PMFPGA.

The Cisco NX-OS Online Diagnostics software is not made aware of a fault with the Standby PMbus.

In the event of an Active PMbus hardware failure, the operating system tries to switch over to the Standby PMbus, at which time the fault might be detected unexpectedly.

Conditions

Cisco Nexus 7000 Series supervisor 2 module with PMFPGA Version 34.0 or earlier version.

Workaround

Upgrade to PMFPGA Version 36.0 or later version.

Resolution

Upgrade to PMFPGA Version 36.0 or later version.

- CSCtz94884 (Release 6.1[3])

Symptom

Power up or boot failure for the Cisco Nexus 7000 Series M2 100-GE I/O module. Message is "Unable to power up card (Power_OK not set)"

A power fault error might be detected on the board during powerup, resulting in the powerup failure.

Condition

Cisco Nexus 7000 Series M2 Series 2-port, 100-Gbps I/O module with Version 1.006 or older Power Manager FPGA.

Workaround

Upgrade Power Manager FPGA to version 1.007.

Resolution

Upgrade Power Manager FPGA to version 1.007.

- CSCud23258 (Release 6.1[3])

Symptom: M2 Series I/O modules fail to boot up and go to powered down state after completion of the EPLD upgrade procedure.

Retrieving EPLD versions... Please wait.

Images will be upgraded according to following table:

Module	Type	EPLD	Running-Version	New-Version	Upg-Required
7	LC	Power Manager	1.006	1.003	Yes
7	LC	IO	0.009	0.009	No
7	LC	Forwarding Engine	1.006	1.006	No

NIXcz_TEST-N7K# sh mod

Mod	Ports	Module-Type	Model	Status
2	2	10/40/100 Gbps Ethernet Module	N7K-M202CF-22L	powered-dn
5	0	Supervisor module-1X	N7K-SUP1	active *
8	2	10/40/100 Gbps Ethernet Module	N7K-M202CF-22L	powered-dn

Mod Power-Status Reason

2	powered-dn	Reset (powered-down) because module does not boot
8	powered-dn	Reset (powered-down) because module does not boot

Mod Sw Hw

5	6.1(1)	1.5
---	--------	-----

Mod MAC-Address(es) Serial-Num

2	00-00-00-00-00-00 to 00-00-00-00-00-00	JAF1637ABLT
5	00-26-51-c7-b4-a8 to 00-26-51-c7-b4-b0	JAF1403AJHN
8	00-00-00-00-00-00 to 00-00-00-00-00-00	JAF1637ABMA

Condition:

M2 Series I/O module is installed in a Cisco Nexus 7000 Series switch and an EPLD upgrade is performed using any of the **install epld** commands for NX-OS Releases 6.1(1) or 6.1(2) and using EPLD images for Releases 6.1(1) or 6.1(2).

Workaround: Download and install one of the replacement EPLD images listed in [Table 7](#) and use the **no poweroff module slot_number** command for each powered down M2 Series I/O module (see [Example 9](#)).

Table 7 Replacement EPLD Images to Download when using NX-OS Releases 6.1(1) or 6.1(2)

NX-OS Release and Supervisor Module	Obsolete EPLD Image (Do not Use)	Replacement EPLD Image to Use
Release 6.1(1) and supervisor 1	n7000-s1-epld.6.1.1.img	n7000-s1-epld.6.1.1a.img
Release 6.1(1) and supervisor 2	n7000-s2-epld.6.1.1.img	n7000-s2-epld.6.1.1a.img
Release 6.1(2) and supervisor 1	n7000-s1-epld.6.1.2.img	n7000-s1-epld.6.1.2a.img
Release 6.1(2) and supervisor 2	n7000-s2-epld.6.1.2.img	n7000-s2-epld.6.1.2a.img

Example 9 Powering Up M2 Series I/O Modules when using NX-OS Releases 6.1(1) or 6.1(2)

```
switch# config t
```

Enter configuration commands, one per line. End with CNTL/Z.

```
switch(config)# no poweroff module slot_number
```

- CSCug90109 (Release 6.1[3])

Symptom

Unable to boot Cisco Nexus 7000 Series M1L/M2 I/O module. Error messages related to the forwarding Engine. Unable to initialize.

not able to initialize.

Condition

Cisco Nexus M1L or M2 I/O modules with the following version (other versions not affected):

I/O Module PID	Affected Versions
-----	-----
N7K-M108X2-12L	V06 and onwards
N7K-M132XP-12L	V04 and onwards
N7K-M148GS-11L	V05 and onwards
N7K-M148GT-11L	V04 and onwards
N7K-M202CF-22L	V03 and onwards
N7K-M206FQ-23L	V03 and onwards
N7K-M224XP-23L	V03 and onwards

Workaround

None

Resolution

Use Forward Engine EPLD version 2.005 or higher for the affected I/O modules (see the table in the Conditions section). If the I/O module and affected version is listed above and the EPLD version is lower than 2.005, return the I/O module for RMA.

- CSCuf86051 (Release 6.1[4])

Symptom

System failure with a log similar to the following:

```
%SYSMGR-SLOT4-2-SERVICE_CRASHED: Service "lamira_usd" (PID 1931) hasn't caught signal
6 (core will be saved)
```

Condition

The failure can occur when a Layer3 Lookup accesses an entry in FIB TCAM which has experienced a correctable soft (ECC) error. The failure rarely occurs and has not been reported from the field. It resulted from an internal lab test.

This failure affects the I/O module forwarding engine EPLD version 2.005 or 2.008 only, when operated with NXOS versions prior to Release 6.1(4) for 6.x releases or prior to Release 5.2(9) for 5.x releases.

The failure does not occur with other combinations of EPLD images or NX-OS releases. Specifically, the Release 1.x versions of forwarding engine EPLD images are not impacted.

Resolution

This failure is resolved by performing one of the following upgrades:

- If the switch is using NX-OS Release 6.1(3) or earlier release, upgrade the software to Release 6.1(4) or later release or upgrade the EPLD image for the forwarding engine to 2.009.
- If the switch is using NX-OS Release 5.2(8) or earlier release, upgrade the software to Release 5.2(9) or later release or upgrade the EPLD image for the forwarding engine to 2.009.



Note

EPLD 2.009 is included only in NX-OS Release 6.1.4 or later releases, so it is necessary to at least temporarily install Release 6.1(4) or later release to upgrade the forwarding engine EPLD image to 2.009.

Limitations

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

- You cannot upgrade the Local Bus CPLD and CMP CPLD while you are upgrading a supervisor module in the 4.0(1) release only.
- You must upgrade each installed module individually. If the module is online, Cisco NX-OS upgrades only the EPLD images that have different current and new versions. If the module is offline, all EPLDs are upgraded, even if their version numbers are the same.
- If you interrupt an upgrade, you must upgrade the module again.
- You can execute an upgrade or downgrade only from the active supervisor module. On switches with two supervisors, upgrade the standby supervisor and then switch the standby supervisor to active to place the previously active supervisor module in standby mode. Upgrade the EPLDs on the standby supervisor. On switches that have only one supervisor, you must upgrade or downgrade the EPLDs on the active supervisor, which will interfere with data traffic during the upgrade.
- Release 4.1(2) does not provide EPLD upgrades for the Cisco Nexus 7018 fan controller.

Related Documentation

Cisco Nexus 7000 Series documentation is available at the following URL:

http://www.cisco.com/en/US/products/ps9402/tsd_products_support_series_home.html

The documentation set includes the following documents:

- *Cisco Nexus 7000 Series Site Preparation Guide*
- *Cisco Nexus 7000 Series Hardware Installation and Reference Guide*
- *Cisco Nexus 7000 Series Regulatory Compliance and Safety Information*
- *Cisco Nexus 7000 Series Connectivity Management Processor Configuration Guide*

The release notes for upgrading Cisco NX-OS and DCNM are available at the following URL:

http://www.cisco.com/en/US/products/ps9402/prod_release_notes_list.html

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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