Cisco Nexus 7000 Series FPGA/EPLD Upgrade Release Notes, Release 6.2

Part Number: OL-30451-01
Release Date: December 23, 2013.

Table 1 shows the online history changes for this document.

Table 1 Online History Change

Part Number	Date	Description
OL-30451-01	August 2013	Created for Cisco NX-OS Release 6.2(2).
	October 14, 2013	Added image information for Releases 6.1(4a) and 6.2(2a)
	December 23, 2013	Added information for the Cisco Nexus 7706, new EPLD images for Release 6.2 modules, automatic updates for I/O modules, parallel update for F3 series I/O modules, downgrade option, and resolved caveats.

This document includes the following sections:

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Introduction

The Cisco Nexus 7000 Series switches, which include the Cisco Nexus 70xx and 77xx 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 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: • 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)

Table 2 Conditions For Upgrading EPLD Images (continued)

Condition	Modules Recommended for Upgrades[1]
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, 7018, 7706, 7710, and 7718 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 fan trays
  - For the Cisco Nexus 7706, 7710, and 7718 chassis, three 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 6.2(6)

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 Versions	Releases 6.0(1)	6.0(2)	6.1(1)	6.1(2)	6.1(3)	6.1(4)	6.1(4a)	6.2(2)	6.2(2a)	6.2(6)
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]	2.004	—	—	—	—	2.005	—	—
IO	All	N/A[1]	N/A[1]	1.012	1.013	—	—	—	—	—	—
Supervisor 2E module (N77-SUP2E)											
Power Manager	All	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	1.002	—	1.003
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	1.006	—	—	—	—	—	—	—	—	—
IO	All	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]	1.006	—	—	—	—	—	—
IO	All	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]	1.009	—	—	—	—	—	—
IO	All	N/A[1]	N/A[1]	N/A[1]	0.016	—	—	—	—	—	—
F3 Series 48-port, 1- and 10-Gigabit Ethernet I/O module (N77-F348XP-23)											
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]	N/A[1]	1.003
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]	N/A[1]	0.024
SFP	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]	N/A[1]	1.001
F3 Series 24-port, 40-Gigabit Ethernet I/O module (N77-F324FQ-25)											
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]	N/A[1]	1.003
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]	N/A[1]	0.023
F3 Series 12-port, 100-Gigabit Ethernet I/O module (N77-F312CK-26)											
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]	N/A[1]	1.004
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]	N/A[1]	0.017

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

Module Type / EPLD Device	Module Versions	Releases									
		6.0(1)	6.0(2)	6.1(1)	6.1(2)	6.1(3)	6.1(4)	6.1(4a)	6.2(2)	6.2(2a)	6.2(6)
F3 Series 12-port, 40-Gigabit Ethernet I/O module (N7K-F312FQ-25)											
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]	N/A[1]	2.001
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]	N/A[1]	1.003
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)											
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]	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]	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	—	—	—	—	—	—	—	—	—

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

Module Type / EPLD Device	Module Versions	Releases 6.0(1)	6.0(2)	6.1(1)	6.1(2)	6.1(3)	6.1(4)	6.1(4a)	6.2(2)	6.2(2a)	6.2(6)
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]	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]	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]	1.006	—	—	—	—	—	—	—
IO	All	N/A[1]	N/A[1]	1.003	—	—	—	—	—	—	—
SFP	All	N/A[1]	N/A[1]	1.002	—	—	—	—	1.003	—	—
Forwarding Engine	V01-V02	N/A[1]	N/A[1]	1.006	—	—	—	—	—	—	—
	V03+	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/A1	N/A1	1.006	—	—	—	—	—	—	—
IO	All	N/A[1]	N/A[1]	0.011	—	—	—	—	—	—	—
SFP	All	N/A[1]	N/A[1]	2.008	—	—	—	—	—	—	—
Forwarding Engine	V01-V02	N/A[1]	N/A[1]	1.006	—	—	—	—	—	—	—
	V03+	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]	1.006	—	1.007	—	—	—	—	—
IO	All	N/A[1]	N/A[1]	0.009	—	—	—	—	—	—	—
SFP	All	N/A[1]	N/A[1]	0.004	—	—	—	—	—	—	—
Forwarding Engine	V01-V02	N/A[1]	N/A[1]	1.006	—	—	—	—	—	—	—
	V03+	N/A[1]	N/A[1]	N/A[2]	N/A[2]	2.005	2.009	—	—	—	—

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

Module Type / EPLD Device	Module Versions	Releases									
		6.0(1)	6.0(2)	6.1(1)	6.1(2)	6.1(3)	6.1(4)	6.1(4a)	6.2(2)	6.2(2a)	6.2(6)
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]	2.008	—	—
IO	All	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	2.003	—	—
Azuma	All	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	0.005	—	—
Promenade	All	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	3.001	—	—
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	0.006	—	0.007	—	—	—	—	—	—	—
Fabric-2 module (Cisco Nexus 7018) (N7K-C7018-FAB2)											
Power Manager	All	0.006	—	0.007	—	—	—	—	—	—	—
Fabric-2 module (Cisco Nexus 7706) (N77-C7706-FAB2)											
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]	N/A[1]	1.002
Fabric-2 module (Cisco Nexus 7710) (N77-C7710-FAB2)											
Power Manager	All	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	1.003	—	—
Fabric-2 module (Cisco Nexus 7718) (N77-C7718-FAB2)											
Power Manager	All	N/A[2]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	1.002	—	—
Fan (Cisco Nexus 7004) (N7K-C7004-FAN)											
Fan Controller	All	N/A[1]	N/A[1]	N/A[1]	0.005	—	—	—	—	—	—
Fan (Cisco Nexus 7009) (N7K-C7009-FAN)											
Fan Controller	All	0.007	0.009	—	—	—	—	—	—	—	—
Fan (Cisco Nexus 7010) (N7K-C7010-FAN)											
Fan Controller	All	0.007	—	—	—	—	—	—	—	—	—
Fan (Cisco Nexus 7018) (N7K-C7018-FAN)											
Fan Controller	All	0.002	—	—	—	—	—	—	—	—	—
Fan (Cisco Nexus 7706) (N77-C7706-FAN											
Fan Controllers 1 and 2	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]	N/A[1]	0.006
Fan (Cisco Nexus 7710) (N77-C7710-FAN)											
Fan Controllers 1 and 2	All	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	0.005	—	0.006
Fan (Cisco Nexus 7718) (N77-C7718-FAN											
Fan Controllers 1and 2	All	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	0.005	—	0.006

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 to Upgrade EPLD Images

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** *slot_number* **impact epld bootflash:***filename*
Fabric modules	**show install xbar-module** *slot_number* **impact epld bootflash:***filename*
Fan-tray modules	**show install fan-module** *slot_number* **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 > 6.2(6)**.

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 13).

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. By default, EPLD images are not downgraded when you downgrade the NX-OS software release because each EPLD image works with older releases of the software. If you need to downgrade the EPLD version, you must include the **allow-downgrade** keyword with the **install** command. 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-epld.6.2.6.img (for Cisco Nexus 7004, 7009, 7010, and 7018 switches with Supervisor 1 modules)
  - n7000-s2-epld.6.2.6.img (for Cisco Nexus 7004, 7009, 7010, and 7018 switches with Supervisor 2 or Supervisor 2E modules)
  - n7700-s2-epld.6.2.6.img (for Cisco Nexus 7706, 7710, and 7718 switches)

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 3.1.0
_ kickstart: version 6.2(6)
_ system:___ version 6.2(6)
_ BIOS compile time:______ 02/27/2013
```

```
_ kickstart image file is: bootflash:///n7700-s2-kickstart.6.2.6.bin.S15
_ kickstart compile time:_ 12/5/2013 14:00:00 [12/16/2013 14:32:29]
_ system image file is:___ bootflash:///n7700-s2-dk9.6.2.6.bin.S15
_ system compile time:____ 12/5/2013 14:00:00 [12/16/2013 16:18:42]
...
switch#
```

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:
...
       4096    Dec 11 01:19:53 2012 lost+found/
    3020665    Oct 08 07:47:36 2012  n7000-s1-debug-sh-bash.6.2.2.gbin
  207429135    Oct 08 07:35:03 2012  n7000-s1-dk9.6.2.2.gbin
  207558132    Dec 11 07:11:31 2012  n7000-s2-dk9.6.2.6.gbin
   29479424    Oct 08 12:03:47 2012  n7000-s2-kickstart.6.2.2.gbin
   29467136    Dec 11 10:35:18 2012  n7000-s2-kickstart.6.2.6.gbin
...

Usage for bootflash://sup-local
  978673664 bytes used
  860184576 bytes free
 1838858240 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 Modul         N7K-F248XP-24      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.6.2.2.img bootflash:n7000-s1-epld.6.2.6.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.6.2.6.img
bootflash://sup-standby/n7000-s1-epld.6.2.6.img
```

You are ready to upgrade the EPLD images (see the "Manual Upgrading of EPLD Images" section on page 16).

Manual Upgrading of EPLD Images

You can manually 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 to Upgrade EPLD Images" section on page 9.

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** *epld_image*
All installed modules with the I/O modules upgraded in parallel	**install all epld** *epld_image* **parallel**
One or more I/O and supervisor modules with the I/O modules upgraded in parallel	**install all epld** *epld_image* **parallel module {all |** *slot_numbers***}**
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** *epld_image* **parallel module {all |** *slot_numbers***} fan-module {all |** *slot_numbers***}**
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** *epld_image* **parallel module {all |** *slot_numbers***} xbar-module {all |** *slot_numbers***}**
One or more fan-tray modules and one or more fabric (xbar) modules	**install all epld** *epld_image* **parallel fan-module {all |** *slot_numbers***} xbar-module {all |** *slot_numbers***}**
One I/O (F1, F2, M1, and M2 Series only) or supervisor module	**install module** *slot_number* **epld** *epld_image*
One I/O (F3 Series)	**install all epld** *epld_image* **parallel module {all |** *slot_numbers***}**
One fan module	**install fan-module** *slot_number* **epld** *epld_image*
One fabric module	**install xbar-module** *slot_number* **epld** *epld_image*

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 When upgrading EPLD images for F3 Series I/O modules, you must upgrade them in parallel by including the **parallel** keyword with the **install** command. For example, if you are updating the images for the F3 Series I/O module in slot 2, you use the following command:

```
switch# install all epld epld_image parallel module 2
```

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.6.2.6.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.6.2.6.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.6.2.6.img parallel module all fan-module
1
```

Note 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
```

Note 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: reset the power for the module (physically remove the module and reinstall it—a module reload or just pressing the ejector buttons is not sufficient for this reset requirement), or 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 and Downgrades" section on page 20.

Automatic Upgrading of EPLD Images

You can enable, disable, and verify automatic upgrading of EPLD images for I/O modules installed in the Cisco Nexus 70xx (as of Release 6.2[2])and 77xx (as of Release 6.2[6]) switches. Also, if the upgrade is canceled because it exceeds a maximum number of programmed attempts, you can reset the process to enable the upgrades.

Note You can set automatic upgrading of EPLD images for only I/O modules, not for other modules such as the supervisor modules, fabric modules, or fan trays.

This section includes the following topics:

Enabling or Disabling Automatic Upgrades of EPLD Images

You can enable or disable automatic upgrades of EPLD images for I/O modules. When enabled, the switch checks the EPLD image versions on newly installed or powered up I/O modules to see if they are older than the images that were installed on the switch. If the images on the I/O modules are older, the switch automatically upgrades the images to the newer versions.

SUMMARY STEPS

1. **configure terminal**
2. **system auto-upgrade epld**
3. **show running-config | inc epld**

Note Alternatively, to prevent automatic upgrades of EPLD images for I/O modules, use the **no system auto-upgrade epld** command.

DETAILED STEPS

	Command	Purpose

Step 1	**configure terminal**
	Example:
	`switch# configure terminal`
	`switch(config)#`
		Enters global configuration mode.

Step 2	**system auto-upgrade epld**
	Example:
	`switch(config)# system auto-upgrade epld`
	`Auto upgrade enabled`
	`switch(config)#`
		Enables automatic updates.

	no system auto-upgrade epld
	Example:
	`switch(config)# no system auto-upgrade epld`
	`Auto upgrade disabled`
	`switch(config)#`
		Disables automatic updates.

Step 3	**show running-config | inc epld**
	Example:
	`switch(config)# show running-config | inc epld`
	`system auto-upgrade epld`
	`switch(config)#`
		Verifies whether auto upgrades are part of the running configuration.

Verifying Automatic Upgrades of EPLD Images

To check on the automatic upgrade status while the upgrades occur or after the upgrades, use the commands listed in Table 1-6.

Table 1-6 Automatic EPLD Upgrade Verification Commands

Command	Action
show system auto-upgrade epld status	Displays the status of the ongoing automatic upgrades.
show install auto-upgrade epld status	Displays the current and old EPLD versions after an upgrade.

Note During automatic upgrades of I/O modules, the status for VDC creation is pending until all of the installed I/O modules are upgraded and online.

Resetting Automatic Upgrades of EPLD Images

If the automatic upgrade function has stopped because it has exceeded the maximum number of allowed update attempts, you will see the following message:

```
switch# 2013 May 21 13:30:21 switch %$ VDC-1 %$_ %USER-2-SYSTEM_MSG:
<<%EPLD_AUTO-2-AUTO_UPGRADE_CHECK>> Automatic EPLD upgrade check for module 15: Max
retries reached. Use 'clear auto-upgrade epld flags all' to upgrade. - epld_auto
```

You can reset the automatic upgrade process in one of the following ways:

- Clearing the auto-upgrade epld flags for all of the I/O modules by using the **clear auto-upgrade epld flags all** command.
- Clearing the auto-upgrade epld flags for a specific I/O module by using the **clear auto epld flags** *module_number* command.
- Restarting the switch.

Downgrading EPLD Images

By default, you cannot downgrade EPLD images when you downgrade the NX-OS software release because the EPLD images work with downlevel versions of the software. For this reason, we do not recommend downgrading EPLD images. If you need to downgrade EPLD images, you must include the **allow-downgrade** keyword after the **parallel** keyword in the **install** command as shown in Example 7.

Example 7 Downgrading EPLD Images

```
switch# install all epld bootflash:n7700-s2-epld.6.2.6.img parallel allow-downgrade
```

Verifying the EPLD Upgrades and Downgrades

You can verify the EPLD upgrades and downgrades for each slot in the switch by using the commands listed in Table 7.

Table 7 Commands Used to Display EPLD Information for Modules

Command	Modules Verified
show version module *slot_number* **epld**	I/O and supervisor modules
show version fan *slot_number* **epld**	Fan-tray modules
show version xbar *slot_number* **epld**	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 8.

Example 8 Displaying the Available EPLD Versions

```
switch# show version epld bootflash:n7700-s2-epld.6.2.6.img
_
Retrieving EPLD versions... Please wait.
_
EPLD image file 6.2.6 built on Thu Dec 19 03:28:49 2013
_
Module Type_____________________ Model_____________ EPLD Device_______ Version
------------------------------------------------------------------------------
Fan_____________________________ N77-C7706-FAN____ Fan Controller (1)_ 0.005
Fan_____________________________ N77-C7706-FAN____ Fan Controller (2)_ 0.005
_
1/10 Gbps Ethernet Module_______ N77-F248XP-23E___ Power Manager______ 0.005
1/10 Gbps Ethernet Module_______ N77-F248XP-23E___ IO_________________ 0.005

Fabric Module 2_________________ N77-C7706-FAB-2__ Power Manager______ 1.002

Supervisor Module 2_____________ N77-SUP2E_______ Power Manager SPI_ 19.000

10/40 Gbps Ethernet Module______ N77-F324FQ-25____ Power Manager SPI__ 1.003
10/40 Gbps Ethernet Module______ N77-F324FQ-25____ IO SPI_____________ 0.023
_
100 Gbps Ethernet Module________ N77-F312CF-26____ Power Manager SPI__ 1.004
100 Gbps Ethernet Module________ N77-F312CF-26____ IO SPI_____________ 0.017
_
1/10 Gbps Ethernet Module_______ N77-F348XP-23____ Power Manager SPI__ 1.003
1/10 Gbps Ethernet Module_______ N77-F348XP-23____ SFP SPI ____________1.001
1/10 Gbps Ethernet Module_______ N77-F348XP-23____ IO SPI_____________ 0.024
switch#
```

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 9.

Example 9 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

There are no open caveats for Release 6.2(6).

Resolved Caveats

This section lists the caveats that are resolved as of Release 6.2(6).

- CSCue31701

  Symptoms: Unable to assert the watchdog interrupt through hardware.

  Conditions: After writing to the hardware registers to trigger a watchdog interrupt and system reset, there was no effect.

- CSCue71719

  Symptoms: VDC creation status is pending during an automatic upgrade of EPLD images.

  Conditions: This issue occurs when upgrading EPLD images for I/O modules.

  Workaround: There is no workaround.

- CSCuf82063

  Symptoms: CATERR signal syslog on supervisor reload

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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Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

This document is to be used in conjunction with the documents listed in the "Related Documentation" section.