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Cisco Nexus 7000 Series FPGA/EPLD Upgrade Release Notes, Release 5.0

Part Number: OL-23077-03 B0
Release Date: November 04, 2011

Table 1 shows the online history changes for this document.

Table 1 Online History Change

Part Number	Revision	Date	Description
OL-23077-01	A0	5/11/2010	Created for Cisco NX-OS Release 5.0(2).
	B0	5/27/2010	Updated examples for Release 5.0(2).
OL-23077-02	A0	7/06/2010	Updated for Cisco NX-OS Release 5.0(3).
	B0	7/25/2010	Updated Table 3 (EPLD Upgrades).
OL-23077-03	A(0)	11/22/2010	Updated for Cisco NX-OS Release 5.0(5).
	B(0)	11/04/2011	Updated EPLD image number formats.
	B(1)	3/22/2012	Added note about not performing EPLD updates during ISSU.

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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 does not provide upgrade EPLD images very frequently, and you do not have to upgrade your EPLD images unless they fix the functions for the hardware that you are using in your Cisco Nexus 7000 Series switch. 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; however, 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.

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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. The Cisco Defect and Enhancement Tracking System (CDETS) listed in this table can be found in the following earlier versions of FPGA/EPLD 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]
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.
Upgrading the Cisco NX-OS operating system from Release 4.0 to Release 4.1(2) or later releases.	Supervisor modules (N7K-SUP1) • Cisco Nexus 7010—Required for CSCsr03766 and to fix a kernel booting failure. • Cisco Nexus 7018—Required for CSCsq28232, CSCsr03766, CSCsu55410, and to fix a kernel booting failure. 32-port 10-Gbps Ethernet I/O modules (N7K-M132XP-12) • Cisco Nexus 7010—Required for CSCsu50821. • Cisco Nexus 7018—Required for CSCsq28232 and CSCsu50821. 48-port 10/100/1000 Ethernet I/O modules (N7K-M148GT-11) • Cisco Nexus 7010—Required for CSCsq97271, CSCsr42519, and CSCsr44846. • Cisco Nexus 7018—Required for CSCsq28232, CSCsq97271, CSCsr42519, and CSCsr44846.
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

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Table 2 Conditions For Upgrading EPLD Images (continued)

Condition	Modules Recommended for Upgrades[1]
Upgrading the Cisco NX-OS operating system from Release 4.1(2) to Release 4.1(3) or later releases on a switch that shipped with Release 4.1(2).	32-port 10-Gbps Ethernet I/O modules (N7K-M132XP-12) • Cisco Nexus 7010 and 7018—Required for CSCsv92355. Fabric modules for Cisco Nexus 7018 (N7K-C7018-FAB1) • Required for CSCsv92355 and CSCsx22079.
Upgrading the Cisco NX-OS operating system from Release 4.1(2) to Release 4.1(3) or later releases on a switch that did not ship with Release 4.1(2) and a full EPLD upgrade to Release 4.1(2) was not performed.	Supervisor modules (N7K-SUP1) • Cisco Nexus 7010—Required for CSCsr03766 and to fix a kernel booting failure. • Cisco Nexus 7018—Required for CSCsq28232, CSCsr03766, CSCsu55410, and to fix a kernel booting problem. 48-port 10/100/1000 Ethernet I/O modules (N7K-M148GT-11) • Cisco Nexus 7010—Required for CSCsq97271, CSCsr42519, and CSCsr44846. • Cisco Nexus 7018—Required for CSCsq28232, CSCsq97271, CSCsr42519, and CSCsr44846.
Using vPC on a system that you are upgrading NX-OS from Release 4.0 to Release 4.1(2) or later releases.	32-port 10-Gbps Ethernet I/O modules (N7K-M132XP-12) • Cisco Nexus 7010 and 7018—Required upgrade for using vPC.
Using Cisco Trusted Security on a system that you are upgrading Cisco NX-OS from Release 4.0 to Release 4.1(2) or later releases.	32-port 10-Gbps Ethernet I/O modules (N7K-M132XP-12) • Cisco Nexus 7010 and 7018—Required upgrade for using Cisco Trusted Security.

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

Switch Requirements

This section includes the following topics:

- Hardware Requirements, page 5
- Supported Switch Operating Systems, page 5

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Hardware Requirements

The Cisco Nexus 7000 Series switch must include the following hardware:

- One or two supervisor modules, each with at least 120 MB of available bootflash or slot0 memory
- One or more I/O modules
- One or more fabric modules
- Two fabric fan tray modules (Cisco Nexus 7010)
- Two system fan tray modules (Cisco Nexus 7010)
- Two fan tray modules (Cisco Nexus 7018)

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.

Supported Switch Operating Systems

The Cisco Nexus 7000 Series switch must be running the Cisco NX-OS operating system, which is used to perform the EPLD upgrades.

EPLDs Available with Release 5.0(3)

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 There are no new EPLD images for Release 5.0(3) or Release 5.0(5)—the EPLD images are the same for Release 5.0(2), d 5.0(3), and 5.0(5).

Table 3 EPLD Upgrades for Cisco NX-OS Releases

Module Type	Release									
EPLD Device	4.0(x)	4.1(1)	4.1(2)	4.1(3)	4.2(4)	4.2(5)	4.2(6)	5.0(2)	5.0(3)	5.0(5)
Supervisor module (N7K-SUP1)										
Power Manager	3.6	–	3.7	–	–	–	–	3.009	–	–
IO	3.23	–	3.26	–	–	–	–	3.028	–	–
INBAND	1.7	–	–	–	–	–	–	1.008	–	–
Local Bus and CPLD	2.1	–	3.0	–	–	–	–	–	–	–
CMP CPLD	6.0	–	–	–	–	–	–	–	–	–
48-port 10/100/1000 Ethernet I/O module (N7K-M148GT-11)										
Power Manager	5.3	–	5.4	–	–	–	–	5.006	–	–
IO	2.10	–	2.11	–	–	–	–	2.013	–	–
Forwarding Engine	1.6	–	–	–	–	–	–	–	–	–

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

Module Type / EPLD Device	Release									
	4.0(x)	4.1(1)	4.1(2)	4.1(3)	4.2(4)	4.2(5)	4.2(6)	5.0(2)	5.0(3)	5.0(5)
48-port 1 Gbps Ethernet I/O module (N7K-M148GS-11 and N7K-M148GS-11L)										
Power Manager	N.A.	–	4.6	–	–	–	–	4.008	–	–
IO	N.A.	–	1.3	–	–	–	–	1.005	–	–
SFP	N.A.	–	1.4	–	–	–	–	–	–	–
Forwarding Engine	N.A.	–	1.6	–	–	–	–	–	–	–
32-port 10 Gbps Ethernet I/O module (N7K-M132XP-12)										
Power Manager	4.4	–	4.6	–	–	–	–	4.008	–	–
IO	1.10	–	1.13	–	1.14	–	1.15	–	–	–
LinkSec Engine	1.7	–	–	–	1.13	–	–	2.006	–	–
FE Bridge	186.3	–	–	–	–	–	–	186.005	–	–
Forwarding Engine	1.6	–	–	–	–	–	–	–	–	–
8-port 10-Gbps Ethernet I/O module (N7K-M108X2-12L)										
Power Manager	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	4.008	–	–
IO	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2.006	–	–
CDL FPGA	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2.004	–	–
Forwarding Engine	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1.006	–	–
Fabric module (Cisco Nexus 7010)										
Power Manager	2.8	–	2.9	–	–	–	–	2.010	–	–
Fabric module (Cisco Nexus 7018) (N7K-C7018-FAB1)										
Power Manager	N.A.	–	1.1	–	1.2	–	–	1.003	–	–
Fan (Cisco Nexus 7010)										
Fan Controller	0.7	–	–	–	–	–	–	–	–	–
Fan (Cisco Nexus 7018)										
Fan Controller	N.A.	–	0.2	–[1]	–	–	–	–	–	–

1. Release 4.1(3) does not support EPLD upgrades for the Cisco Nexus 7018 fan controller.

Note To list the EPLDs running on your switch, use the **show version** *module_number* **epld** command. If any of the versions that you list are older than the newest version listed in Table 3, it is recommended that you update the EPLDs.

Determining Whether to Upgrade EPLD Images

You can upgrade EPLD images for all online modules on your switch (except for the active supervisor module) or for individual online modules.

This section includes the following topics:

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- Determining Whether to Upgrade EPLDs for All Modules, page 7
- Determining Whether to Upgrade EPLDs for an I/O or Supervisor Module, page 8
- Determining Whether to Upgrade EPLDs for a Fabric Module, page 8
- Determining Whether to Upgrade EPLDs for a Fan Tray Module, page 9

Determining Whether to Upgrade EPLDs for All Modules

To determine whether you need to update the EPLDs for any of the online modules on your switch, use the **show install all impact epld** *url* command as shown in Example 1. This command displays a report that indicates whether the upgrade is disruptive for the module, whether each module can be upgraded, and whether an upgrade is available for each EPLD on each module.

Example 1 Determining Upgradability of All Online Modules

```
switch# show install all impact epld bootflash:n7000-s1-epld.5.0.3.img

Compatibility check:
Module  Type  Upgradable        Impact   Reason
------  ----  ----------    ----------   ------
     1    LC         Yes    disruptive   Module Upgradable
     2    LC         Yes    disruptive   Module Upgradable
     3    LC         Yes    disruptive   Module Upgradable
     6   SUP         Yes    disruptive   Module Upgradable
     1  Xbar         Yes    disruptive   Module Upgradable
     2  Xbar         Yes    disruptive   Module Upgradable
     3  Xbar         Yes    disruptive   Module Upgradable
     1   FAN         Yes    disruptive   Module Upgradable
     2   FAN         Yes    disruptive   Module Upgradable
     3   FAN         Yes    disruptive   Module Upgradable
     4   FAN         Yes    disruptive   Module Upgradable

Retrieving EPLD versions... Please wait.
Images will be upgraded according to following table:
Module  Type           EPLD      Running-Version   New-Version  Upg-Required
------  ----  -------------      ---------------   -----------  ------------
     1    LC  Power Manager                5.004         5.006           Yes
     1    LC  IO                           2.011         2.013           Yes
     1    LC  Forwarding Engine            1.006         1.006            No
     2    LC  Power Manager                4.006         4.008           Yes
     2    LC  IO                           1.003         1.005           Yes
     2    LC  Forwarding Engine            1.006         1.006            No
     2    LC  SFP                          1.004         1.004            No
     3    LC  Power Manager                4.006         4.008           Yes
     3    LC  IO                           1.014         1.015           Yes
     3    LC  Forwarding Engine            1.006         1.006            No
     3    LC  FE Bridge(1)               186.003       186.005           Yes
     3    LC  FE Bridge(2)               186.003       186.005           Yes
     3    LC  Linksec Engine(1)            1.008         2.006           Yes
     3    LC  Linksec Engine(2)            1.008         2.006           Yes
     3    LC  Linksec Engine(3)            1.008         2.006           Yes
     3    LC  Linksec Engine(4)            1.008         2.006           Yes
     3    LC  Linksec Engine(5)            1.008         2.006           Yes
     3    LC  Linksec Engine(6)            1.008         2.006           Yes
     3    LC  Linksec Engine(7)            1.008         2.006           Yes
     3    LC  Linksec Engine(8)            1.008         2.006           Yes
     5   SUP  Power Manager                3.007         3.009           Yes
     5   SUP  IO                           3.026         3.028           Yes
     5   SUP  Inband                       1.007         1.008           Yes
```

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```
5   SUP  Local Bus CPLD              3.000         3.000           No
5   SUP  CMP CPLD                    6.000         6.000           No
6   SUP  Power Manager               3.007         3.009          Yes
6   SUP  IO                          3.026         3.028          Yes
6   SUP  Inband                      1.007         1.008          Yes
6   SUP  Local Bus CPLD              3.000         3.000           No
6   SUP  CMP CPLD                    6.000         6.000           No
1  Xbar  Power Manager               2.009         2.010          Yes
2  Xbar  Power Manager               2.009         2.010          Yes
3  Xbar  Power Manager               2.009         2.010          Yes
1   FAN  Fan Controller (1)          0.007         0.007           No
1   FAN  Fan Controller (2)          0.007         0.007           No
2   FAN  Fan Controller (1)          0.007         0.007           No
2   FAN  Fan Controller (2)          0.007         0.007           No
3   FAN  Fan Controller (1)          0.007         0.007           No
3   FAN  Fan Controller (2)          0.007         0.007           No
4   FAN  Fan Controller (1)          0.007         0.007           No
4   FAN  Fan Controller (2)          0.007         0.007           No
```

Determining Whether to Upgrade EPLDs for an I/O or Supervisor Module

To determine whether you need to update the EPLDs for an online I/O or supervisor module, use the **show install module** *number* **impact epld** *url* command as shown in Example 2. This command displays a report that indicates which EPLDs need to be upgraded for the module that you specified.

Example 2 Determining Upgradability of an I/O or Supervisor Module

```
switch# show install module 5 impact epld bootflash:n7000-s1-epld.5.0.3.img

Retrieving EPLD versions... Please wait.

Images will be upgraded according to following table:
Module  Type           EPLD      Running-Version   New-Version  Upg-Required
------  ----  -------------      ---------------   -----------  ------------
     5   SUP  Power Manager               3.007         3.009           Yes
     5   SUP  IO                          3.026         3.028           Yes
     5   SUP  Inband                      1.007         1.008           Yes
     5   SUP  Local Bus CPLD              3.000         3.000            No
     5   SUP  CMP CPLD                    6.000         6.000            No
```

Determining Whether to Upgrade EPLDs for a Fabric Module

To determine whether you need to update the EPLDs for an online fabric module, use the **show install xbar-module** *number* **impact epld** *url* command as shown in Example 3. This command displays a report that indicates which EPLDs need to be upgraded for the fabric module that you specified.

Example 3 Determining Upgradability of a Fabric Module

```
switch# show install xbar-module 1 impact epld bootflash:n7000-s1-epld.5.0.3.img

Retrieving EPLD versions... Please wait.

Images will be upgraded according to following table:
Module  Type           EPLD      Running-Version   New-Version  Upg-Required
------  ----  -------------      ---------------   -----------  ------------
     1  Xbar  Power Manager               2.009         2.010           Yes
```

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Determining Whether to Upgrade EPLDs for a Fan Tray Module

To determine whether you need to update the EPLDs for an online fan tray module, use the **show install fan-module** *number* **impact epld** *url* command as shown in Example 4. This command displays a report that indicates which EPLDs need to be upgraded for the fan module that you specified.

Example 4 Determining Upgradability of a Fan Module

```
switch# show install fan-module 1 impact epld bootflash:n7000-s1-epld.5.0.3.img

Retrieving EPLD versions... Please wait.

Images will be upgraded according to following table:
Module  Type           EPLD      Running-Version   New-Version  Upg-Required
------  ----  -------------      ---------------   -----------  ------------
     1   FAN  Fan Controller (1)           0.007         0.007            No
     1   FAN  Fan Controller (2)           0.007         0.007            No
```

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 web site.

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 you specified.

Step 8 Click **NX-OS EPLD Updates**.

The Downloads page lists software releases that you can download.

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Step 9 Choose **Latest Releases >5.0.3**.

The Downloads page displays image information, including a link to the downloadable Tar file, to the right of the releases.

Step 10 Click the link for the Tar file.

The Downloads page displays a Download button and lists information for the Tar file.

Step 11 Click **Download**.

The Supporting Documents page opens to display the rules for downloading the software.

Step 12 Read the rules and click **Agree**.

A File Download dialog box opens to ask if you want to open or save the images file.

Step 13 Click **Save**.

The Save As dialog box appears.

Step 14 Indicate where to save the Tar file and click **Save**.

The Tar file saves to the location that you specified.

You are ready to prepare the EPLD images for Installation (see the "Preparing the EPLD Images for Installation" section on page 11).

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 Gbps Ethernet IO modules (N7K-M132XP-12).

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 a 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** *module_id* **epld**. If the line FE Bridge(x) version displays a version earlier than 186.003 (for example, 186.2 or 186.002), you should schedule an EPLD upgrade to a version that is compatible with the target NX-OS release. For example, if you want to run Cisco NX-OS Release 5.0(3), you should choose Release 5.0(3) EPLDs.

The following example shows Release 186.003 on the FE Bridge line, which is the correct EPLD version:

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```
switch(config)# show ver mod 7 epld

EPLD Device                          Version
---------------------------------------
Power Manager                         4.006
IO                                    1.014
Forwarding Engine                     1.006
FE Bridge(1)                        186.003 << OK!
FE Bridge(2)                        186.003 << OK!
Linksec Engine(1)                     1.013
Linksec Engine(2)                     1.013
Linksec Engine(3)                     1.013
Linksec Engine(4)                     1.013
Linksec Engine(5)                     1.013
Linksec Engine(6)                     1.013
Linksec Engine(7)                     1.013
Linksec Engine(8)                     1.013
```

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 changes.
- You can execute an upgrade from the active supervisor module only. All the modules, including the active supervisor module, can be updated individually.
- You can individually update each module whether it is online or offline as follows:
  - If you upgrade EPLD images on an online module, only the EPLD images with version numbers that differ from the new EPLD images are upgraded.
  - If you upgrade EPLD images on an offline module, all of the EPLD images are upgraded.
- On a switch that has two supervisor modules, upgrade the EPLDs for the standby supervisor and then switch the active supervisor to the standby mode to upgrade its EPLDs (the supervisor switchover is not disruptive to traffic on Cisco Nexus 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 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 into the switch through the console port, an SSH session, or a Telnet session.

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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 3.22.0
  loader:    version N/A
  kickstart: version 5.0(2) [gdb]
  system:    version 5.0(2) [gdb]
  BIOS compile time:       02/20/10
  kickstart image file is: bootflash:/n7000-s1-kickstart.5.0.2.bin
  kickstart compile time:  12/25/2020 12:00:00 [05/18/2010 04:24:07]
  system image file is:    bootflash:/n7000-s1-dk9.5.0.2.bin
  system compile time:     2/7/2010 3:00:00 [05/18/2010 05:06:22]
```

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 5 to determine the amount of available bootflash memory, and see Example 6 to determine the amount of available slot0 memory.

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Example 5 Determining the Amount of Available Bootflash Memory

```
switch# dir bootflash:
      12695    Jan 20 22:04:49 2010  LLDP
          0    May 25 18:46:17 2010  admin.rc.cli
     307162    Jul 27 09:37:23 2009  amlog_vdc1_pid3316
      34984    Jul 25 14:54:01 2009  amlog_vdc2_pid6633
      19765    Jun 08 15:21:11 2009  backup-startup-config
    1454646    Apr 29 12:46:45 2009  cmd_syntax.txt
      71220    Jan 09 00:01:33 2008  cmpdc3_bios_util-4.0.2.45.022
      10717    Oct 05 16:27:01 2009  config
      24540    Feb 27 13:20:26 2010  dcnm-172.28.254.254-ckpnt.cfg
      14397    Mar 19 13:00:36 2010  doc
         29    May 14 16:28:42 2009  lc2_version
      49152    May 20 09:13:43 2010  lost+found/
    2386687    May 20 09:09:50 2010  n7000-s1-debug-sh.5.0.2.bin
  108604827    May 20 09:03:45 2010  n7000-s1-dk9.5.0.2.bin
   24345600    Feb 04 12:03:47 2010  n7000-s1-kickstart.4.2.4.bin
   23667200    May 20 09:07:28 2010  n7000-s1-kickstart.5.0.2.bin
      10362    Nov 20 07:24:31 2009  temp_file
       4096    Jun 09 11:32:41 2009  testDIR/
       4096    Jun 09 11:30:47 2009  testdir/
      31956    Jun 21 10:19:14 2009  user_cp_1
       4096    Jan 09 00:21:32 2008  vdc_2/
       4096    Jan 09 00:21:32 2008  vdc_3/
       4096    Jan 09 00:21:32 2008  vdc_4/
       1622    May 14 16:28:16 2009  ver
          0    May 19 06:05:27 2009  vpc_hw_check_disable
      27935    Jun 26 13:43:43 2009  vrrp_cfg.log
      28833    Jun 26 13:46:26 2009  vrrp_eng.log

Usage for bootflash://sup-local
  398700544 bytes used
 1405636608 bytes free
 1804337152 bytes total
switch# show module
Mod Ports Module-Type                       Model              Status
--- ----- --------------------------------- ------------------ ------------
6   8     10 Gbps Ethernet XL Module        N7K-M108X2-12L     ok
7   48    1000 Mbps Optical Ethernet Modul  N7K-M148GS-11      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 '$.'
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switch#
```

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Example 6 Determining the Amount of Available Slot0 Memory

```
switch# dir slot0:
...
Usage for slot0://sup-local
    1380352 bytes used
 2073866240 bytes free
 2075246592 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    10 Gbps Ethernet Module          N7K-M132XP-12      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.4.2.4.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.5.0.3.img bootflash:n7000-s1-epld.5.0.3.img
```

Step 6 Copy the EPLD image to the standby supervisor.

```
switch# copy bootflash:n7000-s1-epld.5.0.3.img
bootflash://sup-standby/n7000-s1-epld.5.0.3.img
```

You are ready to upgrade the EPLD images (see the "Upgrading EPLD Images" section on page 14).

Upgrading EPLD Images

You can update the EPLD images for all of the installed modules or a specific installed module. When you request an upgrade, the Cisco NX-OS software tries to list the current and new versions for each EPLD 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 upgrade.
- 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.

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- If a module is not installed, the software displays an error message and does not upgrade the EPLDs.

The following sections explain how to upgrade the EPLD images for I/O and standby modules, the active supervisor module on switches with single-supervisor modules, fabric modules, and fan tray modules.

- Upgrading the EPLD Images for All Installed Modules, page 15
- Upgrading the EPLD Images for an I/O or Standby Supervisor Module, page 16
- Upgrading EPLDs for a Supervisor Module in a Single Supervisor Switch, page 18
- Upgrading EPLDs for a Fabric Module, page 19
- Upgrading EPLDs for a Fan Tray Module, page 20

Upgrading the EPLD Images for All Installed Modules

You can upgrade the EPLD images for all installed modules while the switch is operational. This type of upgrade includes updates of EPLD images for the standby supervisor module, all I/O modules, all fabric modules, and all fan modules, but this upgrade does not update the EPLDs for the active supervisor module. To upgrade the EPLDs for the active supervisor module, see the "Upgrading EPLDs for a Supervisor Module in a Single Supervisor Switch" section on page 18.

To upgrade EPLDs for all installed modules (except the active supervisor module), follow these steps:

Step 1 Enter the **install all epld** *url* command.

```
switch# install all epld bootflash:n7000-s1-epld.5.0.3.img

Compatibility check:
Module  Type  Upgradable        Impact   Reason
------  ----  ----------    ----------   ------
     1    LC         Yes    disruptive   Module Upgradable
     2    LC         Yes    disruptive   Module Upgradable
     3    LC         Yes    disruptive   Module Upgradable
     6   SUP         Yes    disruptive   Module Upgradable
     1  Xbar         Yes    disruptive   Module Upgradable
     2  Xbar         Yes    disruptive   Module Upgradable
     3  Xbar         Yes    disruptive   Module Upgradable
     1   FAN         Yes    disruptive   Module Upgradable
     2   FAN         Yes    disruptive   Module Upgradable
     3   FAN         Yes    disruptive   Module Upgradable
     4   FAN         Yes    disruptive   Module Upgradable

Retrieving EPLD versions... Please wait.

Images will be upgraded according to following table:
Module  Type           EPLD      Running-Version   New-Version  Upg-Required
------  ----  -------------      ---------------   -----------  ------------
     1    LC  Power Manager                5.004         5.006           Yes
     1    LC  IO                           2.011         2.013           Yes
     1    LC  Forwarding Engine            1.006         1.006            No
     2    LC  Power Manager                4.006         4.008           Yes
     2    LC  IO                           1.003         1.005           Yes
     2    LC  Forwarding Engine            1.006         1.006            No
     2    LC  SFP                          1.004         1.004            No
     3    LC  Power Manager                4.006         4.008           Yes
     3    LC  IO                           1.014         1.015           Yes
     3    LC  Forwarding Engine            1.006         1.006            No
     3    LC  FE Bridge(1)               186.003       186.005           Yes
     3    LC  FE Bridge(2)               186.003       186.005           Yes
     3    LC  Linksec Engine(1)            1.008         2.006           Yes
```

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```
     3    LC  Linksec Engine(2)            1.008         2.006           Yes
     3    LC  Linksec Engine(3)            1.008         2.006           Yes
     3    LC  Linksec Engine(4)            1.008         2.006           Yes
     3    LC  Linksec Engine(5)            1.008         2.006           Yes
     3    LC  Linksec Engine(6)            1.008         2.006           Yes
     3    LC  Linksec Engine(7)            1.008         2.006           Yes
     3    LC  Linksec Engine(8)            1.008         2.006           Yes
     5   SUP  Power Manager                3.007         3.009           Yes
     5   SUP  IO                           3.026         3.028           Yes
     5   SUP  Inband                       1.007         1.008           Yes
     5   SUP  Local Bus CPLD               3.000         3.000            No
     5   SUP  CMP CPLD                     6.000         6.000            No
     6   SUP  Power Manager                3.007         3.009           Yes
     6   SUP  IO                           3.026         3.028           Yes
     6   SUP  Inband                       1.007         1.008           Yes
     6   SUP  Local Bus CPLD               3.000         3.000            No
     6   SUP  CMP CPLD                     6.000         6.000            No
     1  Xbar  Power Manager                2.009         2.010           Yes
     2  Xbar  Power Manager                2.009         2.010           Yes
     3  Xbar  Power Manager                2.009         2.010           Yes
     1   FAN  Fan Controller (1)           0.007         0.007            No
     1   FAN  Fan Controller (2)           0.007         0.007            No
     2   FAN  Fan Controller (1)           0.007         0.007            No
     2   FAN  Fan Controller (2)           0.007         0.007            No
     3   FAN  Fan Controller (1)           0.007         0.007            No
     3   FAN  Fan Controller (2)           0.007         0.007            No
     4   FAN  Fan Controller (1)           0.007         0.007            No
     4   FAN  Fan Controller (2)           0.007         0.007            No
The above modules requie upgrade.
Do you want to continue (y/n) ? [n] y
```

Step 2 If one or more of the EPLDs should be upgraded, enter **y** to begin the upgrade. Otherwise, enter **n** for no upgrade.

Upgrading the EPLD Images for an I/O or Standby Supervisor Module

You can upgrade the EPLD images for an I/O module or standby supervisor module while the switch is operational. If you need to upgrade EPLD images for a single supervisor module, see the "Upgrading EPLDs for a Supervisor Module in a Single Supervisor Switch" section on page 18.

Caution Upgrading EPLD images for an online I/O module can disrupt traffic going through that module.

To upgrade EPLDs for an I/O module or the standby supervisor module, follow these steps:

Step 1 Determine the slot number for the module by entering the **show module** command.

```
switch# show module
Mod Ports Module-Type                       Model              Status
--- ----- --------------------------------- ------------------ ------------
1   48    10/100/1000 Mbps Ethernet Module  N7K-N148GT-11      ok
3   32    10 Gbps Ethernet Module           N7K-M132XP-12      ok
5   0     Supervisor module-1X              N7K-SUP1           active
6   0     Supervisor module-1X              N7K-SUP1           ha-standby
10  48    10/100/1000 Mbps Ethernet Module  N7K-M148GT-11      ok
```

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```
Mod  Sw              Hw      World-Wide_name(s) (WWN)
---  --------------- ------  --------------------------------------------------
1    4.0(2)          0.503   --
3    4.0(2)          0.601   --
5    4.0(2)          0.900   --
6    4.0(2)          0.802   --
10   4.0(2)          0.902   --

Mod  MAC-Address(es)                         Serial-Num
---  --------------------------------------  ----------
1    00-19-07-6c-c0-6c to 00-19-07-6c-c0-a0  JAB11060144
3    00-1b-54-c1-33-98 to 00-1b-54-c1-33-bc  JAB1152010K
5    00-1b-54-c1-16-18 to 00-1b-54-c1-16-20  JAB114902HF
6    00-19-07-c1-00-b8 to 00-1b-54-c1-00-c0  JAB114402JX
10   00-1b-54-c1-07-88 to 00-1b-54-c1-07-bc  JAB114501RW

* this terminal session
switch#
```

Step 2 Install the EPLDs by entering the **install module** *slot_number* **epld** *url* command.

```
switch# install module 6 epld bootflash:n7000-s1-epld.5.0.3.img
...
EPLD                                  Curr Ver    New Ver
-----------------------------------------------------
Power Manager                          3.007       3.009
IO                                     3.026       3.028
Inband                                 1.007       1.008
Local Bus CPLD                         3.000       3.000
CMP CPLD                               6.000       6.000
WARNING: Upgrade process could take upto 30 minutes.
Do you want to continue (y/n) ?
```

Step 3 Begin upgrading the EPLD images by entering **Y** for yes.

```
Do you want to continue (y/n) ? Y
```

Step 4 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 releases). You can reset the power in one of the following two ways:

- To reset the power for a 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 an entire switch, power cycle the switch.

To confirm the EPLD upgrade, see the "Displaying EPLD Versions for an I/O or Supervisor Module" section on page 21.

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.

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Note As of Release 4.0(3) or 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.

Upgrading EPLDs for a Supervisor Module in a Single Supervisor Switch

When you upgrade EPLDs on a switch with only one supervisor module, data traffic on the switch will be affected when you reload the device after the upgrade. If you are upgrading EPLDs for a switch with two supervisor modules, you can upgrade the standby supervisor while the switch is operational as explained in the "Upgrading the EPLD Images for an I/O or Standby Supervisor Module" section on page 16, and then switch the active supervisor into standby mode and update that module.

To upgrade EPLDs for a supervisor module in a system with a single supervisor module, follow these steps:

Step 1 Determine the slot number for the supervisor module. On a Cisco Nexus 7010 switch, the supervisor module is in either slot 5 or slot 6. On a Cisco Nexus 7018 switch, the supervisor module is in either slot 9 or slot 10.

```
switch# show module
Mod Ports Module-Type                       Model              Status
--- ----- ------------------------------- ------------------ ------------
1   48    10/100/1000 Mbps Ethernet Module N7K-N148GT-11      ok
3   32    10 Gbps Ethernet Module          N7K-M132XP-12      ok
5   0     Supervisor module-1X             N7K-SUP1           active
10  48    10/100/1000 Mbps Ethernet Module N7K-M148GT-11      ok

Mod  Sw              Hw      World-Wide_name(s) (WWN)
---  --------------  ------  --------------------------------------------------
1    4.0(2)          0.503   --
3    4.0(2)          0.601   --
5    4.0(2)          0.900   --
10   4.0(2)          0.902   --

Mod  MAC-Address(es)                         Serial-Num
---  --------------------------------------  ----------
1    00-19-07-6c-c0-6c to 00-19-07-6c-c0-a0  JAB11060144
3    00-1b-54-c1-33-98 to 00-1b-54-c1-33-bc  JAB1152010K
5    00-1b-54-c1-16-18 to 00-1b-54-c1-16-20  JAB114902HF
10   00-1b-54-c1-07-88 to 00-1b-54-c1-07-bc  JAB114501RW

* this terminal session
```

Step 2 Enter the **install module** *slot_number* **epld** *url* command.

```
switch# install module 5 epld bootflash:n7000-s1-epld.5.0.3.img
...

EPLD                                 Curr Ver    New Ver
-----------------------------------------------------------
Power Manager                         3.007       3.009
IO                                    3.026       3.028
Inband                                1.007       1.008
Local Bus CPLD                        3.000       3.000
CMP CPLD                              6.000       6.000
WARNING: Upgrade process could take upto 30 minutes.
```

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```
Active Supervisor is being upgraded.
Data traffic on the switch will be affected!!
The switch will reload after the upgrade process.
Do you want to continue (y/n) ?
```

Step 3 Confirm the upgrade by entering **Y** for yes.

```
Do you want to continue (y/n) ? Y
```

The Cisco Nexus 7000 Series switch reloads as soon as the upgrade occurs.

Step 4 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 releases). You can reset the power in one of the following two ways:

- To reset the power for a 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 an entire switch, power cycle the switch.

To confirm the EPLD upgrade, see the "Displaying EPLD Versions for an I/O or Supervisor Module" section on page 21.

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.

Upgrading EPLDs for a Fabric Module

You can upgrade EPLDs for a fabric (Xbar) module while the switch is operational as long as at least one other fabric module is operational.

To upgrade EPLDs for a fabric module, follow these steps:

Step 1 Determine which fabric modules are present on the Cisco Nexus 7000 Series switch.

```
switch# show module xbar
Xbar Ports  Module-Type                       Model              Status
---  -----  -------------------------------- ------------------ ------------
1    0      Xbar                             N7K-C7010-FAB-1    ok
2    0      Xbar                             N7K-C7010-FAB-1    ok
3    0      Xbar                             N7K-C7010-FAB-1    ok

Xbar Sw              Hw
---  --------------  ------
1    NA              0.404
2    NA              0.405
```

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```
4    NA              0.405

Xbar MAC-Address(es)                          Serial-Num
--------------------------------------------  ----------
1    NA                                       JAB114700WL
2    NA                                       JAB115000LU
4    NA                                       JAB115000LJ

* this terminal session
```

Step 2 Enter the **install xbar-module** *slot_number* **epld** *url* command.

```
switch# install xbar-module 1 epld bootflash:n7000-s1-epld.5.0.3.img
...
EPLD                                 Curr Ver    New Ver
-----------------------------------------------------
Power Manager                         2.009       2.010
WARNING: Upgrade process could upto 30 minutes.
Module could be powered down and up.

Xbar Module 1 will be powered down now!!
Do you want to continue (y/n) ? [n]
```

Step 3 Confirm the upgrade by entering **Y** for yes.

```
Do you want to continue (y/n) ?  [n] y
```

To confirm the EPLD upgrade, see the "Displaying EPLD Versions for a Fabric Module" section on page 22.

Upgrading EPLDs for a Fan Tray Module

You can upgrade EPLDs for a fan tray module while the switch is operational.

To upgrade EPLDs for a fan tray module, follow these steps:

Step 1 Display fan tray information, such as module numbers and fan tray types.

```
switch# show environment fan

Fan:
-----------------------------------------------------
Fan             Model               Hw          Status
-----------------------------------------------------
Fan1(sys_fan1)  N7K-C7018-FAN       0.204       Ok
Fan2(sys_fan2)  N7K-C7018-FAN       0.204       Ok
Fan_in_PS1      --                  --          Ok
Fan_in_PS2      --                  --          Ok
Fan_in_PS3      --                  --          Ok
Fan_in_PS4      --                  --          Absent
Fan Air Filter : Absent
switch#
```

Step 2 Enter the **install fan-module** *slot_number* **epld** *url* command.

```
switch# install fan-module 1 epld bootflash:n7000-s1-epld.5.0.3.img
...

EPLD                                 Curr Ver    New Ver
```

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```
-------------------------------------------------------
Fan Controller                    0.005       0.007
Fan Controller                    0.005       0.007
WARNING: Upgrade process could upto 30 minutes.
Module could be powered down and up.

Programming Fan Module 1 !!
Do you want to continue (y/n) ?  [n]
```

Step 3 Confirm the upgrade by entering a **Y** for yes.

```
Do you want to continue (y/n) ?  [n] Y
```

To confirm the EPLD upgrade, see the "Displaying EPLD Versions for a Fan Tray Module" section on page 22.

Displaying the EPLD Versions

The following sections explain how to display the EPLD versions on each module in your switch and the available EPLD versions:

- Displaying EPLD Versions for an I/O or Supervisor Module, page 21
- Displaying EPLD Versions for a Fabric Module, page 22
- Displaying EPLD Versions for a Fan Tray Module, page 22
- Displaying the Available EPLD Versions, page 22

Displaying EPLD Versions for an I/O or Supervisor Module

To display all of the current EPLD versions on a specific I/O or supervisor module, use the **show version module** *slot_number* **epld** command as shown in Example 7.

Example 7 Displaying the Current EPLD Versions for a Module

```
switch# show version module 2 epld

EPLD Device                          Version
---------------------------------------
Power Manager                         4.008
IO                                    1.015
Forwarding Engine                     1.006
FE Bridge(1)                        186.005
FE Bridge(2)                        186.005
Linksec Engine(1)                     2.006
Linksec Engine(2)                     2.006
Linksec Engine(3)                     2.006
Linksec Engine(4)                     2.006
Linksec Engine(5)                     2.006
Linksec Engine(6)                     2.006
Linksec Engine(7)                     2.006
Linksec Engine(8)                     2.006
```

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Displaying EPLD Versions for a Fabric Module

To view all current EPLD versions on a fabric module, use the **show version xbar** *slot_number* **epld** command as shown in Example 8.

Example 8 Displaying the Current EPLD Versions for a Fabric Module

```
switch# show version xbar 1 epld

EPLD Device                     Version
---------------------------------------
Power Manager                    2.010
```

Displaying EPLD Versions for a Fan Tray Module

To view all current EPLD versions on a specific fan tray, use the **show version fan** *slot_number* **epld** command as shown in Example 9.

Example 9 Displaying Current EPLD Versions for Fan Tray 1

```
switch# show version fan 1 epld
EPLD Device                     Version
---------------------------------------
Fan Controller(BUS A)          0.007
Fan Controller(BUS B)           0.007
```

Displaying the Available EPLD Versions

To view the available EPLD versions, use the **show version epld** *url* command as shown in Example 10.

Example 10 Displaying the Available EPLD Versions

```
switch# show version epld bootflash:n7000-s1-epld.5.0.3.img

...
Module Type                          EPLD Device         Version
------------------------------------------------------------------
Supervisor-1X                        Power Manager         3.009
Supervisor-1X                        IO                    3.028
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                    2.013
10/100/1000 Mbps Eth Module          Forwarding Engine     1.006

10 Gbps Ethernet Module              Power Manager         4.008
10 Gbps Ethernet Module              IO                    1.015
10 Gbps Ethernet Module              Forwarding Engine     1.006
10 Gbps Ethernet Module              FE Bridge           186.005
10 Gbps Ethernet Module              Linksec Engine        2.006

1000 Mbps Optical Ethernet Module    Power Manager         4.008
1000 Mbps Optical Ethernet Module    IO                    1.005
```

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```
1000 Mbps Optical Ethernet Module   Forwarding Engine     1.006
1000 Mbps Optical Ethernet Module   SFP                  1.004

Fabric Module                       Power Manager        2.010

Fabric Module 2                     Power Manager        1.003

Fan                                 Fan Controller       0.007
Fan                                 Fan Controller       0.007
```

Displaying the Status of EPLD Upgrades

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

Example 11 Displaying EPLD Upgrades

```
switch# show install epld status
...
Status: EPLD Upgrade was Successful

EPLD                                Curr Ver    Old Ver
------------------------------------------------------
Power Manager                        5.006       5.004
IO                                   2.013       2.011
Forwarding Engine                    1.006       1.003
```

Caveats

This section includes the following topics:

- Open Caveats in Release 5.0(2), page 23
- Resolved Caveats in Release 5.0(2), page 24

Open Caveats in Release 5.0(3)

There are no open caveats for Release 5.0(3).

Resolved Caveats in Release 5.0(3)

There are no resolved caveats for Release 5.0(3).

Open Caveats in Release 5.0(2)

There are no open caveats for Release 5.0(2).

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Resolved Caveats in Release 5.0(2)

The following caveats are resolved in Release 5.0(2):

- CSCsy48709

  Symptom: When you power down an I/O module or a standby supervisor module, the active supervisor falsely detects the removal of another I/O, supervisor, or fabric module.

  Condition: When you power down an I/O module or a standby supervisor module, that module temporarily interferes with the shared status bus used by all of the modules and causes a false detection of a module removal. This problem occurs with very few I/O or supervisor modules and its occurrence depends on each FPGA component and the power-down sequence timing of each module.

  Workaround: Modify the power-down sequence for all I/O and supervisor modules so that no glitch on the shared status bus will occur again when powering down. New PM FPGA and ADM sequencer images are required to fix this problem.

  Resolution: Upgrade the following PM FPGAs and ADM sequencers:

  - 8-port 10-Gbps Ethernet I/O module: PM FPGA version 4.8 and ADM sequencer version 02
  - 32-port 10-Gbps Ethernet I/O module: PM FPGA version 4.8 and ADM sequencer version 02
  - 48-port 1-Gbps Ethernet I/O module: PM FPGA version 4.8 and ADM sequencer version 03
  - 48-port 10/100/1000 I/O module: PM FPGA version 5.6 and ADM sequencer version 13
  - Supervisor module: PM FPGA version 3.9 and ADM sequencer 1, 2, 3, and 4 versions 03, 03, 02, and 04, respectively

- CSCsz51316

  Symptom: Backplane IDPROM corruption (MAC address is set incorrectly) after power cycling.

  Root Cause: A transaction is started but not completed when the supervisor is powered down. The beginning bits of the transaction are concatenated with the next transaction after power up, which results in a write operation to the backplane IDPROM.

  Workaround: None.

  Resolution: IOFGPA version 3.28 fixes this problem for the supervisor module.

- CSCta96378

  Symptom: Erroneous exceptions occur on the active supervisor module when you press the front panel reset button.

  Condition: A switchover occurs when you press the reset button on the active supervisor module.

  Workaround: None.

  Resolution: PMFGPA version 3.9 fixes this problem for the supervisor module.

- CSCtc26802

  Symptom: Interrupts from the port ASIC instances 5 to 8 did not propagate to the CPU.

  Condition: When one or more of the port ASIC instances 5 to 8 generate interrupts in an 8-port 10-Gbps Ethernet I/O module or in a 32-port 10-Gbps Ethernet I/O module, the CPU does not receive the interrupts.

  Workaround: None.

  Resolution: The following FPGAs fix this problem:

  - IOFPGA version 2.5 for the 8-port 10-Gbps Ethernet I/O module

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  - IOFPGA version 1.15 for the 32-port 10-Gbps Ethernet I/O module

- CSCtc33523

  Symptom: The CPU receives interrupts from front panel 1-Gbps Ethernet port temperature sensors on the supervisor modules.

  Condition: Occurs when the supervisor module is at a normal temperature.

  Root Cause: Wrong interrupt polarity.

  Workaround: None.

  Resolution: IOFGPA version 3.28 fixes this problem for the supervisor module.

- CSCtc37177

  Symptom: Port ASIC errors logged.

  Condition: Occurs when reloading I/O modules.

  Root Cause: Caused by the default value of PLL resets of the port ASICs.

  Workaround: None.

  Resolution: The following FPGAs fix this problem:

  - IOFGPA version 2.13 for the 48-port 10/100/1000 I/O module
  - IOFPGA version 1.5 for the 48-port 1-Gbps I/O module

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*

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- *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 are available at the following URL:

http://www.cisco.com/en/US/docs/switches/datacenter/sw/4_2/nx-os/release/notes/42_nxos_release_note.html

The release notes for upgrading DCNM are available at the following URL:

http://www.cisco.com/en/US/docs/switches/datacenter/sw/4_2/dcnm/release/notes/dcnm_4_2_relnotes.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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