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Cisco Nexus 7000 Series FPGA/EPLD Upgrade Release Notes, Release 5.1

Part Number: OL-23723-02 A1
Release Date: March 22, 2012

Table 1 shows the online history changes for this document.

Table 1 Online History Change

Part Number	Revision	Date	Description
OL-23723-01	A0	October 2010	Created for Cisco NX-OS Release 5.1(1).
	A1	November 22, 2010	Included the 32-port 10-Gigabit Ethernet I/O module with XL option and updated EPLD images.
OL-23723-02	A0	December 20, 2010	Included the 48-port 10/100/1000 Ethernet I/O module with XL option and updated EPLD images.
	A1	November 4, 2011	Updated EPLD image number formats.
	A2	March 22, 2012	Updated with 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) <ul style="list-style-type: none"> • 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) <ul style="list-style-type: none"> • 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) <ul style="list-style-type: none"> • 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) <ul style="list-style-type: none"> • Cisco Nexus 7010 and 7018—Required for CSCsv92355. Fabric modules for Cisco Nexus 7018 (N7K-C7018-FAB1) <ul style="list-style-type: none"> • 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) <ul style="list-style-type: none"> • 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) <ul style="list-style-type: none"> • 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) <ul style="list-style-type: none"> • 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) <ul style="list-style-type: none"> • 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 5.1(2)—the EPLD images are the same for Releases 5.1(1) and 5.1(2).

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)	5.1(1)
Supervisor module (N7K-SUP1)											
Power Manager	3.6	–	3.7	–	–	–	–	–	3.009	–	–
IO	3.25	–	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 and N7K-M148GT-11L [beginning with Release 5.1(2)])											
Power Manager	5.3	–	5.4	–	–	–	–	–	5.006	–	–
IO	2.10	–	2.11	–	–	–	–	–	2.013	–	2.014
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)	5.1(1)
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	–	1.006
SFP	N.A.	–	1.4	–	–	–	–	–	–	–
Forwarding Engine	N.A.	–	1.6	–	–	–	–	–	–	–
32-port 10 Gbps Ethernet I/O module (N7K-M132XP-12 and N7K-M132XP-12L [beginning with Release 5.1(1)])										
Power Manager	4.4	–	4.6	–	–	–	–	4.008	–	–
IO	1.10	–	1.13	–	1.14	–	1.15	–	–	1.16
LinkSec Engine	1.7	–	–	–	1.13	–	–	2.006	–	–
FE Bridge	186.3	–	–	–	–	–	–	186.005	–	186.006
Forwarding Engine	1.6	–	–	–	–	–	–	–	–	–
32-port 1- and 10-Gigabit Ethernet I/O module (N7K-F132XP-15)										
Power Manager	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1.000
IO	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.045
8-port 10-Gbps Ethernet I/O module 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	–	2.007
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.

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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:

- [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.5.1.1.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

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	2.013	2.014	Yes
1	LC	Forwarding Engine	1.006	1.006	No
2	LC	Power Manager	4.008	4.008	No
2	LC	IO	1.005	1.005	No
2	LC	Forwarding Engine	1.006	1.006	No
2	LC	SFP	1.004	1.004	No
3	LC	Power Manager	4.008	4.008	No
3	LC	IO	1.015	1.016	Yes
3	LC	Forwarding Engine	1.006	1.006	No
3	LC	FE Bridge(1)	186.005	186.006	Yes
3	LC	FE Bridge(2)	186.005	186.006	Yes
3	LC	Linksec Engine(1)	2.006	2.006	No
3	LC	Linksec Engine(2)	2.006	2.006	No
3	LC	Linksec Engine(3)	2.006	2.006	No
3	LC	Linksec Engine(4)	2.006	2.006	No
3	LC	Linksec Engine(5)	2.006	2.006	No
3	LC	Linksec Engine(6)	2.006	2.006	No
3	LC	Linksec Engine(7)	2.006	2.006	No
3	LC	Linksec Engine(8)	2.006	2.006	No
5	SUP	Power Manager	3.009	3.009	No
5	SUP	IO	3.028	3.028	No
5	SUP	Inband	1.008	1.008	No

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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	3.009	3.009	No
6	SUP	IO	3.028	3.028	No
6	SUP	Inband	1.008	1.008	No
6	SUP	Local Bus CPLD	3.000	3.000	No
6	SUP	CMP CPLD	6.000	6.000	No
1	Xbar	Power Manager	2.010	2.010	No
2	Xbar	Power Manager	2.010	2.010	No
3	Xbar	Power Manager	2.010	2.010	No
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.5.1.1.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.5.1.1.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	2.010	2.010	No

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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.5.1.1.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 > 5.1.1**.

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 (same as 186.003) (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 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 *module_id* epld**. If the line FE Bridge(x) version displays a version earlier than 186.003, 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 186.006 on the FE Bridge line, which is the correct EPLD version:

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

EPLD Device                               Version
-----
```

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Power Manager	4.008	
IO	1.016	
Forwarding Engine	1.006	
FE Bridge(1)	186.006	<< OK!
FE Bridge(2)	186.006	<< OK!
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	

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 5.1(1) [gdb]
  system:        version 5.1(1) [gdb]
  BIOS compile time:      02/20/10
  kickstart image file is: bootflash:/n7000-s1-kickstart.5.1.1.bin
  kickstart compile time: 12/25/2020 12:00:00 [09/04/2010 04:24:07]
  system image file is:   bootflash:/n7000-s1-dk9.5.1.1.bin
  system compile time:    9/2/2010 3:00:00 [09/04/2010 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   Jun 01 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
 33230   Jul 20 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
 4096    Jul 13 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-dk9.5.1.1.bin
24345600 Feb 04 12:03:47 2010  n7000-s1-kickstart.5.0.2.bin
23667200 May 20 09:07:28 2010  n7000-s1-kickstart.5.1.1.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    Feb 02 00:21:32 2008  vdc_2/
 4096    Feb 02 00:21:32 2008  vdc_3/
 4096    Jul 27 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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http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php
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.5.0.3.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.5.1.1.img bootflash:n7000-s1-epld.5.1.1.img
```

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

```
switch# copy bootflash:n7000-s1-epld.5.1.1.img
bootflash://sup-standby/n7000-s1-epld.5.1.1.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 21](#)
- [Upgrading EPLDs for a Fan Tray Module, page 22](#)

Upgrading the EPLD Images for All Installed Modules

You can upgrade the EPLD images for all installed modules, one module at a time, 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.5.1.1.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

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	2.013	2.014	Yes
1	LC	Forwarding Engine	1.006	1.006	No
2	LC	Power Manager	4.008	4.008	No
2	LC	IO	1.005	1.005	No
2	LC	Forwarding Engine	1.006	1.006	No
2	LC	SFP	1.004	1.004	No
3	LC	Power Manager	4.008	4.008	No
3	LC	IO	1.015	1.016	Yes
3	LC	Forwarding Engine	1.006	1.006	No
3	LC	FE Bridge(1)	186.005	186.006	Yes
3	LC	FE Bridge(2)	186.005	186.006	Yes
3	LC	Linksec Engine(1)	2.006	2.006	No
3	LC	Linksec Engine(2)	2.006	2.006	No
3	LC	Linksec Engine(3)	2.006	2.006	No
3	LC	Linksec Engine(4)	2.006	2.006	No
3	LC	Linksec Engine(5)	2.006	2.006	No
3	LC	Linksec Engine(6)	2.006	2.006	No
3	LC	Linksec Engine(7)	2.006	2.006	No
3	LC	Linksec Engine(8)	2.006	2.006	No
5	SUP	Power Manager	3.009	3.009	No
5	SUP	IO	3.028	3.028	No

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5	SUP	Inband	1.008	1.008	No
5	SUP	Local Bus CPLD	3.000	3.000	No
5	SUP	CMP CPLD	6.000	6.000	No
6	SUP	Power Manager	3.009	3.009	No
6	SUP	IO	3.028	3.028	No
6	SUP	Inband	1.008	1.008	No
6	SUP	Local Bus CPLD	3.000	3.000	No
6	SUP	CMP CPLD	6.000	6.000	No
1	Xbar	Power Manager	2.010	2.010	No
2	Xbar	Power Manager	2.010	2.010	No
3	Xbar	Power Manager	2.010	2.010	No
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 require 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    8       10 Gbps Ethernet XL Module N7K-M108X2-12L      ok
2    32      1/10 Gbps Ethernet Module  N7K-D132XP-15       ok
3    48      10/100/1000 Mbps Ethernet Module N7K-M148GT-11      ok
8    32      10 Gbps Ethernet Module    N7K-M132XP-12       ok
9    0       Supervisor module-1X       N7K-SUP1             active *
10   0       Supervisor module-1X       N7K-SUP1             ha-standby
11   48      1000 Mbps Optical Ethernet Modul N7K-M148GS-11       ok
14   32      10 Gbps Ethernet XL Module  N7K-M132XP-12L      ok
16   32      1/10 Gbps Ethernet Module    N7K-D132XP-15       ok
18   32      10 Gbps Ethernet Module     N7K-M132XP-12       ok

Mod  Sw          Hw
---  ---
1    5.1(1)     0.303
2    5.1(1)     0.405
3    5.1(1)     1.3
```


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```

8    5.1(1)          0.601
9    5.1(1)          0.903
10   5.1(1)          1.1
11   5.1(1)          0.301
14   5.1(1)          0.405
16   5.1(1)          0.405
18   5.1(1)          1.3

```

```

Mod  MAC-Address(es)                               Serial-Num
---  -
1    00-26-51-c5-ce-18 to 00-26-51-c5-ce-24 JAF1333AAJF
2    00-24-f7-1b-fc-54 to 00-24-f7-1b-fc-98 JAF1321ANHQ
3    00-24-f7-1d-38-3c to 00-24-f7-1d-38-70 JAF1314AMRP
8    00-1b-54-c1-25-64 to 00-1b-54-c1-25-88 JAB120101RR
9    00-1b-54-c1-28-b8 to 00-1b-54-c1-28-c0 JAB1152011N
10   00-22-55-77-be-88 to 00-22-55-77-be-90 JAB1229002Q
11   00-22-55-79-2d-b4 to 00-22-55-79-2d-e8 JAF1229BBRE
14   00-26-98-2b-98-a4 to 00-26-98-2b-98-c8 JAF1416BJNP
16   00-24-f7-1f-3e-20 to 00-24-f7-1f-3e-64 JAF1321ANBN
18   00-22-55-77-94-d0 to 00-22-55-77-94-f4 JAB122700GK

```

```

Mod  Online Diag Status
---  -
1    Pass
2    Pass
3    Pass
8    Pass
9    Pass
10   Pass
11   Pass
14   Pass
16   Pass
18   Pass

```

```

Xbar Ports  Module-Type                               Model                               Status
---  -
2    0        Fabric Module 1                     N7K-C7018-FAB-1                     ok
3    0        Fabric Module 1                     N7K-C7018-FAB-1                     ok
4    0        Fabric Module 1                     N7K-C7018-FAB-1                     ok
5    0        Fabric Module 1                     N7K-C7018-FAB-1                     ok

```

```

Xbar Sw      Hw
---  -
2    NA      0.101
3    NA      0.101
4    NA      0.101
5    NA      0.101

```

```

Xbar MAC-Address(es)                               Serial-Num
---  -
2    NA      JAF1225AGAA
3    NA      JAF1235BPMA
4    NA      JAF1235BPQG
5    NA      JAF1235BPQC

```

```

* this terminal session
switch#

```

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

```

switch# install module 7 epld bootflash:n7000-s1-epld.5.1.1.img
...

```

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EPLD	Curr Ver	New Ver
Power Manager	4.008	4.008
IO	1.005	1.006
SFP	1.004	1.004
Forwarding Engine	1.006	1.006

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 23](#).



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

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.

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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
NazDist-B# sh mod
Mod  Ports  Module-Type                               Model                               Status
---  ---
1    8       10 Gbps Ethernet XL Module               N7K-M108X2-12L                     ok
2    32      1/10 Gbps Ethernet Module                N7K-D132XP-15                       ok
3    48      10/100/1000 Mbps Ethernet Module         N7K-M148GT-11                       ok
8    32      10 Gbps Ethernet Module                  N7K-M132XP-12                       ok
9    0       Supervisor module-1X                      N7K-SUP1                             active *
10   0       Supervisor module-1X                      N7K-SUP1                             ha-standby
11   48      1000 Mbps Optical Ethernet Modul         N7K-M148GS-11                       ok
14   32      10 Gbps Ethernet XL Module                N7K-M132XP-12L                      ok
16   32      1/10 Gbps Ethernet Module                 N7K-D132XP-15                       ok
18   32      10 Gbps Ethernet Module                   N7K-M132XP-12                       ok
```

```
Mod  Sw          Hw
---  ---
1    5.1(1)      0.303
2    5.1(1)      0.405
3    5.1(1)      1.3
8    5.1(1)      0.601
9    5.1(1)      0.903
10   5.1(1)      1.1
11   5.1(1)      0.301
14   5.1(1)      0.405
16   5.1(1)      0.405
18   5.1(1)      1.3
```

```
Mod  MAC-Address (es)                               Serial-Num
---  ---
1    00-26-51-c5-ce-18 to 00-26-51-c5-ce-24 JAF1333AAJF
2    00-24-f7-1b-fc-54 to 00-24-f7-1b-fc-98 JAF1321ANHQ
3    00-24-f7-1d-38-3c to 00-24-f7-1d-38-70 JAF1314AMRP
8    00-1b-54-c1-25-64 to 00-1b-54-c1-25-88 JAB120101RR
9    00-1b-54-c1-28-b8 to 00-1b-54-c1-28-c0 JAB1152011N
10   00-22-55-77-be-88 to 00-22-55-77-be-90 JAB1229002Q
11   00-22-55-79-2d-b4 to 00-22-55-79-2d-e8 JAF1229BBRE
14   00-26-98-2b-98-a4 to 00-26-98-2b-98-c8 JAF1416BJNP
16   00-24-f7-1f-3e-20 to 00-24-f7-1f-3e-64 JAF1321ANBN
18   00-22-55-77-94-d0 to 00-22-55-77-94-f4 JAB122700GK
```

```
Mod  Online Diag Status
---  ---
1    Pass
2    Pass
3    Pass
8    Pass
9    Pass
10   Pass
11   Pass
14   Pass
16   Pass
18   Pass
```

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Xbar	Ports	Module-Type	Model	Status
2	0	Fabric Module 1	N7K-C7018-FAB-1	ok
3	0	Fabric Module 1	N7K-C7018-FAB-1	ok
4	0	Fabric Module 1	N7K-C7018-FAB-1	ok
5	0	Fabric Module 1	N7K-C7018-FAB-1	ok

Xbar	Sw	Hw
2	NA	0.101
3	NA	0.101
4	NA	0.101
5	NA	0.101

Xbar	MAC-Address(es)	Serial-Num
2	NA	JAF1225AGAA
3	NA	JAF1235BPMA
4	NA	JAF1235BPQG
5	NA	JAF1235BPQC

* this terminal session

NazDist-B#

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

```
switch# install module 5 epld bootflash:n7000-s1-epld.5.1.1.img
...
```

EPLD	Curr Ver	New Ver
Power Manager	4.008	4.008
IO	1.005	1.006
SFP	1.004	1.004
Forwarding Engine	1.006	1.006

WARNING: Upgrade process could take upto 30 minutes.
 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 23](#).

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**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
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.5.1.1.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
```

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To confirm the EPLD upgrade, see the “[Displaying EPLD Versions for a Fabric Module](#)” section on page 23.

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.5.1.1.img
...

EPLD                               Curr Ver   New Ver
-----
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 24.

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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 23](#)
- [Displaying EPLD Versions for a Fabric Module, page 23](#)
- [Displaying EPLD Versions for a Fan Tray Module, page 24](#)
- [Displaying the Available EPLD Versions, page 24](#)

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	1.016
Forwarding Engine	1.006
FE Bridge(1)	186.006
FE Bridge(2)	186.006
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

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

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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.5.1.1.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                   1.016
10 Gbps Ethernet Module                   Forwarding Engine    1.006
10 Gbps Ethernet Module                   FE Bridge            186.006
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
1000 Mbps Optical Ethernet Module         Forwarding Engine    1.006
1000 Mbps Optical Ethernet Module         SFP                  1.004

Fabric Module                             Power Manager         2.010

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.

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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
```

Caveats

This section includes the following topics:

- [Open Caveats in Release 5.1\(1\), page 25](#)
- [Resolved Caveats in Release 5.1\(1\), page 25](#)

Open Caveats in Release 5.1(1)

There are no open caveats for Release 5.1(1).

Resolved Caveats in Release 5.1(1)

The following caveats were resolved for Release 5.1(1).

- CSCtf40640

Symptom: During a nondestructive upgrade (ISSU), Cisco NX-OS displays a “System booted from Alternate BIOS Flash” message.

Condition: This problem occurs randomly on rare occasions during non-destructive upgrades.

Root Cause: This problem is caused by clock noise on the local bus for the I/O module processor when you reset that processor.

Workaround: None.

Resolution: The following FPGAs fixed the problem and are included in the Cairo 5.1(1) release:

- IOFPGA version 2.14 for the 48-port 10/100/1000 I/O module linecards (N7K-M148GT-11)
- IOFPGA version 1.6 for the 48-port 1-Gigabit Ethernet linecards (N7K-M148GS-11 and N7K-M148GS-11L)
- IOFPGA version 1.16 for the 32-port 10-Gigabit Ethernet linecards (N7K-M132XP-12 and N7K-M132XP-12L)
- IOFPGA version .045 for the 32-port 1- and 10-Gigabit Ethernet linecards (N7K-F132XP-15)
- IOFPGA version 2.7 for the 8-port 10-Gigabit Ethernet X2 linecards (N7K-M108X2-12L)

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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 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

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

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