Cisco Nexus 7000 Series FPGA/EPLD Upgrade Release Notes, Release 8.x

Table 1 shows the revision history changes for this document.

Table 1   Online History Change

Date	Description
September 23, 2020	Updated for Cisco NX-OS Release 8.4(3).
March 26, 2020	Updated for Cisco NX-OS Release 8.4(2).
July 10, 2019	Updated for Cisco NX-OS Release 8.4(1).
December 17, 2018	Updated for Cisco NX-OS Release 8.3(2).
July 5, 2018	Updated for Cisco NX-OS Release 8.3(1).
September 27, 2017	Updated for Cisco NX-OS Release 8.2(1).
May 3, 2017	Updated for Cisco NX-OS Release 8.1(1).
December 22, 2016	Created for Cisco NX-OS Release 8.0(1).

This document includes the following sections:

Introduction

The Cisco Nexus 7000 Series switches, which include the Cisco Nexus 70*xx* and 77*xx* switches, contain several programmable logical devices (PLDs) that provide hardware functionalities in all modules. Cisco provides electronic programmable logic device (EPLD) image upgrades to enhance hardware functionality or to resolve known issues. PLDs include electronic programmable logic devices (EPLDs), field programmable gate arrays (FPGAs), and complex programmable logic devices (CPLDs), but they do not include ASICs. In this document, the term EPLD is used for FPGA and CPLDs.

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

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

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

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

Deciding When to Upgrade EPLDs

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

- If you are enabling software features that require EPLDs.
- If you are using M2 Series 100-Gbps Ethernet I/O modules that remain powered down after booting up the switch.

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

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

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

Table 2 provides high-level guidelines to help network administrators determine whether an EPLD upgrade is necessary when upgrading the Cisco NX-OS Release 5.0(1) or later releases. If you are upgrading an earlier release, see one of the following earlier versions of the 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 Supervisor 2 E from any Cisco Nexus N77xx device to Cisco Nexus N7702 device for Release 7.2(0)D1(1).	Upgrade the EPLD to (1.004) 20.0.
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.

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

Switch Requirements

The Cisco Nexus 7000 Series switch must be running the Cisco NX-OS operating system and include the following hardware:

- Supervisor modules—one or two, each with at least 140 MB of available bootflash or slot0 memory

- I/O modules—at least one

- Fabric modules—at least three (Cisco Nexus 7009, 7010, 7018, 7706, 7710, and 7718 only)

- Fan trays

    - For the Cisco Nexus 7004, one fan tray

    - For the Cisco Nexus 7009 chassis, one fan tray

    - For the Cisco Nexus 7010 chassis, two system fan trays and two fabric fan trays

    - For the Cisco Nexus 7018 chassis, two fan trays

    - For the Cisco Nexus 7702 chassis, one fan tray

    - For the Cisco Nexus 7706, 7710, and 7718 chassis, three fan trays

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

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

EPLDs Available for Releases 8.x

Each EPLD image that you can download from https://www.cisco.com is a bundle of EPLD upgrades. To see the updated EPLD versions for each release, see the tables provided below (Table 3 to Table 6).

Note   Tables 3 to 6 shows EPLD image numbers in *X*.00*y* format but the **show** commands might display these numbers in an older *X.y* format (without leading zeros) for earlier EPLD images.

Cisco NX-OS Release 8.4(3) includes the following Erasable Programmable Logic Device (EPLD) images:

- n7000-s2-epld.8.4.3.img
- n7700-s2-epld.8.4.3.img
- n7700-s3-epld.8.4.3.img

Cisco NX-OS Release 8.4(2) includes the following Erasable Programmable Logic Device (EPLD) images:

- n7000-s2-epld.8.4.2.img
- n7700-s2-epld.8.4.2.img
- n7700-s3-epld.8.4.2.img

Cisco NX-OS Release 8.4(1) includes the following EPLD images:

- n7000-s2-epld.8.4.1.img
- n7700-s2-epld.8.4.1.img
- n7700-s3-epld.8.4.1.img

Cisco NX-OS Release 8.3(2) includes the following EPLD images:

- n7700-s2-epld.8.3.2.img
- n7700-s3-epld.8.3.2.img

Cisco NX-OS Release 8.3(1) includes the following EPLD images:

- n7700-s2-epld.8.3.1.img
- n7700-s3-epld.8.3.1.img

Note   - There are no updates in Nexus 7000 Sup2 EPLD images. Hence n7000-s2-epld.8.3.1.img is not posted to https://www.cisco.com.

- If you decide to upgrade EPLD anyway, or it is determined necessary in your environment, then the following guidelines should be followed.

- EPLD upgrade is not a part of ISSU. When you upgrade from one version to another version, FPGA is not upgraded automatically. You need to trigger EPLD upgrade manually after you upgrade (ISSU) to the target NX-OS release version.

- For Cisco NX-OS Release 6.2(10) and later releases it is recommended to perform EPLD upgrade with the current image (version matching the NX-OS release you are upgrading to) before upgrading to Cisco NX-OS Release 8.3(1).

- For releases prior to Cisco NX-OS Release 6.2(10), you need to first upgrade to Cisco NX-OS Release 6.2(10) or later releases and perform EPLD upgrade with the current image (version matching the NX-OS release you are upgrading to) before upgrading to Cisco NX-OS Release 8.3(1).

- The above guidelines and limitations do not apply to the Nexus 7700 series switches, and their EPLD can be upgraded through the standard process if needed.

Please see CSCvk35999 for more details.

Cisco NX-OS Release 8.2(1) includes the following EPLD images:

- n7000-s2-epld.8.2.1.img
- n7700-s2-epld.8.2.1.img

Cisco NX-OS Release 8.1(1) includes the following EPLD images:

- n7000-s2-epld.8.1.1.img
- n7700-s2-epld.8.1.1.img

Cisco NX-OS Release 8.0(1) includes the following EPLD images:

- n7000-s2-epld.8.0.1.img
- n7700-s2-epld.8.0.1.img

The following table shows the modules that are supported in Cisco NX-OS Release 8.4(3):

Table 3   Supported Modules with the FPGA in Cisco NX-OS Releases 8.4(3)

Module	FPGA Type	Version
Cisco Nexus 7000 Supervisor 2	PMFPGA	38.000
	IOFPGA	1.013
Cisco Nexus 7700 Supervisor 2E	PMFPGA	22.000
Cisco Nexus 7700 Switch Supervisor 3 Enhanced Module	PMFPGA	22.000
Fan-10 slot chassis (Cisco Nexus 7000 Series)	FAN	0.007
Fan-18 slot chassis (Cisco Nexus 7000 Series)	FAN	0.002

Module	FPGA Type	Version
Fan-9 slot chassis (Cisco Nexus 7000 Series)	FAN	0.009
Fan-4 slot chassis (Cisco Nexus 7000 Series)	FAN	0.005
Fan-18 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-10 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-6 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-2 slot chassis (Cisco Nexus 7700 Series)	FAN	0.016
9 slot chassis (N7K:FAB2-7009)	PMFPGA	1.003
10 slot chassis (N7K:FAB2-7010)	PMFPGA	0.007
18 slot chassis (N7K:FAB2-7018)	PMFPGA	0.007
6 slot chassis (N77:FAB2-7706)	PMFPGA	1.002
10 slot chassis (N77:FAB2-7710)	PMFPGA	1.003
18 slot chassis (N77:FAB2-7718)	PMFPGA	1.002
6 slot chassis (N77:FAB3-7706)	PMFPGA	0.010
10 slot chassis (N77:FAB3-7710)	PMFPGA	0.008
N7K:M2-10	PMFPGA	1.006
	IOFPGA	1.003
	SFPFPGA	1.003
	EARL (Forwarding Engine)	2.012
N7K:M2-40	PMFPGA	1.006
	IOFPGA	0.012
	SFPFPGA	2.008
	EARL (Forwarding Engine)	2.012

Module	FPGA Type	Version
N7K:M2-100	PMFPGA	1.007
	IOFPGA	0.009
	SFPFPGA	0.004
	EARL (Forwarding Engine)	2.012
N7K:F2E-10	PMFPGA	1.009
	IOFPGA	0.016
N77:F2E-10	PMFPGA	0.006
	IOFPGA	0.005
N7K:F3-10	PMFPGA	1.000
	IOFPGA	1.005
	SFPFPGA	1.002
N7K:F3-40	PMFPGA	2.003
	IOFPGA	1.005
N7K:F3-100	PMFPGA	2.003
	IOFPGA	1.004
N77:F3-10	PMFPGA	1.007
	IOFPGA	0.035
	SFPFPGA	1.003
N77:F3-40	PMFPGA	1.005
	IOFPGA	0.031
N77:F3-100	PMFPGA	1.008
	IOFPGA	0.021
N77:F4-100	PMFPGA	0.012
	IOFPGA	2.000
	SFPFPGA	0.009
N7K:M3-10	PMFPGA	1.001
	IOFPGA	2.001
	SFPFPGA	1.000
N7K:M3-40	PMFPGA	1.001
	IOFPGA	2.001
	SFPFPGA	1.000
N77:M3-10	PMFPGA	1.002
	IOFPGA	2.000
	SFPFPGA	1.000
N77:M3-40	PMFPGA	1.002
	IOFPGA	2.000
	DBFPGA	1.000

Module	FPGA Type	Version
N77:M3-100	PMFPGA	1.000
	IOFPGA	2.000
	DBFPGA	1.001

The following table shows the modules that are supported in Cisco NX-OS Release 8.4(2):

Table 4   Supported Modules with the FPGA in Cisco NX-OS Releases 8.4(2)

Module	FPGA Type	Version
Cisco Nexus 7000 Supervisor 2	PMFPGA	38.000
	IOFPGA	1.013
Cisco Nexus 7700 Supervisor 2E	PMFPGA	22.000
Cisco Nexus 7700 Switch Supervisor 3 Enhanced Module	PMFPGA	22.000
Fan-10 slot chassis (Cisco Nexus 7000 Series)	FAN	0.007
Fan-18 slot chassis (Cisco Nexus 7000 Series)	FAN	0.002
Fan-9 slot chassis (Cisco Nexus 7000 Series)	FAN	0.009
Fan-4 slot chassis (Cisco Nexus 7000 Series)	FAN	0.005
Fan-18 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-10 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-6 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-2 slot chassis (Cisco Nexus 7700 Series)	FAN	0.016
9 slot chassis (N7K:FAB2-7009)	PMFPGA	1.003
10 slot chassis (N7K:FAB2-7010)	PMFPGA	0.007
18 slot chassis (N7K:FAB2-7018)	PMFPGA	0.007
6 slot chassis (N77:FAB2-7706)	PMFPGA	1.002
10 slot chassis (N77:FAB2-7710)	PMFPGA	1.003
18 slot chassis (N77:FAB2-7718)	PMFPGA	1.002

Module	FPGA Type	Version
6 slot chassis (N77:FAB3-7706)	PMFPGA	0.010
10 slot chassis (N77:FAB3-7710)	PMFPGA	0.008
N7K:M2-10	PMFPGA	1.006
	IOFPGA	1.003
	SFPFPGA	1.003
	EARL (Forwarding Engine)	2.012
N7K:M2-40	PMFPGA	1.006
	IOFPGA	0.012
	SFPFPGA	2.008
	EARL (Forwarding Engine)	2.012
N7K:M2-100	PMFPGA	1.007
	IOFPGA	0.009
	SFPFPGA	0.004
	EARL (Forwarding Engine)	2.012
N7K:F2E-10	PMFPGA	1.009
	IOFPGA	0.016
N77:F2E-10	PMFPGA	0.006
	IOFPGA	0.005
N7K:F3-10	PMFPGA	1.000
	IOFPGA	1.005
	SFPFPGA	1.002
N7K:F3-40	PMFPGA	2.003
	IOFPGA	1.005
N7K:F3-100	PMFPGA	2.003
	IOFPGA	1.004
N77:F3-10	PMFPGA	1.007
	IOFPGA	0.035
	SFPFPGA	1.003
N77:F3-40	PMFPGA	1.005
	IOFPGA	0.031
N77:F3-100	PMFPGA	1.008
	IOFPGA	0.021

Module	FPGA Type	Version
N77:F4-100	PMFPGA	0.012
	IOFPGA	2.000
	SFPFPGA	0.009
N7K:M3-10	PMFPGA	1.001
	IOFPGA	2.000
	SFPFPGA	1.000
N7K:M3-40	PMFPGA	1.001
	IOFPGA	1.002
	SFPFPGA	1.000
N77:M3-10	PMFPGA	1.002
	IOFPGA	2.000
	SFPFPGA	1.000
N77:M3-40	PMFPGA	1.002
	IOFPGA	2.000
	DBFPGA	1.000
N77:M3-100	PMFPGA	1.000
	IOFPGA	2.000
	DBFPGA	1.001

The following table shows the modules that are supported in Cisco NX-OS Release 8.4(1):

Table 5   Supported Modules with the FPGA in Cisco NX-OS Releases 8.4(1)

Module	FPGA Type	Version
Cisco Nexus 7000 Supervisor 2	PMFPGA	38.000
	IOFPGA	1.013
Cisco Nexus 7700 Supervisor 2E	PMFPGA	22.000
Cisco Nexus 7700 Switch Supervisor 3 Enhanced Module	PMFPGA	20.000
Fan-10 slot chassis (Cisco Nexus 7000 Series)	FAN	0.007
Fan-18 slot chassis (Cisco Nexus 7000 Series)	FAN	0.002
Fan-9 slot chassis (Cisco Nexus 7000 Series)	FAN	0.009
Fan-4 slot chassis (Cisco Nexus 7000 Series)	FAN	0.005

Module	FPGA Type	Version
Fan-18 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-10 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-6 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-2 slot chassis (Cisco Nexus 7700 Series)	FAN	0.016
9 slot chassis (N7K:FAB2-7009)	PMFPGA	1.003
10 slot chassis (N7K:FAB2-7010)	PMFPGA	0.007
18 slot chassis (N7K:FAB2-7018)	PMFPGA	0.007
6 slot chassis (N77:FAB2-7706)	PMFPGA	1.002
10 slot chassis (N77:FAB2-7710)	PMFPGA	1.003
18 slot chassis (N77:FAB2-7718)	PMFPGA	1.002
6 slot chassis (N77:FAB3-7706)	PMFPGA	0.008
10 slot chassis (N77:FAB3-7710)	PMFPGA	0.007
N7K:M2-10	PMFPGA	1.006
	IOFPGA	1.003
	SFPFPGA	1.003
	EARL (Forwarding Engine)	2.012
N7K:M2-40	PMFPGA	1.006
	IOFPGA	0.012
	SFPFPGA	2.008
	EARL (Forwarding Engine)	2.012
N7K:M2-100	PMFPGA	1.007
	IOFPGA	0.009
	SFPFPGA	0.004
	EARL (Forwarding Engine)	2.012
N7K:F2E-10	PMFPGA	1.009
	IOFPGA	0.016

Module	FPGA Type	Version
N77:F2E-10	PMFPGA	0.006
	IOFPGA	0.005
N7K:F3-10	PMFPGA	1.000
	IOFPGA	1.003
	SFPFPGA	1.002
N7K:F3-40	PMFPGA	2.003
	IOFPGA	1.005
N7K:F3-100	PMFPGA	2.003
	IOFPGA	1.004
N77:F3-10	PMFPGA	1.007
	IOFPGA	0.031
	SFPFPGA	1.003
N77:F3-40	PMFPGA	1.005
	IOFPGA	0.031
N77:F3-100	PMFPGA	1.008
	IOFPGA	0.021
N77:F4-100	PMFPGA	0.012
	IOFPGA	1.003
	SFPFPGA	0.009
N7K:M3-10	PMFPGA	1.001
	IOFPGA	1.003
	SFPFPGA	1.000
N7K:M3-40	PMFPGA	1.001
	IOFPGA	1.002
	SFPFPGA	1.000
N77:M3-10	PMFPGA	1.002
	IOFPGA	1.003
	SFPFPGA	1.000
N77:M3-40	PMFPGA	1.002
	IOFPGA	1.002
	DBFPGA	1.000
N77:M3-100	PMFPGA	1.000
	IOFPGA	1.002
	DBFPGA	1.001

The following table shows the modules that are supported in Cisco NX-OS Release 8.3(2):

Table 6   Supported Modules with the FPGA in Cisco NX-OS Releases 8.3(2)

Module	FPGA Type	Version
Cisco Nexus 7000 Supervisor 2	PMFPGA	37.000
	IOFPGA	1.013
Cisco Nexus 7700 Supervisor 2E	PMFPGA	20.000
Cisco Nexus 7700 Switch Supervisor 3 Enhanced Module	PMFPGA	0.14
Fan-10 slot chassis (Cisco Nexus 7000 Series)	FAN	0.007
Fan-18 slot chassis (Cisco Nexus 7000 Series)	FAN	0.002
Fan-9 slot chassis (Cisco Nexus 7000 Series)	FAN	0.009
Fan-4 slot chassis (Cisco Nexus 7000 Series)	FAN	0.005
Fan-18 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-10 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-6 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-2 slot chassis (Cisco Nexus 7700 Series)	FAN	0.016
9 slot chassis (N7K:FAB2-7009)	PMFPGA	1.003
10 slot chassis (N7K:FAB2-7010)	PMFPGA	0.007
18 slot chassis (N7K:FAB2-7018)	PMFPGA	0.007
6 slot chassis (N77:FAB2-7706)	PMFPGA	1.002
10 slot chassis (N77:FAB2-7710)	PMFPGA	1.003
18 slot chassis (N77:FAB2-7718)	PMFPGA	1.002
6 slot chassis (N77:FAB3-7706)	PMFPGA	0.008
10 slot chassis (N77:FAB3-7710)	PMFPGA	0.007

Module	FPGA Type	Version
N7K:M2-10	PMFPGA	1.006
	IOFPGA	1.003
	SFPFPGA	1.003
	EARL (Forwarding Engine)	2.012
N7K:M2-40	PMFPGA	1.006
	IOFPGA	0.012
	SFPFPGA	2.008
	EARL (Forwarding Engine)	2.012
N7K:M2-100	PMFPGA	1.007
	IOFPGA	0.009
	SFPFPGA	0.004
	EARL (Forwarding Engine)	2.012
N7K:F2E-10	PMFPGA	1.009
	IOFPGA	0.016
N77:F2E-10	PMFPGA	0.006
	IOFPGA	0.005
N7K:F3-10	PMFPGA	1.000
	IOFPGA	1.003
	SFPFPGA	1.002
N7K:F3-40	PMFPGA	2.003
	IOFPGA	1.005
N7K:F3-100	PMFPGA	2.003
	IOFPGA	1.004
N77:F3-10	PMFPGA	1.007
	IOFPGA	0.031
	SFPFPGA	1.003
N77:F3-40	PMFPGA	1.005
	IOFPGA	0.031
N77:F3-100	PMFPGA	1.008
	IOFPGA	0.021
N7K:M3-10	PMFPGA	1.001
	IOFPGA	1.003
	SFPFPGA	1.000

Module	FPGA Type	Version
N7K:M3-40	PMFPGA	1.001
	IOFPGA	1.002
	SFPFPGA	1.000
N77:M3-10	PMFPGA	1.002
	IOFPGA	1.003
	SFPFPGA	1.000
N77:M3-40	PMFPGA	1.002
	IOFPGA	1.002
	DBFPGA	1.000
N77:M3-100	PMFPGA	1.000
	IOFPGA	1.002
	DBFPGA	1.001

The following table shows the modules that are supported in Cisco NX-OS Release 8.3(1):

Table 7   Supported Modules with the FPGA in Cisco NX-OS Releases 8.3(1)

Module	FPGA Type	Version
Cisco Nexus 7000 Supervisor 2	PMFPGA	37.000
	IOFPGA	1.013
Cisco Nexus 7700 Supervisor 2E	PMFPGA	20.000
Fan-10 slot chassis (Cisco Nexus 7000 Series)	FAN	0.007
Fan-18 slot chassis (Cisco Nexus 7000 Series)	FAN	0.002
Fan-9 slot chassis (Cisco Nexus 7000 Series)	FAN	0.009
Fan-4 slot chassis (Cisco Nexus 7000 Series)	FAN	0.005
Fan-18 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-10 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-6 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-2 slot chassis (Cisco Nexus 7700 Series)	FAN	0.016
9 slot chassis (N7K:FAB2-7009)	PMFPGA	1.003

Module	FPGA Type	Version
10 slot chassis (N7K:FAB2-7010)	PMFPGA	0.007
18 slot chassis (N7K:FAB2-7018)	PMFPGA	0.007
6 slot chassis (N77:FAB2-7706)	PMFPGA	1.002
10 slot chassis (N77:FAB2-7710)	PMFPGA	1.003
18 slot chassis (N77:FAB2-7718)	PMFPGA	1.002
6 slot chassis (N77:FAB3-7706)	PMFPGA	0.008
10 slot chassis (N77:FAB3-7710)	PMFPGA	0.007
N7K:M2-10	PMFPGA	1.006
	IOFPGA	1.003
	SFPFPGA	1.003
	EARL (Forwarding Engine)	2.012
N7K:M2-40	PMFPGA	1.006
	IOFPGA	0.012
	SFPFPGA	2.008
	EARL (Forwarding Engine)	2.012
N7K:M2-100	PMFPGA	1.007
	IOFPGA	0.009
	SFPFPGA	0.004
	EARL (Forwarding Engine)	2.012
N7K-F248XT-24E	PMFPGA	1.009
	IOFPGA	0.016
N7K-F248XP-25E	PMFPGA	1.006
	IOFPGA	0.001
N77:F2E-10	PMFPGA	0.006
	IOFPGA	0.005
N7K:F3-10	PMFPGA	1.000
	IOFPGA	1.003
	SFPFPGA	1.002
N7K:F3-40	PMFPGA	2.003
	IOFPGA	1.005

Module	FPGA Type	Version
N7K:F3-100	PMFPGA	2.003
	IOFPGA	1.004
N77:F3-10	PMFPGA	1.007
	IOFPGA	0.031
	SFPFPGA	1.003
N77:F3-40	PMFPGA	1.005
	IOFPGA	0.031
N77:F3-100	PMFPGA	1.008
	IOFPGA	0.021
N7K:M3-10	PMFPGA	1.001
	IOFPGA	1.003
	SFPFPGA	1.000
N7K:M3-40	PMFPGA	1.001
	IOFPGA	1.002
	SFPFPGA	1.000
N77:M3-10	PMFPGA	1.002
	IOFPGA	1.003
	SFPFPGA	1.000
N77:M3-40	PMFPGA	1.002
	IOFPGA	1.002
	DBFPGA	1.000
N77:M3-100	PMFPGA	1.000
	IOFPGA	1.002
	DBFPGA	1.001

The following modules are supported in Cisco NX-OS Release 8.0(1), Cisco NX-OS Release 8.1(1) and in Cisco NX-OS Release 8.2(1):

Table 8   Supported Modules with the FPGA in Cisco NX-OS Releases 8.0(1), 8.1(1), and 8.2(1)

Module	FPGA Type	Version
Cisco Nexus 7000 Supervisor 2	PMFPGA	37.000
	IOFPGA	1.013
Cisco Nexus 7700 Supervisor 2E	PMFPGA	20.000
Fan-10 slot chassis (Cisco Nexus 7000 Series)	FAN	0.007
Fan-18 slot chassis (Cisco Nexus 7000 Series)	FAN	0.002

Table 8   *Supported Modules with the FPGA in Cisco NX-OS Releases 8.0(1), 8.1(1), and 8.2(1)*

Fan-9 slot chassis (Cisco Nexus 7000 Series)	FAN	0.009
Fan-4 slot chassis (Cisco Nexus 7000 Series)	FAN	0.005
Fan-18 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-10 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-6 slot chassis (Cisco Nexus 7700 Series)	FAN	0.006
Fan-2 slot chassis (Cisco Nexus 7700 Series)	FAN	0.016
9 slot chassis (N7K:FAB2-7009)	PMFPGA	1.003
10 slot chassis (N7K:FAB2-7010)	PMFPGA	0.007
18 slot chassis (N7K:FAB2-7018)	PMFPGA	0.007
6 slot chassis (N77:FAB2-7706)	PMFPGA	1.002
10 slot chassis (N77:FAB2-7710)	PMFPGA	1.003
18 slot chassis (N77:FAB2-7718)	PMFPGA	1.002
6 slot chassis (N77:FAB3-7706)	PMFPGA	0.001
10 slot chassis (N77:FAB3-7710)	PMFPGA	0.001
18 slot chassis (N77:FAB3-7718)	PMFPGA	9.008
N7K:M2-10	PMFPGA	1.006
	IOFPGA	1.003
	SFPFPGA	1.003
	EARL (Forwarding Engine)	2.012
N7K:M2-40	PMFPGA	1.006
	IOFPGA	0.012
	SFPFPGA	2.008
	EARL (Forwarding Engine)	2.012

Table 8   *Supported Modules with the FPGA in Cisco NX-OS Releases 8.0(1), 8.1(1), and 8.2(1)*

N7K:M2-100	PMFPGA	1.007
	IOFPGA	0.009
	SFPFPGA	0.004
	EARL (Forwarding Engine)	2.012
N7K-F248XT-24E	PMFPGA	1.009
	IOFPGA	0.016
N7K-F248XP-25E	PMFPGA	1.006
	IOFPGA	0.001
N77:F2E-10	PMFPGA	0.006
	IOFPGA	0.005
N7K:F3-10	PMFPGA	1.000
	IOFPGA	1.003
	SFPFPGA	1.002
N7K:F3-40	PMFPGA	2.003
	IOFPGA	1.005
N7K:F3-100	PMFPGA	2.003
	IOFPGA	1.004
N77:F3-10	PMFPGA	1.007
	IOFPGA	0.031
	SFPFPGA	1.003
N77:F3-40	PMFPGA	1.005
	IOFPGA	0.031
N77:F3-100	PMFPGA	1.008
	IOFPGA	0.021
N7K:M3-10	PMFPGA	1.001
	IOFPGA	1.003
	SFPFPGA	1.000
N7K:M3-40	PMFPGA	1.001
	IOFPGA	1.002
	SFPFPGA	1.000
N77:M3-10	PMFPGA	1.002
	IOFPGA	1.003
	SFPFPGA	1.000

Table 8   *Supported Modules with the FPGA in Cisco NX-OS Releases 8.0(1), 8.1(1), and 8.2(1)*

N77:M3-40	PMFPGA	1.002
	IOFPGA	1.002
	DBFPGA	1.000
N77:M3-100	PMFPGA	1.000
	IOFPGA	1.002
	DBFPGA	1.001

Note   To list the EPLDs running on your switch, use the **show version module** *module_number* **epld** command. If any of the versions that you list are older than what is listed in Table 5, we recommend that you update the EPLDs.

Displaying EPLD Images and Versions

The show commands in Table 9 list all EPLD versions available in a module. If any higher versions are available, it is recommended to upgrade to the latest available version.

As shown in Table 9, you can use various **show** commands to determine whether the EPLDs can be upgraded for all the modules or for specific modules on a switch. These commands indicate the current EPLD images, new EPLD images, and whether the upgrades would be disruptive to switch operations.

Table 9   *Displaying the EPLD Upgrade Status for the Switch and its Modules*

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

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

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

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

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

Downloading the EPLD Images

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

To download the EPLD images, follow these steps:

Step 1   From a browser, go to the following URL and log in with your account:

https://www.cisco.com

The browser will display the Cisco website.

Step 2   If you are an existing user; click **Log In** to log into your account. If you are a new user, click **Register** and provide the required information before returning to the home page and log in with your new user name.

The home page opens.

Step 3   From the P**roducts & Services** tab, choose **Switches**.

The Switches page opens.

Step 4   Under the **Data Center Switches** option, click the **Nexus 7000** menu.

The Cisco Nexus 7000 Series Switches page opens.

Step 5   In the Support area, click **Download Software for this Product**.

The Downloads page opens and lists the Data Center switches.

Step 6   Choose a Cisco Nexus 7000 Series switch from the list under **Cisco Nexus 7000 Series Switches**.

The **Select a Software Type** page opens.

Step 7   Click **NX-OS EPLD Updates**.

The Downloads page lists software releases that you can download.

Step 8   Choose **Latest** Releases > **8.0(1)(ED)**.

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

Step 9   Click the link for the Tar file.

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

Step 10   Click **Download**.

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

Step 11   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 12   Click **Save**.

The Save As dialog box appears.

Step 13   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).

Installation/Upgrade Guidelines

You can upgrade EPLDs using CLI commands on the Cisco Nexus 7000 Series switch. By default, EPLD images are not downgraded when you downgrade the NX-OS software release because each EPLD image works with older releases of the software.

Note   By default, you cannot downgrade EPLD images when you downgrade the NX-OS software release because the EPLD images work with down level versions of the software. For this reason, we do not recommend downgrading EPLD images.

The **allow-downgrade** option is not supported and it is not available as a command in Cisco NX-OS Release 8.0(1).

Follow these guidelines when you upgrade or downgrade EPLDs:

– Before you upgrade any EPLD images, be sure that you have updated the Cisco NX-OS operating system to the level required for the images and be sure that you have one of the following EPLD image files:

Cisco NX-OS Release 8.3(1):

– n7700-s2-epld.8.3.1.img

– n7700-s3-epld.8.3.1.img

Note   For EPLDs available for Cisco NX-OS Release 8.3(1), see EPLDs Available for Release 8.x section.

- There are no updates in Nexus 7000 Sup2 EPLD images. Hence n7000-s2-epld.8.3.1.img is not posted to https://www.cisco.com.

- If you decide to upgrade EPLD anyway, or it is determined necessary in your environment, then the following guidelines should be followed.

- For Cisco NX-OS Release 6.2(10) and later releases it is recommended to perform EPLD upgrade with the current image (version matching the NX-OS release you are upgrading to) before upgrading to Cisco NX-OS Release 8.3(1).

- For releases prior to Cisco NX-OS Release 6.2(10), you need to first upgrade to Cisco NX-OS Release 6.2(10) or later releases and perform EPLD upgrade with the current image (version matching the NX-OS release you are upgrading to) before upgrading to Cisco NX-OS Release 8.3(1).

- The above guidelines and limitations do not apply to the Nexus 7700 series switches, and their EPLD can be upgraded through the standard process if needed.

Please see CSCvk35999 for more details.

Cisco NX-OS Release 8.2(1):

    – n7000-s2-epld.8.2.1.img

    – n7700-s2-epld.8.2.1.img

Cisco NX-OS Release 8.1(1):

    – n7000-s2-epld.8.1.1.img

    – n7700-s2-epld.8.1.1.img

Cisco NX-OS Release 8.0(1):

    – n7000-s2-epld.8.0.1.img

    – n7700-s2-epld.8.0.1.img

- You can execute an upgrade from the active supervisor module only. This upgrade is for one or all of the modules as follows:
  - You can upgrade a module individually.
  - You can upgrade all modules sequentially.
  - You can upgrade all modules in parallel.
- You can update the images for one or all modules whether the switch is online or offline as follows:
  - If the modules are on line, only the EPLD images with version numbers that differ from the new EPLD images are upgraded.
  - If the modules are offline, all of the EPLD images are upgraded.
- The **install all epld** *<epld_image>* **parallel** command is used to upgrade all EPLDs at the same time.
- On a system that has two supervisor modules, upgrade the EPLDs for the standby supervisor and then switch the active supervisor to the standby mode to upgrade its EPLDs (the supervisor switchover is not disruptive to traffic on Cisco Nexus 7000 Series switches). On a switch that has only one supervisor module, you can upgrade the active supervisor, but this will disrupt its operations during the upgrade.
- If you interrupt an upgrade, you must upgrade the module that is being upgraded again.
- The upgrade process disrupts traffic on the targeted module.
- Do not insert or remove any modules while an EPLD upgrade is in progress.

Preparing the EPLD Images for Installation

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

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

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

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

```
switch# show version
...
Software
_ BIOS:version 8.1.1
_ kickstart: version 8.1(1)
_ system:   version 8.1(1)
_ BIOS compile time:02/28/2017
_ kickstart image file is: bootflash:///n7000-s2-kickstart.8.1.1.bin
_ kickstart compile time:_ 03/1/2017 12:00:00 [03/3/2017 10:51:03]
_ system image file is:   bootflash:///n7700-s2-dk9.8.1.1.bin
_ system compile time:03/1/2017 12:00:00 [03/03/2017 12:33:26]
...
switch#
```

Step 3   Verify that you have 140 MB of free space on the active or standby supervisor memory devices for the EPLD images that you will be downloading by using the **dir bootflash:** or **dir slot0:** commands.

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

Example 2   Determining the Amount of Available Bootflash Memory

```
switch# dir bootflash:
...
      4096    Oct 05 01:19:53 2016 lost+found/
...
29479424 Dec 11 12:03:47 2016  n7000-s2-kickstart.8.1.1.gbin
29467136 Oct 15 10:35:18 2016  n7000-s2-kickstart.8.1.1.gbin
...
Usage for bootflash://sup-local 978673664 bytes used
860184576 bytes free
1838858240 bytes total switch# show module
Mod  Ports  Module-Type                      Model             Status
---  -----  -------------------------------- ----------------- ------------
8    48     1/10 Gbps Ethernet Module        N7K-M348XP-25L    ok
9    24     1/10 Gbps Ethernet Module        N7K-M324FQ-25L    ok

switch# attach module 9
Attaching to module 9 ...
To exit type 'exit', to abort type '$.'
Cisco Nexus Operating System (NX-OS) Software TAC support: http://www.cisco.com/tac
```

```
Copyright (c) 2002-2017, Cisco Systems, Inc. All rights reserved. The copyrights to
certain works contained in this software are owned by other third parties and used and
distributed under license. Certain components of this software are licensed under the GNU
General Public License (GPL) version 2.0 or the GNU Lesser General Public License (LGPL)
Version 2.1. A copy of each such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php
switch#
```

Example 3   Determining the Amount of Available Slot0 Memory

```
switch# dir slot0:
...

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

switch# show module
Mod  Ports  Module-Type                      Model              Status
---  -----  -------------------------------- ------------------ ------------
1    48     1/10 Gbps Ethernet Module        N7K-M348XP-25L     ok
7    24     1/10 Gbps Ethernet Module        N7K-M324FQ-25L     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 140 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-s2-kickstart.7.2.0.bin
```

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

```
switch# copy ftp://10.1.7.2/ n7000-s2-epld.8.1.1.img
bootflash:n7000-s2-epld.8.1.1.img
```

Step 6   Copy the EPLD image to the standby supervisor.

```
switch# copy bootflash: n7000-s2-epld.8.1.1.img
bootflash://sup-standby/ n7000-s2-epld.8.1.1.img
```

You are ready to upgrade the EPLD images (see the "Manual Upgrading of EPLD Images" section on page 25).

Manual Upgrading of EPLD Images

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

- If a module is installed and online, the software lists the installed and new versions for each EPLD. Where there is a difference in versions, the software indicates an upgrade or downgrade to occur when you confirm the process.

- If a module is installed and offline, the software cannot list its current EPLD versions so all EPLDs will be updated when you confirm the upgrade.

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

If you need to know which modules can be updated and which upgrades are disruptive to switch operations, see the "Displaying EPLD Images and Versions" section on page 20.

To upgrade the EPLD images for a Cisco Nexus 7000 Series switch, you use one of the **install** commands listed in Table 10. These commands enable you to upgrade the EPLD images for all of the modules on the switch, multiple modules of one or two types, or single modules. When specifying a *slot_number*, use one number. When specifying *slot_numbers*, you can specify **all** for all slots, multiple slots separated by commas (*x,y,z*) or a range of slot numbers (*x-y*).

> **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 non disruptive upgrade.

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

> **Note** For details on EPLD upgrade for M1 modules in releases prior to Cisco NX-OS Release 8.0(1), refer to Cisco Nexus 7000 Series FPGA/EPLD Upgrade Release Notes 7.x.

Table 10   EPLD Upgrade Commands

Modules Upgraded	Command
All installed modules with one module upgraded at a time	**install all epld** *epld_image*
All installed modules with the I/O modules upgraded in parallel	**install all epld** *epld_image* **parallel**
One or more I/O and supervisor modules with the I/O modules upgraded in parallel	**install all epld** *epld_image* **parallel module {all |** *slot_numbers*}
One or more I/O and supervisor modules with the I/O modules upgraded in parallel and one or more fan-tray modules	**install all epld** *epld_image* **parallel module {all |** *slot_numbers*} **fan-module {all |** *slot_numbers*}
One or more I/O and supervisor modules with the I/O modules upgraded in parallel and one or more fabric (xbar) modules	**install all epld** *epld_image* **parallel module {all |** *slot_numbers*} **xbar-module {all |** *slot_numbers*}
One or more fan-tray modules and one or more fabric (xbar) modules	**install all epld** *epld_image* **parallel fan-module {all |** *slot_numbers*} **xbar-module {all |** *slot_numbers*}
One I/O (F1, F2, M2, and M3 Series only) or supervisor module	**install all epld** *epld_image* **parallel module** *slot number*
One I/O (F3 Series)	**install all epld** *epld_image* **parallel module {all |** *slot_numbers*}

Table 10   EPLD Upgrade Commands (continued)

Modules Upgraded	Command
One fan module	**install fan-module** *slot_number* **epld** *epld_image*
One fabric module	**install xbar-module** *slot_number* **epld** *epld_image*

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

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

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

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

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

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

Note   EPLD and software images for a chassis with Supervisor 2 and Supervisor 2E have "s2" in the image name.

Example 4   Installing EPLD Images in Parallel for Switches with Supervisor 2 or Supervisor 2E Modules

```
switch# install all epld bootflash:n7000-s2-epld.8.1.1.img parallel
```

To confirm the EPLD upgrades, see the Verifying the EPLD Upgrades and Downgrades section.

Automatic Upgrading of EPLD Images

You can enable, disable, and verify automatic upgrading of EPLD images for I/O modules installed in the Cisco Nexus 7000 series switches. Also, if the upgrade is canceled because it exceeds a maximum number of programmed attempts, you can reset the process to enable the upgrades.

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

This section includes the following topics:

Enabling or Disabling Automatic Upgrades of EPLD Images

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

SUMMARY STEPS

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

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

DETAILED STEPS

	Command	Purpose

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

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

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

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

Verifying Automatic Upgrades of EPLD Images

To check on the automatic upgrade status while the upgrades occur or after the upgrades, use the commands listed in Table 11.

Table 11   Automatic EPLD Upgrade Verification Commands

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

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

Resetting Automatic Upgrades of EPLD Images

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

```
switch# 2016 May 21 13:30:21 switch %$ VDC-1 %$_ %USER-2-SYSTEM_MSG:
<<%EPLD_AUTO-2-AUTO_UPGRADE_CHECK>> Automatic EPLD upgrade check for module 15: Max
retries reached. Use 'clear auto-upgrade epld flags all' to upgrade. - epld_auto
```

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

- Clearing the auto-upgrade epld flags for all of the I/O modules by using the **clear auto-upgrade epld flags all** command.

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

- Restarting the switch.

Verifying the EPLD Upgrades and Downgrades

You can verify the EPLD upgrades and downgrades for each slot in the switch by using the commands listed in Table 12.

Table 12   Commands Used to Display EPLD Information for Modules

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

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

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

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

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

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

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

Displaying the Available EPLD Versions

To view the available EPLD versions in an EPLD image file, use the **show version epld** *url* command as shown in Example 5.

Example 5   Displaying the Available EPLD Versions

```
switch# show version epld bootflash: n7000-s2-epld.8.1.1.img
_
Retrieving EPLD versions... Please wait.
_
EPLD image file 8.0.1 built on Thu Dec 15 03:28:49 2016
_
Module Type_____ Model_____ EPLD Device_____ Version
-------------------------------------------------------------------------------
Fan_____ N77-C7706-FAN____ Fan Controller (1)_ 0.005
Fan_____ N77-C7706-FAN____ Fan Controller (2)_ 0.005
_
1/10 Gbps Ethernet Module_____ N77-F248XP-23E___ Power Manager_____ 0.005
1/10 Gbps Ethernet Module_____ N77-F248XP-23E___ IO_____ 0.005
_
Fabric Module 2_____ N77-C7706-FAB-2__ Power Manager_____ 1.002
_
Supervisor Module 2_____ N77-SUP2E_____ Power Manager SPI_ 19.000
_
10/40 Gbps Ethernet Module_____ N77-F324FQ-25____ Power Manager SPI__ 1.003
10/40 Gbps Ethernet Module_____ N77-F324FQ-25____ IO SPI_____ 0.023
_
100 Gbps Ethernet Module_____ N77-F312CF-26____ Power Manager SPI__ 1.004
100 Gbps Ethernet Module_____ N77-F312CF-26____ IO SPI_____ 0.017
_
1/10 Gbps Ethernet Module_____ N77-F348XP-23____ Power Manager SPI__ 1.003
1/10 Gbps Ethernet Module_____ N77-F348XP-23____ SFP SPI _____1.001
1/10 Gbps Ethernet Module_____ N77-F348XP-23____ IO SPI_____ 0.024
switch#
```

Displaying the Status of EPLD Upgrades

To display the status of EPLD upgrades on the switch, use the **show install epld status** command as shown in Example 6.

Example 6   Displaying EPLD Upgrades

```
switch# show install epld status

1) Module 6 upgraded on Thu Dec 19 16:36:27 2016 (229507 us)

Status: EPLD Upgrade was Successful
```

```
EPLD                            Curr Ver     Old Ver
------------------------------------------------------
Power Manager SPI               37.000          34.000
IO SPI                          1.013          1.012
...
```

Limitations

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

- 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.

Related Documentation

Cisco Nexus 7000 Series documentation is available at the following URL: http://www.cisco.com/c/en/us/support/switches/nexus-7000-series-switches/tsd-products-support-series-home.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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