CHAPTER 7

EPLD Software Upgrade or Downgrade

This chapter contains the recommended procedure for upgrading or downgrading an electronic programmable logic device (EPLD). EPLDs are hardware components such as ASICs on I/O modules that can be upgraded without having to replace the hardware. EPLD upgrades are typically not required, but in some cases, such as new chassis installs or chassis redeployments, we recommend that you upgrade to the latest EPLD version to ensure that all upgradable hardware components have the latest feature enhancements and caveat fixes.

This chapter includes the following sections:

- EPLD Upgrade/Downgrade Verification
- EPLD Upgrade Procedure

EPLD Upgrade/Downgrade Verification

Introduced: Cisco NX-OS Release 4.2(6)

Before starting an EPLD upgrade, an upgrade verification check should be performed on the chassis to understand what EPLD upgrades are required and the impact that each upgrade will have. This will assist in planning when determining if any of the upgrades will impact production traffic that could create an unnecessary network outage.

```
n7000# 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
     4    LC          No          none   Module is not Online
     5   SUP         Yes    disruptive   Module Upgradable
     7    LC         Yes    disruptive   Module Upgradable
     8    LC         Yes    disruptive   Module Upgradable
     9    LC         Yes    disruptive   Module Upgradable
    10    LC         Yes    disruptive   Module Upgradable
     1  Xbar         Yes    disruptive   Module Upgradable
     2  Xbar         Yes    disruptive   Module Upgradable
     3  Xbar         Yes    disruptive   Module Upgradable
     1   FAN         Yes    disruptive   Module Upgradable
     2   FAN         Yes    disruptive   Module Upgradable
     3   FAN         Yes    disruptive   Module Upgradable
     4   FAN         Yes    disruptive   Module Upgradable

Retrieving EPLD versions... Please wait.
```

```
Images will be upgraded according to following table:

Module  Type           EPLD      Running-Version   New-Version  Upg-Required
------  ----  -------------      ---------------   -----------  ------------
     1    LC  Power Manager              4.008       4.008          No
     1    LC  IO                         1.015       1.016          Yes
     1    LC  Forwarding Engine          1.006       1.006          No
     1    LC  FE Bridge(1)             186.005     186.006          Yes
     1    LC  FE Bridge(2)             186.005     186.006          Yes
     1    LC  Linksec Engine(1)          2.006       2.006          No
     1    LC  Linksec Engine(2)          2.006       2.006          No
     1    LC  Linksec Engine(3)          2.006       2.006          No
     1    LC  Linksec Engine(4)          2.006       2.006          No
     1    LC  Linksec Engine(5)          2.006       2.006          No
     1    LC  Linksec Engine(6)          2.006       2.006          No
     1    LC  Linksec Engine(7)          2.006       2.006          No
```

EPLD Upgrade Procedure

Introduced: Cisco NX-OS Release 4.0(1)

This section was included for reference and is typically not required, but we recommend that you read it. Cisco NX-OS software can be upgraded without upgrading to the latest EPLD image. Customers should review the EPLD release notes on cisco.com and determine if they need to upgrade their EPLDs based on new features or caveat fixes. Customers performing a new install may want to upgrade EPLDs to the latest version to reduce the likelihood for having to upgrade EPLDs in the future.

EPLDs are upgraded per component when using the **install** command. Only one component can be upgraded at a time. Upgrading a single component provides granular control to avoid any unnecessary network impact. The ELPD upgrades can take up to 30 minutes per I/O module. The same procedure can be used to downgrade a component, although downgrades are typically not required.

For best results, follow these recommendations:

- Only upgrade the EPLDs on an I/O module that is not passing production traffic. (Redirect traffic before starting the upgrade.)
- To save time, make sure the I/O module being upgraded is not powered off. If the module is powered off, the module will be powered on, and all upgradable components on the module will be updated regardless if they require it. This will take more time to upgrade the I/O module.
- Use the **install all epld** command to start a rolling EPLD upgrade for the entire chassis. This procedure should only be used for non-production chassis, or if the production chassis is not passing any “production” traffic.
- Do not disrupt the upgrade process for a component.

```
n7000# install module 1 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    LC  Power Manager              4.008       4.008          No
     1    LC  IO                         1.015       1.016          Yes
     1    LC  Forwarding Engine          1.006       1.006          No
     1    LC  FE Bridge(1)             186.005     186.006          Yes
```

```
1    LC  FE Bridge(2)              186.005      186.006         Yes
1    LC  Linksec Engine(1)          2.006       2.006           No
1    LC  Linksec Engine(2)          2.006       2.006           No
1    LC  Linksec Engine(3)          2.006       2.006           No
1    LC  Linksec Engine(4)          2.006       2.006           No
1    LC  Linksec Engine(5)          2.006       2.006           No
1    LC  Linksec Engine(6)          2.006       2.006           No
1    LC  Linksec Engine(7)          2.006       2.006           No
1    LC  Linksec Engine(8)          2.006       2.006           No

Module 1 will be powered down.
Do you want to continue? (yes/no) [n]:
```