

Upgrade NX-OS For Nexus 5000 Series Switch

Document ID: 112158

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Introduction

This document explains the step-by-step procedure to upgrade the Cisco NX-OS on Cisco Nexus 5000 Series Switches.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- SCP and how to transfer files with this protocol.

Components Used

The information in this document is based on these software and hardware versions:

- Nexus 5020 Series Switch
- Kickstart Image n5000-uk9-kickstart.4.0.0.N1.2.bin
- System Software n5000-uk9.4.0.0.N1.2.bin

Conventions

Refer to the Cisco Technical Tips Conventions for more information on document conventions.

Image Files on the Switch

The Cisco Nexus 5000 Series switches have these images:

- BIOS and loader images combined in one file
- Kickstart image
- System image that includes a BIOS image that can be upgraded

The switch has flash memory that consists of two separate flash parts:

- 2 MB flash part holds two BIOS and loader images.
- 1 GB flash part holds configuration files, kickstart images, systems images, and other files.

The upgradeable BIOS and the golden BIOS are programmed onto the 2 MB flash part. You cannot upgrade the golden BIOS.

When you download a new pair of kickstart and system images, you also get a new BIOS image because it is included in the system image. You can use the **install all** command to upgrade the kickstart, system, and upgradeable BIOS images.

Procedure

Start The Switch

A Cisco Nexus 5000 Series switch starts its boot process as soon as its power cord is connected to an A/C source. The switch does not have a power switch.

BOOT Sequence

When the switch boots, the golden BIOS validates the checksum of the upgradeable BIOS. If the checksum is valid, control is transferred to the upgradeable BIOS image. The upgradeable BIOS launches the kickstart image, which then launches the system image. If the checksum of the upgradeable BIOS is not valid, then the golden BIOS launches the kickstart image, which then launches the system image.

You can force the switch to bypass the upgradeable BIOS and use the golden BIOS instead. If you press Ctrl–Shift–6 within two seconds of when power is supplied to the switch, the golden BIOS is used to launch the kickstart image, even if the checksum of the upgradeable BIOS is valid.

Note: When you press Ctrl–Shift–6, the console settings must be set to their defaults: 9600 baud, 8 data bits, no parity, and 1 stop bit.

Before the boot sequence starts, the BIOS performs internal tests on the switch. If the tests fail, then the loader does not gain control. Instead, the BIOS image retains control and prints a message to the console at 9600 baud every 30 seconds that indicates a failure.

Console Settings

The loader, kickstart, and system images have these factory default console settings:

- Speed 9600 baud
- Databits 8 bits per byte
- Stopbits; bit
- Parity none

These settings are stored on the switch, and all three images use the stored console settings.

To change a console setting, use the line console command in configuration mode. This example configures a line console and sets the options for that terminal line:

```
switch# configure terminal
switch(config)# line console
```

```
switch(config-console)# databits 7
switch(config-console)# exec-timeout 30
switch(config-console)# parity even
switch(config-console)# stopbits 2
```

You cannot change the BIOS console settings. These are the same as the default console settings.

Upgrade the Switch

Note: Users with the `network-admin` role can upgrade the software image on the switch.

Complete these steps:

1. Log in to the switch on the console port connection.
2. Go to <http://www.cisco.com/>, click Log In at the top of the page, and enter your Cisco username and password in order to log in to Cisco.com.

Note: Unregistered Cisco.com users cannot access the links provided in this document.

3. Access the Software Download Center (registered customers only) .
4. Navigate to the software downloads for Cisco Nexus 5000 Series switches. You see links to the download images for the switch.
5. Read the release notes for the related image file.
6. Select and download the kickstart and system software files to a server.
7. Ensure that the required space is available in the bootflash: directory for the image file(s) to be copied.

```
switch# dir bootflash:
5910 Jun 17 14:48:28 2008 config0617
453 Jan 01 00:12:13 2005 ent-fm.lic
453 Jan 01 20:50:55 2005 ent-fm123.lic
453 Jan 01 20:58:49 2005 ent-fm123456.lic
215 Jan 01 00:13:50 2005 enterprise.lic
221 Jan 01 04:25:43 2005 eth-mod.lic
219 Jan 01 04:26:14 2005 eth-port.lic
216 Jan 01 00:21:48 2005 fc-feature.lic
49152 Jul 28 09:42:51 2008 lost+found/
21581824 Jul 08 10:11:14 2008 n5000-uk9-kickstart.4.0.0.N1.1.445.bin
21573632 Jul 28 09:38:33 2008 n5000-uk9-kickstart.4.0.0.N1.1.47.bin
20062208 Jul 28 09:43:05 2008 n5000-uk9-kickstart.4.0.0.N1.2.467.bin
77139580 Jul 08 10:10:45 2008 n5000-uk9.4.0.0.N1.1.445.bin
75270834 Jul 28 09:38:33 2008 n5000-uk9.4.0.0.N1.1.47.bin
76924383 Jul 28 09:44:01 2008 n5000-uk9.4.0.0.N1.2.467.bin
4096 Jan 01 00:07:37 2005 routing-sw/
3697 Apr 30 14:53:07 2008 startup-config
4096 Aug 08 12:49:09 2008 test/
0 Jan 03 04:19:13 2005 thttpd_output
782893 Jan 21 16:56:14 2005 zone-scale-config.out
126927 Jan 21 16:55:45 2005 zoneset-scale-config.out
Usage for bootflash://sup-local
855547904 bytes used
6942613504 bytes free
```

```
7798161408 bytes total
```

8. If you need more space on the active supervisor module bootflash, delete unnecessary files to make space available.

```
switch# delete bootflash:n5000-uk9-kickstart.4.0.0.N1.1.445.bin
```

```
switch# delete bootflash:n5000-uk9.4.0.0.N1.1.445.bin
```

9. Copy the kickstart and system images to the supervisor module bootflash with a transfer protocol. You can use **ftp:**, **tftp:**, **scp:**, or **sftp:**. The examples in this procedure uses **scp:**

```
switch# copy
                                scp://user@scpserver.cisco.com/downloads/n5000-uk9-kickstart.4.0.0.
                                bootflash:n5000-uk9-kickstart.4.0.0.N1.2.bin
```

```
switch# copy
                                scp://user@scpserver.cisco.com/downloads/n5000-uk9.4.0.0.N1.2.bin
                                bootflash:n5000-uk9.4.0.0.N1.2.bin
```

10. Install the new images, specifying the new image names that you downloaded in Step 9.

```
switch(config)# install all kickstart
                bootflash:n5000-uk9-kickstart.4.0.0.N1.2.bin system
                bootflash:n5000-uk9.4.0.0.N1.2.bin
```

The **install** command performs these actions:

- ◆ Performs compatibility checks (equivalent to the show incompatibility command) for the images that you have specified. If there are compatibility issues, an error message is displayed, and the installation does not proceed.
- ◆ Displays the compatibility check results and displays whether the installation is disruptive.
- ◆ Provides a prompt to allow you to continue or abort the installation.

Note: A disruptive installation causes traffic disruption while the switch reboots.

- ◆ Updates the boot variables to reference the specified images and saves the configuration to the startup configuration file.

11. After the switch completes the installation, log in and verify that the switch is running the required software version.

```
switch# show version
Cisco Nexus Operating System (NX-OS) Software
TAC support:http://www.cisco.com/tac
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The copyrights to certain works contained herein are owned by
other third parties and are used and distributed under license.
Some parts of this software may be covered under the GNU Public
License or the GNU Lesser General Public License. A copy of
each such license is available at http://www.gnu.org/licenses/gpl.html and
http://www.gnu.org/licenses/lgpl.html
```

```
Software
BIOS: version 1.2.0
kickstart: version 4.0(0)N1(2)
system: version 4.0(0)N1(2)
```

```
BIOS compile time: 06/19/08
kickstart image file is: bootflash:/n5000-uk9-kickstart.4.0.0.N1.2.467.bin
kickstart compile time: 7/28/2008 2:00:00 [07/28/2008 09:41:24]
system image file is: bootflash:/n5000-uk9.4.0.0.N1.2.467.bin
system compile time: 7/28/2008 2:00:00 [07/28/2008 10:09:17]
```

```
Hardware
cisco Nexus5020 Chassis ("40x10GE/Supervisor")
Intel® Celeron® M CPU with 2074164 kB of memory.
Processor Board ID JAB120600AY
```

```
bootflash: 7864320 kB
nms-eugene-02 kernel uptime is 11 days 3 hours 15 minute(s) 19 second(s)
```

Last reset at 63897 usecs after Mon Jul 28 09:46:39 2008
Reason: Reset by installer
System version: 4.0(0)N1(1)
Service:

Related Information

- [Command References](#)
 - [Technical Support & Documentation – Cisco Systems](#)
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Updated: Sep 28, 2010

Document ID: 112158
