

Upgrade Nexus 3000 and 3100 NX-OS Software

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Introduction

This document describes disruptive NX-OS software upgrade processes for Cisco Nexus 3000 and 3100 Series switches between major software releases.

Prerequisites

Requirements

Cisco recommends that you understand the basics of copying files in Cisco NX-OS. For more information about this feature, refer to one of these applicable documents:

- [Cisco Nexus 3000 Series NX-OS Fundamentals Configuration Guide, Release 9.3\(x\)](#)
- [Cisco Nexus 3000 Series NX-OS Fundamentals Configuration Guide, Release 9.2\(x\)](#)
- [Cisco Nexus 3000 Series NX-OS Fundamentals Configuration Guide, Release 7.x](#)

Cisco recommends that you understand the basics of upgrading NX-OS software on Cisco Nexus 3000 and 3100 Series switches. For more information about this procedure, refer to one of these applicable documents:

- [Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.3\(x\)](#)
- [Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.2\(x\)](#)
- [Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x](#)

- [Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 6.x](#)

Components Used

The information in this document is based on the Cisco Nexus 3000 and 3100 Series switches listed in the **Applicable Hardware** section of this document. The device output in this document was taken from a Nexus 3172PQ-10GE (model number N3K-C3172PQ-10GE) running various NX-OS software releases.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

This document describes the steps used to upgrade Cisco NX-OS software on Cisco Nexus 3000 and 3100 Series switches from and to a variety of NX-OS software releases using supported disruptive upgrade paths. The intent behind this document is to provide step-by-step instructions to perform supported NX-OS software upgrades between common major and minor NX-OS software releases.

This document does not describe steps used to perform any non-disruptive upgrade for Cisco NX-OS software on Cisco Nexus 3000 and 3100 Series switches. In-Service Software Upgrade (ISSU) procedures and upgrade paths are outside the scope of this document.

NX-OS Software Release Version Taxonomy

Cisco NX-OS software release names contain a number of components that are regularly referenced in this document. The names of these components are clearly defined in the [Cisco NX-OS Software Release Naming section of the Cisco IOS and Cisco NX-OS Software Release Reference Guide](#). Specifically, you must be aware of these terms:

- Major release number
- Minor release number
- Maintenance release number
- Platform designator
- Platform minor release number
- Platform maintenance release number
- Platform rebuild identifier

For example, NX-OS software release 7.0(3)I7(5a) has these components:

Component Name	Component Value
Major release number	7
Minor release number	0
Maintenance release number	3
Platform Designator	I
Platform minor release number	7
Platform maintenance release number	5
Platform rebuild identifier	a

As another example, NX-OS software release 9.3(5) has these components:

Component Name	Component Value
Major release number	9
Minor release number	3
Maintenance release number	5

Note: The NX-OS 9 major release (sometimes referred to as **9.x** in the documentation) adopts a new, unified version-numbering convention that does not include platform designator, platform minor release number, platform maintenance release number, or platform rebuilds identifier components.

Cisco Nexus configuration guides are typically grouped by NX-OS major release numbers. Within the title of these configuration guides, NX-OS major release numbers are typically displayed such that the major release number has a variable **x** appended referring to the minor release (such as **6.x**, **7.x**, and so on). For example, the Cisco Nexus 9000 Series NX-OS Fundamentals Configuration Guide, Release 7.x is applicable to all NX-OS 7 major releases (although specific caveats, limitations, and configuration examples could be specific to certain minor or maintenance release numbers).

The exception to this rule is the NX-OS 9 major release. For the NX-OS 9 major release, Cisco Nexus configuration guides are grouped by the NX-OS major and minor release numbers, with a variable **x**, appended referring to the maintenance release (such as **9.2(x)** and **9.3(x)**).

This document uses the formatting used by the titles of Cisco Nexus configuration guides (6.x, 7.x, 9.2(x), 9.3(x), and so on) to describe standard disruptive NX-OS software upgrades between two NX-OS software releases.

NX-OS Software Upgrade Terminology

Source Releases, Target Releases, and Intermediate Releases

An NX-OS software upgrade is typically performed between two releases - a **source release** (which is the NX-OS software release you are upgrading from) and a **target release** (which is the NX-OS software release you are upgrading to). For example, if you upgrade a Nexus 3172PQ-10GE switch from NX-OS software release 7.0(3)I7(8) to NX-OS software release 9.3(5), 7.0(3)I7(8) would be your source release while 9.3(5) would be your target release.

In order to upgrade from a specific source release to a specific target release, your upgrade path could require an upgrade to one or more **intermediate releases**. For example, if you upgrade a Nexus 3172PQ-10GE switch from NX-OS software release 7.0(3)I7(5a) to NX-OS software release 9.3(5), you need an upgrade to an intermediate release of 7.0(3)I7(8) or 9.2(4) before you can successfully upgrade to NX-OS software release 9.3(5).

Types of NX-OS Software Upgrades

NX-OS software upgrades can be divided into two categories:

- **Disruptive Upgrades** - A disruptive upgrade between a source release and a target release where the Nexus switch reloads at the end of the upgrade process. The reload causes the data plane, control plane, and management plane of the Nexus switch to go offline in a short period of time.
- **In-Service Software Upgrade (ISSU)** - A non-disruptive upgrade between a source release and a target release where the data plane of the Nexus switch remains online and forwards traffic as a result of Non-Stop Forwarding (NSF).

The procedure for non-disruptive ISSU NX-OS software upgrades is outside the scope of this document.

This document only covers the standard disruptive NX-OS software upgrades.

Applicable Hardware

The procedure covered in this document is applicable to this hardware only:

- N3K-C3016Q-40GE
- N3K-C3064PQ-10GX
- N3K-C3064TQ-10GT
- N3K-C3064TQ-32T
- N3K-C3132Q-40GE
- N3K-C3132Q-40GX
- N3K-C3132Q-XL
- N3K-C3172PQ-10GE
- N3K-C3172PQ-XL
- N3K-C3172TQ-10GT
- N3K-C3172TQ-32T
- N3K-C3172TQ-XL

The procedure covered in this document is not applicable to Nexus 3048 switches (N3K-C3048TP-1GE). Reference the [Upgrade Nexus 3048 NX-OS Software document](#) for information on how to upgrade the NX-OS software of Nexus 3048 switches.

NX-OS Software Upgrade Procedures

This section of the document describes how to perform standard disruptive NX-OS software upgrades from a variety of source releases to a variety of target releases.

Upgrade From NX-OS 6.x to NX-OS 6.x

This section of the document describes how to perform a standard disruptive NX-OS software upgrade from a source release in the NX-OS 6.x major release to a target release in the NX-OS 6.x major release.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus N3K-C3172PQ-10GE switch from a source release of 6.0(2)U5(1) to a target release of 6.0(2)U6(10):

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
show module
```

```
<snip>
```

Mod	Ports	Module-Type	Model	Status
1	54	48x10GE + 6x40G Supervisor	N3K-C3172PQ-10GE-SU	active *

Mod	Sw	Hw	World-Wide-Name(s) (WWN)
1	6.0(2)U5(1)	1.1	--

Step 1. Download Target Release from Cisco Software Download.

NX-OS 6.x software requires a total of two NX-OS binary image files: a **system** image, and a **kickstart** image. You need to download these images from [Cisco's Software Download website](#) to your local computer. The specific steps you need to take to download software from Cisco's Software Download website are outside the scope of this document.

Step 2. Copy Target Release to Cisco Nexus Switch.

Copy the NX-OS 6.x kickstart and system binary image files to the Nexus 3000 or 3100 Series switch you would like to disruptively upgrade using your file transfer protocol of choice. This example demonstrates how to copy the kickstart and system binary image files for the NX-OS 6.0(2)U6(1a) software release via File Transfer Protocol (FTP) from an FTP server **192.0.2.100** reachable via the **management** VRF.

```
<#root>
N3K-C3172PQ-10GE#
dir | include bin
    37734400   Sep 21 15:32:00 2020  n3000-uk9-kickstart.6.0.2.U5.1.bin
    189984434 Sep 21 15:36:46 2020  n3000-uk9.6.0.2.U5.1.bin
N3K-C3172PQ-10GE#
copy ftp://username@192.0.2.100/n3000-uk9-kickstart.6.0.2.U6.10.bin bootflash: vrf management
Password:
Copy complete, now saving to disk (please wait)...
N3K-C3172PQ-10GE#
copy ftp://username@192.0.2.100/n3000-uk9.6.0.2.U6.10.bin bootflash: vrf management
Password:
Copy complete, now saving to disk (please wait)...
N3K-C3172PQ-10GE#
dir | include bin
    37734400   Sep 21 15:32:00 2020  n3000-uk9-kickstart.6.0.2.U5.1.bin
    37881856   Sep 21 17:35:37 2020  n3000-uk9-kickstart.6.0.2.U6.10.bin
    189984434 Sep 21 15:36:46 2020  n3000-uk9.6.0.2.U5.1.bin
    206130057 Sep 21 17:36:11 2020  n3000-uk9.6.0.2.U6.10.bin
```

Step 3. Verify MD5 or SHA512 Checksum of Target Release.

After the NX-OS 6.x kickstart and system binary image files are copied to the Nexus 3000 or 3100 Series switch, you would like to disruptively upgrade using your file transfer protocol of choice, verify that the binary image files were not corrupted in transport by ensuring their MD5 or SHA512 checksums match what is published on [Cisco's Software Download website](#).

You can identify the MD5 and SHA512 checksum of NX-OS binary image files through Cisco's Software Download website by hovering your cursor over the image on the website. An example of this is shown in [this image](#).

Software Download

[Downloads Home](#) / [Switches](#) / [Data Center Switches](#) / [Nexus 3000 Series Switches](#) / [Nexus 3048 Switch](#) / [NX-OS System Software- 7.0\(3\)I7\(8\)](#)

Details

Description : Cisco Nexus 9000/3000 Standalone Switch

Release : 7.0(3)I7(8)

Release Date : 04-Mar-2020

FileName : nxos.7.0.3.I7.8.bin

Min Memory : DRAM 0 Flash 0

Size : 937.16 MB (982681088 bytes)

MD5 Checksum : 4568b131a87aa8be71f6ec190e30d597

SHA512 Checksum : 77c6f20116f51e09035078d57209de21 ...

[Release Notes for 7.0\(3\)I7\(8\) N3K](#) [Release Notes for 7.0\(3\)I7\(8\) N9K](#)

	Release Date	Size
nxos.7.0.3.I7.8.bin	04-Mar-2020	937.16 MB

This example demonstrates how to verify the MD5 checksum of the kickstart and system binary image files for the NX-OS 6.0(2)U6(10) software release through the **show file bootflash:{filename} md5sum** command. The expected MD5 checksum for the NX-OS 6.0(2)U6(10) kickstart binary image file is **f07cbe12d2e489ce02b9577b59753335**, while the expected MD5 checksum for the NX-OS 6.0(2)U6(10) system binary image file is **98b1ba8106afbc85b83c0f985a66cd30**.

```
<#root>
N3K-C3172PQ-10GE#
show file bootflash:n3000-uk9-kickstart.6.0.2.U6.10.bin md5sum
f07cbe12d2e489ce02b9577b59753335
N3K-C3172PQ-10GE#
show file bootflash:n3000-uk9.6.0.2.U6.10.bin md5sum
98b1ba8106afbc85b83c0f985a66cd30
```

Step 4. Upgrade NX-OS Software via Install All Command.

Begin a standard disruptive NX-OS software upgrade through the **install all** command. This command requires both the **kickstart** and **system** parameters to be passed in with the absolute filepath of the NX-OS kickstart and system binary image files corresponding with the target release.

This example shows the **install all** command where the **kickstart** parameter points to the absolute filepath

of the NX-OS kickstart binary image file (**bootflash:n3000-kickstart-uk9.6.0.2.U6.10.bin**) and the **system** parameter points to the absolute filepath of the NX-OS system binary image file (**bootflash:n3000-uk9.6.0.2.U6.10.bin**).

<#root>

N3K-C3172PQ-10GE#

install all kickstart bootflash:n3000-uk9-kickstart.6.0.2.U6.10.bin system bootflash:n3000-uk9.6.0.2.U6.10.bin

Installer is forced disruptive

Verifying image bootflash:/n3000-uk9-kickstart.6.0.2.U6.10.bin for boot variable "kickstart".

[#####] 100% -- SUCCESS

Verifying image bootflash:/n3000-uk9.6.0.2.U6.10.bin for boot variable "system".

[#####] 100% -- SUCCESS

Verifying image type.

[#####] 100% -- SUCCESS

Extracting "system" version from image bootflash:/n3000-uk9.6.0.2.U6.10.bin.

[#####] 100% -- SUCCESS

Extracting "kickstart" version from image bootflash:/n3000-uk9-kickstart.6.0.2.U6.10.bin.

[#####] 100% -- SUCCESS

Extracting "bios" version from image bootflash:/n3000-uk9.6.0.2.U6.10.bin.

[#####] 100% -- SUCCESS

Performing module support checks.

[#####] 100% -- SUCCESS

Notifying services about system upgrade.

[#####] 100% -- SUCCESS

Compatibility check is done:

Module	bootable	Impact	Install-type	Reason
1	yes	disruptive	reset	Forced by the user

Images will be upgraded according to following table:

Module	Image	Running-Version	New-Version	Upg-Required
1	system	6.0(2)U5(1)	6.0(2)U6(10)	yes
1	kickstart	6.0(2)U5(1)	6.0(2)U6(10)	yes
1	bios	v2.6.0(04/01/2014)	v2.6.0(04/01/2014)	no

Switch will be reloaded for disruptive upgrade.

Do you want to continue with the installation (y/n)? [n]

y

Time Stamp: Mon Sep 21 17:42:55 2020

Install is in progress, please wait.

Performing runtime checks.

```
[#####] 100% -- SUCCESS
```

Setting boot variables.

```
[#####] 100% -- SUCCESS
```

Performing configuration copy.

```
[#####] 100% -- SUCCESS
```

Time Stamp: Mon Sep 21 17:43:44 2020

Finishing the upgrade, switch will reboot in 10 seconds.

Step 5. Verify Successful NX-OS Software Upgrade.

After the Nexus 3000 or 3100 Series switch is reloaded, verify that the upgrade was successful through the **show module** command. The output of this command shows the desired target release. An example of this is shown here, where the switch was successfully upgraded to NX-OS software release 6.0(2)U6(10).

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
show module
```

```
<snip>
```

Mod	Ports	Module-Type	Model	Status
1	54	48x10GE + 6x40G Supervisor	N3K-C3172PQ-10GE-SU	active *

Mod	Sw	Hw	World-Wide-Name(s) (WWN)
1	6.0(2)U6(10)	1.1	--

Step 6. Delete Source Release Binary Image Files from Cisco Nexus Switch.

After you verify that the NX-OS software upgrade from the source release to the target release was successful, preserve free space on the switch's bootflash by deleting the source release's kickstart and system binary image files from the bootflash of the device. This can be done with the **delete bootflash:{filename}** command. An example of this is shown here, where the NX-OS 6.0(2)U5(1) kickstart and system binary image files are deleted from the switch's bootflash.

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
37734400 Sep 21 15:32:00 2020 n3000-uk9-kickstart.6.0.2.U5.1.bin
37881856 Sep 21 17:35:37 2020 n3000-uk9-kickstart.6.0.2.U6.10.bin
189984434 Sep 21 15:36:46 2020 n3000-uk9.6.0.2.U5.1.bin
206130057 Sep 21 17:36:11 2020 n3000-uk9.6.0.2.U6.10.bin
```

```
N3K-C3172PQ-10GE#
```

```
delete bootflash:n3000-uk9-kickstart.6.0.2.U5.1.bin
```

```
N3K-C3172PQ-10GE#
```

```
delete bootflash:n3000-uk9.6.0.2.U5.1.bin
```

```
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
 37881856   Sep 21 17:35:37 2020  n3000-uk9-kickstart.6.0.2.U6.10.bin
206130057   Sep 21 17:36:11 2020  n3000-uk9.6.0.2.U6.10.bin
```

Upgrade From NX-OS 6.x to NX-OS 7.x

This section of the document describes how to perform a standard disruptive NX-OS software upgrade from a source release in the NX-OS 6.x major release to a target release in the NX-OS 7.x major release.

Note: An NX-OS software upgrade to a target release in the NX-OS 7.x major release from a source release in the NX-OS 6.x major release requires a mandatory intermediate upgrade to 6.0(2)U6(10) before upgrading to the desired target release.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus N3K-C3172PQ-10GE switch from a source release of 6.0(2)U5(1) to a target release of 7.0(3)I7(9) with the mandatory intermediate upgrade to 6.0(2)U6(10):

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
show module
```

```
<snip>
```

Mod	Ports	Module-Type	Model	Status
1	54	48x10GE + 6x40G Supervisor	N3K-C3172PQ-10GE-SU	active *

Mod	Sw	Hw	World-Wide-Name(s) (WWN)
1	6.0(2)U5(1)	1.1	--

Step 1. Upgrade From NX-OS 6.x to NX-OS 6.0(2)U6(10).

Use the [Upgrade From NX-OS 6.x to NX-OS 6.x](#) section of this document to perform a standard disruptive NX-OS software upgrade from your source release to an intermediate release of NX-OS software release 6.0(2)U6(10). This is required in order for an upgrade to a target release in the NX-OS 7.x major release to be successful.

Step 2. Download Target Release from Cisco Software Download.

NX-OS 7.x software uses a single NX-OS binary image file (sometimes referred to as a **unified** image file).

You need to download this image from [Cisco's Software Download website](#) to your local computer. The specific steps you need to take to download software from Cisco's Software Download website are outside the scope of this document.

Note: If you are upgrading to NX-OS software release 7.0(3)I7(8) or 7.0(3)I7(9), Cisco advises you download the compact NX-OS software image from [Cisco's Software Download website](#). When browsing the website, select the model of Nexus switch that you are attempting to upgrade and navigate to the desired target NX-OS software release. Then, locate the software image with "Compact Image" in its description and the word "compact" in its filename. For more information, refer to the ["Compact NX-OS Software Images on Cisco's Software Download Website" section of the Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x document](#).

Step 3. Copy Target Release to Cisco Nexus Switch.

Copy the target release unified binary image files to the Nexus 3000 or 3100 Series switch you would like to disruptively upgrade using your file transfer protocol of choice. This example demonstrates how to copy the NX-OS 7.0(3)I7(9) software release kickstart and system binary image files via **FTP** (File Transfer Protocol) from an FTP server **192.0.2.100** reachable via the **management** VRF.

```
<#root>
N3K-C3172PQ-10GE#
dir | include bin
   37881856   Sep 21 17:35:37 2020  n3000-uk9-kickstart.6.0.2.U6.10.bin
   206130057   Sep 21 17:36:11 2020  n3000-uk9.6.0.2.U6.10.bin
N3K-C3172PQ-10GE#
copy ftp://username@192.0.2.100/nxos.7.0.3.I7.9.bin bootflash: vrf management
Password:
Copy complete, now saving to disk (please wait)...
N3K-C3172PQ-10GE#
dir | include bin
   37881856   Sep 21 17:35:37 2020  n3000-uk9-kickstart.6.0.2.U6.10.bin
   206130057   Sep 21 17:36:11 2020  n3000-uk9.6.0.2.U6.10.bin
   982694912   Sep 21 18:00:31 2020  nxos.7.0.3.I7.9.bin
```

Step 4. Verify MD5 or SHA512 Checksum of Target Release.

After the target release unified binary image files are copied to the Nexus 3000 or 3100 Series switch, you would like to disruptively upgrade using your file transfer protocol of choice, verify that the binary image file was not corrupted in transport by ensuring its MD5 or SHA512 checksum matches what is published on [Cisco's Software Download website](#).

You can identify the MD5 and SHA512 checksum of NX-OS binary image files through Cisco's Software Download website by hovering your cursor over the image on the website. An example of this is shown in this image.

Software Download

[Downloads Home](#) / [Switches](#) / [Data Center Switches](#) / [Nexus 3000 Series Switches](#) / [Nexus 3048 Switch](#) / [NX-OS System Software- 7.0\(3\)I7\(8\)](#)

The screenshot shows a web page for downloading NX-OS software. A modal window titled "Details" is open, displaying the following information:

Description :	Cisco Nexus 9000/3000 Standalone Switch
Release :	7.0(3)I7(8)
Release Date :	04-Mar-2020
FileName :	nxos.7.0.3.I7.8.bin
Min Memory :	DRAM 0 Flash 0
Size :	937.16 MB (982681088 bytes)
MD5 Checksum :	4568b131a87aa8be71f6ec190e30d597
SHA512 Checksum :	77c6f20116f51e09035078d57209de21 ...

Below the details, there are links for "Release Notes for 7.0(3)I7(8) N3K" and "Release Notes for 7.0(3)I7(8) N9K".

In the background, a table lists software releases with columns for "Release Date" and "Size". The visible row is for "7.0(3)I7(8)" with a release date of "04-Mar-2020" and a size of "937.16 MB".

This example demonstrates how to verify the MD5 checksum of the unified binary image file for the NX-OS 7.0(3)I7(9) software release through the **show file bootflash:{filename} md5sum** command. The expected MD5 checksum for the NX-OS 7.0(3)I7(9) unified binary image file is **d31d5b556cc4d92f2ff2d83b5df7b943**.

```
<#root>  
N3K-C3172PQ-10GE#  
show file bootflash:nxos.7.0.3.I7.9.bin md5sum  
d31d5b556cc4d92f2ff2d83b5df7b943
```

Step 5. Upgrade NX-OS Software to Target Release via Install All Command.

Begin a standard disruptive NX-OS software upgrade through the **install all** command. This command requires the **nxos** parameter to be passed in with the absolute filepath of the NX-OS unified binary image files corresponding with the target release.

This example shows the **install all** command where the **nxos** parameter points to the absolute filepath of the NX-OS 7.0(3)I7(9) unified binary image file (**bootflash:nxos.7.0.3.I7.9.bin**).

```
<#root>
```

N3K-C3172PQ-10GE#

install all nxos bootflash:nxos.7.0.3.I7.9.bin

Installer is forced disruptive

Verifying image bootflash:/nxos.7.0.3.I7.9.bin for boot variable "nxos".

[#####] 100% -- SUCCESS

Verifying image type.

[#####] 100% -- SUCCESS

Extracting "nxos" version from image bootflash:/nxos.7.0.3.I7.9.bin.

[#####] 100% -- SUCCESS

Extracting "bios" version from image bootflash:/nxos.7.0.3.I7.9.bin.

[#####] 100% -- SUCCESS

Performing runtime checks.

[#####] 100% -- SUCCESS

Performing module support checks.

[#####] 100% -- SUCCESS

Notifying services about system upgrade.

[#####] 100% -- SUCCESS

Compatibility check is done:

Module	bootable	Impact	Install-type	Reason
1	yes	disruptive	reset	Unsupported in new image, module needs to be powered off

Images will be upgraded according to following table:

Module	Image	Running-Version	New-Version	Upg-Required
1	kickstart	6.0(2)U6(10)	7.0(3)I7(9)	yes
1	bios	v2.6.0(04/01/2014)	v5.3.1(05/17/2019)	yes

Switch will be reloaded for disruptive upgrade.

Do you want to continue with the installation (y/n)? [n]

y

Time Stamp: Mon Sep 21 18:08:21 2020

Install is in progress, please wait.

Performing runtime checks.

[#####] 100% -- SUCCESS

Setting boot variables.

[#####] 100% -- SUCCESS

Performing configuration copy.

[#####] 100% -- SUCCESS

Module 1: Refreshing compact flash and upgrading bios/loader/bootrom/power-seq.
Warning: please do not remove or power off the module at this time.
Note: Power-seq upgrade needs a power-cycle to take into effect.
On success of power-seq upgrade, SWITCH OFF THE POWER to the system and then, power it up.
[#####] 100% -- SUCCESS

Time Stamp: Mon Sep 21 18:12:48 2020

Finishing the upgrade, switch will reboot in 10 seconds.

Step 6. Verify Successful Target NX-OS Software Upgrade.

After the Nexus 3000 or 3100 Series switch has reloaded, verify that the upgrade was successful through the **show module** command. The output of this command shows the desired target release. An example of this is shown here, where the switch was successfully upgraded to NX-OS software release 7.0(3)I7(9).

```
<#root>
N3K-C3172PQ-10GE#
show module
<snip>
Mod Ports      Module-Type      Model      Status
-----
1    54    48x10GE + 6x40G Supervisor    N3K-C3172PQ-10GE    active *
Mod Sw          Hw    Slot
-----
1    7.0(3)I7(9)    1.1    NA
```

Step 7. Delete Intermediate Release Binary Image Files from Cisco Nexus Switch.

After you verify that the NX-OS software upgrade from the intermediate release to the target release was successful, preserve free space on the switch's bootflash by deleting the intermediate release's kickstart and system binary image files from the bootflash of the device. This can be done with the **delete bootflash:{filename}** command. An example of this is shown here, where the NX-OS 6.0(2)U6(10) kickstart and system binary image files are deleted from the switch's bootflash.

```
<#root>
N3K-C3172PQ-10GE#
dir | include bin
    37881856    Sep 21 17:35:37 2020    n3000-uk9-kickstart.6.0.2.U6.10.bin
    206130057    Sep 21 17:36:11 2020    n3000-uk9.6.0.2.U6.10.bin
    982694912    Sep 21 18:00:31 2020    nxos.7.0.3.I7.9.bin
N3K-C3172PQ-10GE#
delete bootflash:n3000-uk9-kickstart.6.0.2.U6.10.bin
Do you want to delete "/n3000-uk9-kickstart.6.0.2.U6.10.bin" ? (yes/no/abort) [y]
N3K-C3172PQ-10GE#
```

```
delete bootflash:n3000-uk9.6.0.2.U6.10.bin
```

```
Do you want to delete "/n3000-uk9.6.0.2.U6.10.bin" ? (yes/no/abort) [y]
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
982694912 Sep 21 18:00:31 2020 nxos.7.0.3.I7.9.bin
```

Step 8. Execute NX-OS Compact Image Procedure on Target Release.

Note: You must skip this step if you upgrade using a compact NX-OS software image downloaded directly from [Cisco's Software Download website](#). For more information, refer to the "[Compact NX-OS Software Images on Cisco's Software Download Website](#)" section of the [Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x document](#).

Run the NX-OS Compact Image Procedure on the NX-OS 7.0(3)I7(9) binary image file stored on the bootflash of the device with the **install all nxos bootflash:{nxos-binary-image-file.bin} compact** command. This reduces the file size of the NX-OS 7.0(3)I7(9) binary image file, which increases the amount of free space on the bootflash. This is a requirement for future NX-OS software upgrades to be performed, as the total size of the bootflash on the Nexus 3000 or 3100 Series switch is not large enough to store two NX-OS binary image files in the 7.x or 9.x major releases at the same time. For more information about the NX-OS Compact Image Procedure, refer to the [Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure document](#).

An example of the NX-OS Compact Image Procedure executed against the NX-OS 7.0(3)I7(9) binary image file stored on the bootflash of a Nexus switch is shown here:

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
982694912 Sep 21 18:00:31 2020 nxos.7.0.3.I7.9.bin
```

```
N3K-C3172PQ-10GE#
```

```
install all nxos bootflash:nxos.7.0.3.I7.9.bin compact
```

```
Installer will perform compatibility check first. Please wait.
Compacting currently loaded image bootflash:/nxos.7.0.3.I7.9.bin
```

```
.....
Compact bootflash:/nxos.7.0.3.I7.9.bin done
```

```
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
472320617 Sep 21 18:24:48 2020 nxos.7.0.3.I7.9.bin
```

Upgrade From NX-OS 6.x to NX-OS 9.2(x)

This section of the document describes how to perform a standard disruptive NX-OS software upgrade from a source release in the NX-OS 6.x major release to a target release in the NX-OS 7.x major release.

Note: An NX-OS software upgrade to a target release in the NX-OS 9.2(x) minor release from a source release in the NX-OS 6.x major release requires two mandatory intermediate upgrades. The first intermediate upgrade is to NX-OS 6.0(2)U6(10). The second intermediate upgrade is to NX-OS 7.0(3)I7(9). After the second intermediate upgrade to 7.0(3)I7(9), you must upgrade to the desired target release in the NX-OS 9.2(x) minor release.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus N3K-C3172PQ-10GE switch from a source release of 6.0(2)U5(1) to a target release of 9.3(5) with mandatory intermediate upgrades to 6.0(2)U6(10) and 7.0(3)I7(9).

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
show module
```

```
<snip>
```

Mod	Ports	Module-Type	Model	Status
1	54	48x10GE + 6x40G Supervisor	N3K-C3172PQ-10GE-SU	active *

Mod	Sw	Hw	World-Wide-Name(s) (WWN)
1	6.0(2)U5(1)	1.1	--

Step 1. Upgrade From NX-OS 6.x to NX-OS 6.0(2)U6(10).

Use the [Upgrade From NX-OS 6.x to NX-OS 6.x](#) section of this document to perform a standard disruptive NX-OS software upgrade from your source release to an intermediate release of NX-OS software release 6.0(2)U6(10). This is required in order for an upgrade to a target release in the NX-OS 9.2(x) minor release to be successful.

Step 2. Upgrade From NX-OS 6.0(2)U6(10) to NX-OS 7.0(3)I7(9) or Later.

Use the [Upgrade From NX-OS 6.x to NX-OS 7.x](#) section of this document to perform a standard disruptive NX-OS software upgrade from an intermediate release of 6.0(2)U6(10) to an intermediate release of 7.0(3)I7(9) or later. This is required in order for an upgrade to a target release in the NX-OS 9.2(x) minor release to be successful.

Step 3. Upgrade From NX-OS 7.0(3)I7(9) or Later to NX-OS 9.2(x).

Use the [Upgrade From NX-OS 7.x to NX-OS 9.2\(x\)](#) section of this document to perform a standard disruptive NX-OS software upgrade from NX-OS software release 7.0(3)I7(9) or later to your desired target release in the NX-OS 9.2(x) minor release.

Upgrade From NX-OS 6.x to NX-OS 9.3(x)

This section of the document describes how to perform a standard disruptive NX-OS software upgrade from a source release in the NX-OS 6.x major release to a target release in the NX-OS 9.3(x) minor release.

Note: An NX-OS software upgrade to a target release in the NX-OS 9.3(x) minor release from a

source release in the NX-OS 6.x major release requires two mandatory intermediate upgrades. The first intermediate upgrade is to NX-OS 6.0(2)U6(10). The second intermediate upgrade is to NX-OS 7.0(3)I7(9) or later. After the second intermediate upgrade to 7.0(3)I7(9) or later, you must upgrade to the desired target release in the NX-OS 9.3(x) minor release.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus N3K-C3172PQ-10GE switch from a source release of 6.0(2)U5(1) to a target release of 9.3(5) with mandatory intermediate upgrades to 6.0(2)U6(10) and 7.0(3)I7(9).

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
show module
```

```
<snip>
```

Mod	Ports	Module-Type	Model	Status
1	54	48x10GE + 6x40G Supervisor	N3K-C3172PQ-10GE-SU	active *

Mod	Sw	Hw	World-Wide-Name(s) (WWN)
1	6.0(2)U5(1)	1.1	--

Step 1. Upgrade From NX-OS 6.x to NX-OS 6.0(2)U6(10).

Use the [Upgrade From NX-OS 6.x to NX-OS 6.x](#) section of this document to perform a standard disruptive NX-OS software upgrade from your source release to an intermediate release of NX-OS software release 6.0(2)U6(10). This is required in order for an upgrade to a target release in the NX-OS 9.2(x) minor release to be successful.

Step 2. Upgrade From NX-OS 6.0(2)U6(10) to NX-OS 7.0(3)I7(9) or Later.

Use the [Upgrade From NX-OS 6.x to NX-OS 7.x](#) section of this document to perform a standard disruptive NX-OS software upgrade from an intermediate release of 6.0(2)U6(10) to an intermediate release of 7.0(3)I7(9) or later. This is required in order for an upgrade to a target release in the NX-OS 9.2(x) minor release to be successful.

Step 3. Upgrade From NX-OS 7.0(3)I7(9) or Later to NX-OS 9.3(x).

Use the [Upgrade From NX-OS 7.x to NX-OS 9.3\(x\)](#) section of this document to perform a standard disruptive NX-OS software upgrade from NX-OS software release 7.0(3)I7(9) or later to your desired target release in the NX-OS 9.3(x) minor release.

Upgrade From NX-OS 7.x to NX-OS 7.x

This section of the document describes how to perform a standard disruptive NX-OS software upgrade from a source release in the NX-OS 7.x major release to a target release later in the NX-OS 7.x major release.

Note: An NX-OS software upgrade from a source release of **7.0(3)I7(5)** or **7.0(3)I7(5a)** to a later NX-OS software release could fail with a "*Digital signature verification failed*" or "*Image verification*"

failed" error message. The root cause of this issue is Cisco bug ID [CSCvm11656](#). Disabling NX-OS image verification for this upgrade with the **no feature signature-verification** configuration command works around this issue.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus 3172PQ-10GE switch from a source release of 7.0(3)I2(2a) to a target release of 7.0(3)I7(9).

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
show module
```

```
<snip>
```

Mod	Ports	Module-Type	Model	Status
1	54	48x10GE + 6x40G Supervisor	N3K-C3172PQ-10GE	active *

Mod	Sw	Hw	Slot
1	7.0(3)I2(2a)	1.1	NA

Step 1. Download Target Release from Cisco Software Download.

NX-OS 7.x software uses a single NX-OS binary image file (sometimes referred to as a **unified** image file). You need to download this image from [Cisco's Software Download website](#) to your local computer. The specific steps you need to take to download software from Cisco's Software Download website are outside the scope of this document.

Note: If you are upgrading to NX-OS software release 7.0(3)I7(8), 7.0(3)I7(9), or 7.0(3)I7(10), Cisco advises you download the compact NX-OS software image from [Cisco's Software Download website](#). When browsing the website, select the model of Nexus switch that you are attempting to upgrade and navigate to the desired target NX-OS software release. Then, locate the software image with "Compact Image" in its description and the word "compact" in its filename. For more information, refer to the ["Compact NX-OS Software Images on Cisco's Software Download Website" section of the Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x document](#).

Step 2. Copy Target Release to Cisco Nexus Switch.

Copy the target release unified binary image files to the Nexus 3000 or 3100 Series switch you would like to disruptively upgrade using your file transfer protocol of choice. This example demonstrates how to copy the NX-OS 7.0(3)I7(9) software release kickstart and system binary image files via **FTP** (File Transfer Protocol) from an FTP server **192.0.2.100** reachable via the **management** VRF.

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
537972736 Sep 21 19:01:41 2020 nxos.7.0.3.I2.2a.bin
```

N3K-C3172PQ-10GE#

```
copy ftp://username@192.0.2.100/nxos.7.0.3.I7.9.bin bootflash: vrf management
```

Password:

```
***** Transfer of file Completed Successfully *****
```

```
Copy complete, now saving to disk (please wait)...
```

N3K-C3172PQ-10GE#

```
dir | include bin
```

```
537972736    Sep 21 19:01:41 2020  nxos.7.0.3.I2.2a.bin
982694912    Sep 21 19:13:02 2020  nxos.7.0.3.I7.9.bin
```

Note: Starting with NX-OS software release 7.0(3)I5(2) and later, in order to copy the target release unified binary image file via SCP, run the NX-OS Compact Image Procedure via SCP. For more information on this procedure, please refer to the [Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure document](#).

Step 3. Verify MD5 or SHA512 Checksum of Target Release.

After you copy the target release unified binary image files to the Nexus 3000 or 3100 Series switch, you would like to disruptively upgrade using your file transfer protocol of choice, verify that the binary image file was not corrupted in transport by ensuring its MD5 or SHA512 checksum matches what is published on [Cisco's Software Download website](#).

You can identify the MD5 and SHA512 checksum of NX-OS binary image files through Cisco's Software Download website by hovering your cursor over the image on the website. An example of this is shown in the image here.

Software Download

[Downloads Home](#) / [Switches](#) / [Data Center Switches](#) / [Nexus 3000 Series Switches](#) / [Nexus 3048 Switch](#) / [NX-OS System Software- 7.0\(3\)I7\(8\)](#)

The screenshot shows the Cisco Software Download page for NX-OS 7.0(3)I7(8). A 'Details' modal is open, displaying the following information:

Description :	Cisco Nexus 9000/3000 Standalone Switch
Release :	7.0(3)I7(8)
Release Date :	04-Mar-2020
FileName :	nxos.7.0.3.I7.8.bin
Min Memory :	DRAM 0 Flash 0
Size :	937.16 MB (982681088 bytes)
MD5 Checksum :	4568b131a87aa8be71f6ec190e30d597
SHA512 Checksum :	77c6f20116f51e09035078d57209de21 ...

Below the modal, there are links for [Release Notes for 7.0\(3\)I7\(8\) N3K](#) and [Release Notes for 7.0\(3\)I7\(8\) N9K](#). The main table below the modal shows the file name **nxos.7.0.3.I7.8.bin** with a release date of 04-Mar-2020 and a size of 937.16 MB.

This example demonstrates how to verify the MD5 checksum of the unified binary image file for the NX-OS 7.0(3)I7(9) software release through the **show file bootflash:{filename} md5sum** command. The expected MD5 checksum for the NX-OS 7.0(3)I7(9) unified binary image file is **d31d5b556cc4d92f2ff2d83b5df7b943**.

```
<#root>  
N3K-C3172PQ-10GE#  
show file bootflash:nxos.7.0.3.I7.9.bin md5sum  
d31d5b556cc4d92f2ff2d83b5df7b943
```

Step 4. Upgrade NX-OS Software via Install All Command.

Begin a standard disruptive NX-OS software upgrade through the **install all** command. This command requires the **nxos** parameter to be passed in with the absolute filepath of the NX-OS unified binary image files corresponding with the target release.

This example shows the **install all** command where the **nxos** parameter points to the absolute filepath of the NX-OS 7.0(3)I7(9) unified binary image file (**bootflash:nxos.7.0.3.I7.9.bin**).

```
<#root>
```

N3K-C3172PQ-10GE#

install all nxos bootflash:nxos.7.0.3.I7.9.bin

Installer will perform compatibility check first. Please wait.
Installer is forced disruptive

Verifying image bootflash:/nxos.7.0.3.I7.9.bin for boot variable "nxos".
[#####] 100% -- SUCCESS

Verifying image type.
[#####] 100% -- SUCCESS
[##] 5% -- SUCCESS

Preparing "nxos" version info using image bootflash:/nxos.7.0.3.I7.9.bin.
[#####] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/nxos.7.0.3.I7.9.bin.
[#####] 100% -- SUCCESS

Collecting "running" plugin(s) information.
[#] 0%
Collecting plugin(s) information from "new" image.
[#] 0%
Performing runtime checks.
[##] 5%

"Running-config contains configuration that is incompatible with the new image (strict incompatibility).
Please run 'show incompatibility-all nxos <image>' command to find out which feature needs to be disabled.

Performing module support checks.
[#####] 100% -- SUCCESS

Notifying services about system upgrade.
[#####] 100% -- SUCCESS

Compatibility check is done:

Module	bootable	Impact	Install-type	Reason
1	yes	disruptive	reset	Incompatible image

Images will be upgraded according to following table:

Module	Image	Running-Version(pri:alt)	New-Version	Upg-Required
1	nxos	7.0(3)I2(2a)	7.0(3)I7(9)	yes
1	bios	v5.3.1(05/17/2019)	v5.3.1(05/17/2019)	no

Switch will be reloaded for disruptive upgrade.
Do you want to continue with the installation (y/n)? [n]

y

Install is in progress, please wait.

Performing runtime checks.
[#####] 100% -- SUCCESS

```
Setting boot variables.  
[#####] 100% -- SUCCESS
```

```
Performing configuration copy.  
[#####] 100% -- SUCCESS
```

```
Module 1: Refreshing compact flash and upgrading bios/loader/bootrom.  
Warning: please do not remove or power off the module at this time.  
[#####] 100% -- SUCCESS
```

Finishing the upgrade, switch will reboot in 10 seconds.

Step 5. Verify Successful NX-OS Software Upgrade.

After the Nexus 3000 or 3100 Series switch has reloaded, verify that the upgrade was successful through the **show module** command. The output of this command shows the desired target release. An example of this is shown here, where the switch was successfully upgraded to NX-OS software release 7.0(3)I7(9).

```
<#root>  
  
N3K-C3172PQ-10GE#  
  
show module  
  
<snip>  
Mod Ports      Module-Type      Model      Status  
-----  
1    54    48x10GE + 6x40G Supervisor    N3K-C3172PQ-10GE    active *  
  
Mod  Sw          Hw    Slot  
----  -          -    -  
1    7.0(3)I7(9)  1.1   NA
```

Step 6. Delete Source Release Binary Image Files from Cisco Nexus Switch.

Verify that the NX-OS software upgrade from the source release to the target release was successful. In order to preserve free space on the switch's bootflash, delete the source release's unified binary image files from the bootflash of the device. This can be done with the **delete bootflash:{filename}** command. An example of this is shown here, where the NX-OS 7.0(3)I2(2a) unified binary image file is deleted from the switch's bootflash.

```
<#root>  
  
N3K-C3172PQ-10GE#  
  
dir | include bin  
  
537972736    Sep 21 19:01:41 2020  nxos.7.0.3.I2.2a.bin  
982694912    Sep 21 19:13:02 2020  nxos.7.0.3.I7.9.bin  
N3K-C3172PQ-10GE#  
  
delete bootflash:nxos.7.0.3.I2.2a.bin
```

```
Do you want to delete "/nxos.7.0.3.I2.2a.bin" ? (yes/no/abort) [y]
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
982694912 Sep 21 19:13:02 2020 nxos.7.0.3.I7.9.bin
```

Step 7. Execute NX-OS Compact Image Procedure on Target Release.

Note: You must skip this step if you upgrade using a compact NX-OS software image downloaded directly from [Cisco's Software Download website](#). For more information, refer to the "[Compact NX-OS Software Images on Cisco's Software Download Website](#)" section of the [Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x document](#).

Note: This step is only required if you did not copy the target release unified binary image via SCP by executing the NX-OS Compact Image Procedure via SCP in Step 2.

Run the NX-OS Compact Image Procedure on the NX-OS 7.0(3)I7(9) binary image file stored on the bootflash of the device with the **install all nxos bootflash:{nxos-binary-image-file.bin} compact** command. This reduces the file size of the NX-OS 7.0(3)I7(9) binary image file, which increases the amount of free space on the bootflash. This is a requirement for future NX-OS software upgrades to be performed, as the total size of the bootflash on the Nexus 3000 or 3100 Series switch is not large enough to store two NX-OS binary image files in the 7.x or 9.x major releases at the same time. For more information about the NX-OS Compact Image Procedure, refer to the [Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure document](#).

An example of the NX-OS Compact Image Procedure executed against the NX-OS 7.0(3)I7(9) binary image file stored on the bootflash of a Nexus switch is shown here:

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
982694912 Sep 21 19:13:02 2020 nxos.7.0.3.I7.9.bin
```

```
N3K-C3172PQ-10GE#
```

```
install all nxos bootflash:nxos.7.0.3.I7.9.bin compact
```

```
Installer will perform compatibility check first. Please wait.
Compacting currently loaded image bootflash:/nxos.7.0.3.I7.9.bin
.....
```

```
Compact bootflash:/nxos.7.0.3.I7.9.bin done
```

```
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
472320617 Sep 21 21:48:27 2020 nxos.7.0.3.I7.9.bin
```

Upgrade From NX-OS 7.x to NX-OS 9.2(x)

This section of the document describes how to perform a standard disruptive NX-OS software upgrade from

a source release in the NX-OS 7.x major release to a target release in the NX-OS 9.2(x) minor release.

Note: An NX-OS software upgrade to a target release in the NX-OS 9.2(x) minor release from a source release that is in the NX-OS 7.x major release requires a mandatory intermediate upgrade to NX-OS 7.0(3)I7(9) or later before upgrading to the desired target release.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus 3172PQ-10GE switch from a source release of 7.0(3)I2(2a) to a target release of 9.2(4) with a mandatory intermediate upgrade to 7.0(3)I7(9).

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
show module
```

```
<snip>
```

Mod	Ports	Module-Type	Model	Status
1	54	48x10GE + 6x40G Supervisor	N3K-C3172PQ-10GE	active *

Mod	Sw	Hw	Slot
1	7.0(3)I2(2a)	1.1	NA

Step 1. Upgrade From NX-OS 7.x to NX-OS 7.0(3)I7(9).

Use the [Upgrade From NX-OS 7.x to NX-OS 7.x](#) section of this document to perform a standard disruptive NX-OS software upgrade from your source release to NX-OS software release 7.0(3)I7(9).

Step 2. Download Target Release from Cisco Software Download.

NX-OS 9.2(x) software uses a single NX-OS binary image file (sometimes referred to as a **unified** image file). You need to download this image from [Cisco's Software Download website](#) to your local computer. The specific steps you need to take to download software from Cisco's Software Download website are outside the scope of this document.

Note: If you are upgrading to NX-OS software release 9.2(4), Cisco advises you download the compact NX-OS software image from [Cisco's Software Download website](#). When browsing the website, select the model of Nexus switch that you are attempting to upgrade and navigate to the desired target NX-OS software release. Then, locate the software image with "Compact Image" in its description and the word "compact" in its filename. For more information, refer to the ["Compact NX-OS Software Images on Cisco's Software Download Website" section of the Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.2\(x\) document](#).

Step 3. Copy Target Release to Cisco Nexus Switch through NX-OS Compact Image Procedure via SCP.

Copy the target release unified binary image files to the Nexus 3000 or 3100 Series switch by executing the NX-OS Compact Image Procedure via SCP. For more information on this procedure, please refer to the [Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure document](#)

Note: If a USB flash drive is attached to the Nexus 3000 or 3100 Series switch, you can also run the NX-OS Compact Image Procedure on the NX-OS unified binary image file located on the USB flash drive, then copy the resulting unified binary image file to the bootflash of the switch.

Note: In order to run the NX-OS Compact Image Procedure and reduce the file size of the NX-OS unified binary image file, the MD5 and SHA512 checksum of the NX-OS unified binary image file changes and is different from the MD5/SHA512 checksum published on Cisco's Software Download website. This is expected behavior and is not indicative of an issue - proceed with an NX-OS software upgrade in this scenario.

This example demonstrates how to copy the NX-OS 9.2(4) software release unified binary image files through the NX-OS Compact Image Procedure via **SCP** (Secure Copy Protocol) from an SCP server **192.0.2.100** reachable via the **management** VRF.

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
copy scp://username@192.0.2.100/nxos.9.2.4.bin bootflash: compact vrf management
```

```
The authenticity of host '192.0.2.100 (192.0.2.100)' can't be established.  
ECDSA key fingerprint is SHA256:TwkQiy1htFDfPPwqh3U20q9ugrDuTQ50bB3boV5DkXM.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added '192.0.2.100' (ECDSA) to the list of known hosts.  
username@192.0.2.100's password:
```

```
nxos.9.2.4.bin          100% 1278MB   4.0MB/s   05:16
```

```
Copy complete, now saving to disk (please wait)...
```

```
Copy complete.
```

```
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
472320617   Sep 21 21:48:27 2020  nxos.7.0.3.I7.9.bin  
542848198   Sep 22 15:19:00 2020  nxos.9.2.4.bin
```

Step 4. Upgrade NX-OS Software to Target Release via Install All Command.

Begin a standard disruptive NX-OS software upgrade through the **install all** command. This command requires the **nxos** parameter to be passed in with the absolute filepath of the NX-OS unified binary image files corresponding with the target release.

This example shows the **install all** command where the **nxos** parameter points to the absolute filepath of the NX-OS 9.2(4) unified binary image file (**bootflash:nxos.9.2.4.bin**).

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
install all nxos bootflash:nxos.9.2.4.bin
```

```
Installer will perform compatibility check first. Please wait.
```

```
Installer is forced disruptive
```

```
Verifying image bootflash:/nxos.9.2.4.bin for boot variable "nxos".
```

[#####] 100% -- SUCCESS

Verifying image type.

[#####] 100% -- SUCCESS

Preparing "nxos" version info using image bootflash:/nxos.9.2.4.bin.

[#####] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/nxos.9.2.4.bin.

[#####] 100% -- SUCCESS

Collecting "running" plugin(s) information.

[#####] 100% -- SUCCESS

Collecting plugin(s) information from "new" image.

[#####] 100% -- SUCCESS

[#####] 100% -- SUCCESS

Performing module support checks.

[#####] 100% -- SUCCESS

Notifying services about system upgrade.

[#####] 100% -- SUCCESS

Compatibility check is done:

Module	bootable	Impact	Install-type	Reason
1	yes	disruptive	reset	default upgrade is not hitless

Images will be upgraded according to following table:

Module	Image	Running-Version(pri:alt)	New-Version	Upg-Required
1	nxos	7.0(3)I7(9)	9.2(4)	yes
1	bios	v5.3.1(05/17/2019)	v5.3.1(05/17/2019)	no

Switch will be reloaded for disruptive upgrade.

Do you want to continue with the installation (y/n)? [n]

y

Install is in progress, please wait.

Performing runtime checks.

[#####] 100% -- SUCCESS

Setting boot variables.

[#####] 100% -- SUCCESS

Performing configuration copy.

[#####] 100% -- SUCCESS

Module 1: Refreshing compact flash and upgrading bios/loader/bootrom.

Warning: please do not remove or power off the module at this time.

[#####] 100% -- SUCCESS

Finishing the upgrade, switch will reboot in 10 seconds.

Step 5. Verify Successful Target NX-OS Software Upgrade.

After the Nexus 3000 or 3100 Series switch has reloaded, verify that the upgrade was successful through the **show module** command. The output of this command shows the desired target release. An example of this is shown here, where the switch was successfully upgraded to NX-OS software release 9.2(4).

```
<#root>
N3K-C3172PQ-10GE#
show module
<snip>
Mod Ports      Module-Type      Model      Status
-----
1    54    48x10GE + 6x40G Supervisor    N3K-C3172PQ-10GE    active *

Mod Sw          Hw  Slot
---
1    9.2(4)        1.1  NA
```

Step 6. Delete Intermediate Release Binary Image Files from Cisco Nexus Switch.

Verify that the NX-OS software upgrade from the intermediate release to the target release is successful. In order to preserve free space on the switch's bootflash, delete the intermediate release's unified binary image files from the bootflash of the device. This can be done with the **delete bootflash:{filename}** command. An example of this is shown here, where the NX-OS 7.0(3)I7(9) unified binary image file is deleted from the switch's bootflash.

```
<#root>
N3K-C3172PQ-10GE#
dir | include bin
 472320617   Sep 21 21:48:27 2020  nxos.7.0.3.I7.9.bin
 542848198   Sep 22 15:19:00 2020  nxos.9.2.4.bin
N3K-C3172PQ-10GE#
dir | include bin
 472320617   Sep 21 21:48:27 2020  nxos.7.0.3.I7.9.bin
 542848198   Sep 22 15:19:00 2020  nxos.9.2.4.bin
N3K-C3172PQ-10GE#
delete bootflash:nxos.7.0.3.I7.9.bin
Do you want to delete "/nxos.7.0.3.I7.9.bin" ? (yes/no/abort)  [y]
N3K-C3172PQ-10GE#
dir | include bin
 542848198   Sep 22 15:19:00 2020  nxos.9.2.4.bin
```

Upgrade From NX-OS 7.x to NX-OS 9.3(x)

This section of the document describes how to perform a standard disruptive NX-OS software upgrade from a source release in the NX-OS 7.x major release to a target release in the NX-OS 9.3(x) minor release.

Note: An NX-OS software upgrade to a target release in the NX-OS 9.3(x) minor release from a source release that is 7.0(3)I7(6) or earlier requires a mandatory intermediate upgrade to NX-OS 7.0(3)I7(9) or later.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus 3172PQ-10GE switch from a source release of 7.0(3)I2(2a) to a target release of 9.3(5) with the mandatory intermediate upgrade to 7.0(3)I7(9).

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
show module
```

```
<snip>
```

Mod	Ports	Module-Type	Model	Status
1	54	48x10GE + 6x40G Supervisor	N3K-C3172PQ-10GE	active *

Mod	Sw	Hw	Slot
1	7.0(3)I2(2a)	1.1	NA

Step 1. Upgrade From NX-OS 7.x to NX-OS 7.0(3)I7(9).

Use the [Upgrade From NX-OS 7.x to NX-OS 7.x](#) section of this document to perform a standard disruptive NX-OS software upgrade from your source release to NX-OS software release 7.0(3)I7(9).

Step 2. Download Target Release from Cisco Software Download.

NX-OS 9.3(x) software uses a single NX-OS binary image file (sometimes referred to as a **unified** image file). You need to download this image from [Cisco's Software Download website](#) to your local computer. The specific steps you need to take to download software from Cisco's Software Download website are outside the scope of this document.

Note: If you are upgrading to NX-OS software release 9.3(4) or later, Cisco advises you download the compact NX-OS software image from [Cisco's Software Download website](#). When browsing the website, select the model of Nexus switch that you are attempting to upgrade and navigate to the desired target NX-OS software release. Then, locate the software image with "Compact Image" in its description and the word "compact" in its filename. For more information, refer to the ["Compact NX-OS Software Images on Cisco's Software Download Website" section of the Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.3\(x\) document](#).

Step 3. Copy Target Release to Cisco Nexus Switch through NX-OS Compact Image Procedure via SCP.

Copy the target release unified binary image files to the Nexus 3000 or 3100 Series switch by executing the NX-OS Compact Image Procedure via SCP. For more information on this procedure, please refer to the [Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure document](#).

Note: If a USB flash drive is attached to the Nexus 3000 or 3100 Series switch, you can also execute the NX-OS Compact Image Procedure on the NX-OS unified binary image file located on the USB flash drive, then copy the resulting unified binary image file to the bootflash of the switch.

Note: In order to run the NX-OS Compact Image Procedure and reduce the file size of the NX-OS unified binary image file, the MD5 and SHA512 checksum of the NX-OS unified binary image file changes and is different from the MD5/SHA512 checksum published on Cisco's Software Download website. This is expected behavior and is not indicative of an issue - proceed with an NX-OS software upgrade in this scenario.

This example demonstrates how to copy the NX-OS 9.3(5) software release unified binary image files through the NX-OS Compact Image Procedure via **SCP** (Secure Copy Protocol) from an SCP server **192.0.2.100** reachable via the **management** VRF.

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
 472320617   Sep 22 15:59:40 2020  nxos.7.0.3.I7.9.bin
N3K-C3172PQ-10GE#
```

```
copy scp://username@192.0.2.100/nxos.9.3.5.bin bootflash: compact vrf management
```

```
The authenticity of host '192.0.2.100 (192.0.2.100)' can't be established.
ECDSA key fingerprint is SHA256:TwkQiy1htFDfPPwqh3U20q9ugrDuTQ50bB3boV5DkXM.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.0.2.100' (ECDSA) to the list of known hosts.
username@192.0.2.100's password:
nxos.9.3.5.bin                               100% 1880MB   4.1MB/s   07:38
Copy complete, now saving to disk (please wait)...
Copy complete.
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
 472320617   Sep 22 15:59:40 2020  nxos.7.0.3.I7.9.bin
 669892018   Sep 22 16:28:42 2020  nxos.9.3.5.bin
```

Step 4. Upgrade NX-OS Software to Target Release via Install All Command.

Begin a standard disruptive NX-OS software upgrade through the **install all** command. This command requires the **nxos** parameter to be passed in with the absolute filepath of the NX-OS unified binary image files corresponding with the target release.

This example shows the **install all** command where the **nxos** parameter points to the absolute filepath of the NX-OS 9.3(5) unified binary image file (**bootflash:nxos.9.3.5.bin**).

```
<#root>
```

N3K-C3172PQ-10GE#

install all nxos bootflash:nxos.9.3.5.bin

Installer will perform compatibility check first. Please wait.
Installer is forced disruptive

Verifying image bootflash:/nxos.9.3.5.bin for boot variable "nxos".
[#####] 100% -- SUCCESS

Verifying image type.
[#####] 100% -- SUCCESS

Preparing "nxos" version info using image bootflash:/nxos.9.3.5.bin.
[#####] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/nxos.9.3.5.bin.
[#####] 100% -- SUCCESS

Collecting "running" plugin(s) information.
[#####] 100% -- SUCCESS

Collecting plugin(s) information from "new" image.
[#####] 100% -- SUCCESS
[#####] 100% -- SUCCESS

Performing module support checks.
[#####] 100% -- SUCCESS

Notifying services about system upgrade.
[#####] 100% -- SUCCESS

Compatibility check is done:

Module	bootable	Impact	Install-type	Reason
1	yes	disruptive	reset	default upgrade is not hitless

Images will be upgraded according to following table:

Module	Image	Running-Version(pri:alt)	New-Version	Upg-Required
1	nxos	7.0(3)I7(9)	9.3(5)	yes
1	bios	v5.3.1(05/17/2019)	v5.3.1(05/17/2019)	no

Switch will be reloaded for disruptive upgrade.
Do you want to continue with the installation (y/n)? [n]

y

Install is in progress, please wait.

Performing runtime checks.
[#####] 100% -- SUCCESS

Setting boot variables.
[#####] 100% -- SUCCESS

```
Performing configuration copy.
[#####] 100% -- SUCCESS
```

```
Module 1: Refreshing compact flash and upgrading bios/loader/bootrom.
Warning: please do not remove or power off the module at this time.
[#####] 100% -- SUCCESS
```

Finishing the upgrade, switch will reboot in 10 seconds.

Step 5. Verify Successful Target NX-OS Software Upgrade.

After the Nexus 3000 or 3100 Series switch has reloaded, verify that the upgrade was successful through the **show module** command. The output of this command shows the desired target release. An example of this is shown here, where the switch was successfully upgraded to NX-OS software release 9.3(5).

```
<#root>
N3K-C3172PQ-10GE#
show module
<snip>
Mod Ports      Module-Type      Model      Status
-----
1    54    48x10GE + 6x40G Supervisor    N3K-C3172PQ-10GE    active *

Mod Sw          Hw  Slot
-----
1    9.3(5)        1.1  NA
```

Step 6. Delete Intermediate Release Binary Image File from Cisco Nexus Switch.

After verifying that the NX-OS software upgrade from the intermediate release to the target release was successful, preserve free space on the switch's bootflash by deleting the intermediate release's unified binary image files from the bootflash of the device. This can be done with the **delete bootflash:{filename}** command. An example of this is shown here, where the NX-OS 7.0(3)I7(9) unified binary image file is deleted from the switch's bootflash.

```
<#root>
N3K-C3172PQ-10GE#
dir | include bin
    472320617    Sep 22 15:59:40 2020  nxos.7.0.3.I7.9.bin
    669892018    Sep 22 16:28:42 2020  nxos.9.3.5.bin
N3K-C3172PQ-10GE#
delete bootflash:nxos.7.0.3.I7.9.bin

Do you want to delete "/nxos.7.0.3.I7.9.bin" ? (yes/no/abort)  [y]
N3K-C3172PQ-10GE#
dir | include bin
```

Upgrade From NX-OS 9.2(x) to NX-OS 9.2(x)

This section of the document describes how to perform a standard disruptive NX-OS software upgrade from a source release in the NX-OS 9.2(x) minor release to a target release in the NX-OS 9.2(x) minor release.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus 3172PQ-10GE switch from a source release of 9.2(1) to a target release of 9.2(4):

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
show module
```

```
<snip>
```

Mod	Ports	Module-Type	Model	Status
1	54	48x10GE + 6x40G Supervisor	N3K-C3172PQ-10GE	active *

Mod	Sw	Hw	Slot
1	9.2(1)	1.1	NA

Step 1. Download Target Release from Cisco Software Download.

NX-OS 9.2(x) software uses a single NX-OS binary image file (sometimes referred to as a **unified** image file). You need to download this image from [Cisco's Software Download website](#) to your local computer. The specific steps you need to take to download software from Cisco's Software Download website are outside the scope of this document.

Note: If you are upgrading to NX-OS software release 9.2(4), Cisco advises you download the compact NX-OS software image from [Cisco's Software Download website](#). When browsing the website, select the model of Nexus switch that you are attempting to upgrade and navigate to the desired target NX-OS software release. Then, locate the software image with "Compact Image" in its description and the word "compact" in its filename. For more information, refer to the ["Compact NX-OS Software Images on Cisco's Software Download Website" section of the Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.2\(x\) document](#).

Step 2. Copy Target Release to Cisco Nexus Switch through NX-OS Compact Image Procedure via SCP.

Copy the target release unified binary image files to the Nexus 3000 or 3100 Series switch by executing the NX-OS Compact Image Procedure via SCP. For more information on this procedure, please refer to the [Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure document](#).

Note: If a USB flash drive is attached to the Nexus 3000 or 3100 Series switch, you can also execute the NX-OS Compact Image Procedure on the NX-OS unified binary image file located on the USB flash drive, then copy the resulting unified binary image file to the bootflash of the switch.

Note: In order to run the NX-OS Compact Image Procedure and reduce the file size of the NX-OS unified binary image file, the MD5 and SHA512 checksum of the NX-OS unified binary image file changes and is different from the MD5/SHA512 checksum published on Cisco's Software Download website. This is expected behavior and is not indicative of an issue - proceed with an NX-OS software upgrade in this scenario.

This example demonstrates how to copy the NX-OS 9.2(4) software release unified binary image files through the NX-OS Compact Image Procedure via **SCP** (Secure Copy Protocol) from an SCP server **192.0.2.100** reachable via the **management** VRF.

```
<#root>
N3K-C3172PQ-10GE#
dir | include bin
 524696710   Sep 22 16:47:35 2020  nxos.9.2.1.bin
N3K-C3172PQ-10GE#
copy scp://username@192.0.2.100/nxos.9.2.4.bin bootflash: compact vrf management
The authenticity of host '192.0.2.100 (192.0.2.100)' can't be established.
ECDSA key fingerprint is SHA256:TwkQiy1htFDfPPwqh3U20q9ugrDuTQ50bB3boV5DkXM.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.0.2.100' (ECDSA) to the list of known hosts.
username@192.0.2.100's password:
nxos.9.2.4.bin                               100% 1278MB   4.7MB/s   04:33
Copy complete, now saving to disk (please wait)...
N3K-C3172PQ-10GE#
dir | include bin
 524696710   Sep 22 16:47:35 2020  nxos.9.2.1.bin
 542848198   Sep 22 17:15:54 2020  nxos.9.2.4.bin
```

Step 3. Upgrade NX-OS Software to Target Release via Install All Command.

Begin a standard disruptive NX-OS software upgrade through the **install all** command. This command requires the **nxos** parameter to be passed in with the absolute filepath of the NX-OS unified binary image files corresponding with the target release.

This example shows the **install all** command where the **nxos** parameter points to the absolute filepath of the NX-OS 9.2(4) unified binary image file (**bootflash:nxos.9.2.4.bin**).

```
<#root>
N3K-C3172PQ-10GE#
install all nxos bootflash:nxos.9.2.4.bin
Installer will perform compatibility check first. Please wait.
Installer is forced disruptive
Verifying image bootflash:/nxos.9.2.4.bin for boot variable "nxos".
[#####] 100% -- SUCCESS
```

Verifying image type.
[#####] 100% -- SUCCESS

Preparing "nxos" version info using image bootflash:/nxos.9.2.4.bin.
[#####] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/nxos.9.2.4.bin.
[#####] 100% -- SUCCESS

Collecting "running" plugin(s) information.
[#####] 100% -- SUCCESS

Collecting plugin(s) information from "new" image.
[#####] 100% -- SUCCESS
[#####] 100% -- SUCCESS

Performing module support checks.
[#####] 100% -- SUCCESS

Notifying services about system upgrade.
[#####] 100% -- SUCCESS

Compatibility check is done:

Module	bootable	Impact	Install-type	Reason
1	yes	disruptive	reset	default upgrade is not hitless

Images will be upgraded according to following table:

Module	Image	Running-Version(pri:alt)	New-Version	Upg-Required
1	nxos	9.2(1)	9.2(4)	yes
1	bios	v5.3.1(05/17/2019)	v5.3.1(05/17/2019)	no

Switch will be reloaded for disruptive upgrade.
Do you want to continue with the installation (y/n)? [n]

y

Install is in progress, please wait.

Performing runtime checks.
[#####] 100% -- SUCCESS

Setting boot variables.
[#####] 100% -- SUCCESS

Performing configuration copy.
[#####] 100% -- SUCCESS

Module 1: Refreshing compact flash and upgrading bios/loader/bootrom.
Warning: please do not remove or power off the module at this time.
[#####] 100% -- SUCCESS

Finishing the upgrade, switch will reboot in 10 seconds.

Step 4. Verify Successful Target NX-OS Software Upgrade.

After the Nexus 3000 or 3100 Series switch has reloaded, verify that the upgrade was successful through the **show module** command. The output of this command shows the desired target release. An example of this is shown here, where the switch was successfully upgraded to NX-OS software release 9.2(4).

```
<#root>
N3K-C3172PQ-10GE#
show module

<snip>
Mod Ports      Module-Type      Model      Status
-----
1    54    48x10GE + 6x40G Supervisor    N3K-C3172PQ-10GE    active *

Mod  Sw              Hw  Slot
---  -
1    9.2(4)          1.1  NA
```

Step 5. Delete Source Release Binary Image File from Cisco Nexus Switch.

After verifying that the NX-OS software upgrade from the source release to the target release was successful, preserve free space on the switch's bootflash by deleting the source release's unified binary image files from the bootflash of the device. This can be done with the **delete bootflash:{filename}** command. An example of this is shown here, where the NX-OS 9.2(1) unified binary image file is deleted from the switch's bootflash.

```
<#root>
N3K-C3172PQ-10GE#
dir | include bin
 524696710   Sep 22 16:47:35 2020  nxos.9.2.1.bin
 542848198   Sep 22 17:15:54 2020  nxos.9.2.4.bin
N3K-C3172PQ-10GE#
delete bootflash:nxos.9.2.1.bin
Do you want to delete "/nxos.9.2.1.bin" ? (yes/no/abort)  [y]
N3K-C3172PQ-10GE#
dir | include bin
 542848198   Sep 22 17:15:54 2020  nxos.9.2.4.bin
```

Upgrade From NX-OS 9.2(x) to NX-OS 9.3(x)

This section of the document describes how to perform a standard disruptive NX-OS software upgrade from a source release in the NX-OS 9.2(x) minor release to a target release in the NX-OS 9.3(x) minor release.

Note: An NX-OS software upgrade to a target release in the NX-OS 9.3(x) minor release from a source release that is 9.2(3) or earlier requires a mandatory intermediate upgrade to NX-OS 9.2(4).

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus 3172PQ-10GE switch from a source release of 9.2(1) to a target release of 9.3(5):

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
show module
```

```
<snip>
```

Mod	Ports	Module-Type	Model	Status
1	54	48x10GE + 6x40G Supervisor	N3K-C3172PQ-10GE	active *

Mod	Sw	Hw	Slot
1	9.2(1)	1.1	NA

Step 1. Upgrade From NX-OS 9.2(x) to NX-OS 9.2(4).

Use the [Upgrade From NX-OS 9.2\(x\) to NX-OS 9.2\(x\)](#) section of this document to perform a standard disruptive NX-OS software upgrade from your source release to NX-OS software release 9.2(4).

Step 2. Download Target Release from Cisco Software Download.

NX-OS 9.3(x) software uses a single NX-OS binary image file (sometimes referred to as a **unified** image file). You need to download this image from [Cisco's Software Download website](#) to your local computer. The specific steps you need to take to download software from Cisco's Software Download website are outside the scope of this document.

Note: If you are upgrading to NX-OS software release 9.3(4) or later, Cisco advises you download the compact NX-OS software image from [Cisco's Software Download website](#). When browsing the website, select the model of Nexus switch that you are attempting to upgrade and navigate to the desired target NX-OS software release. Then, locate the software image with "Compact Image" in its description and the word "compact" in its filename. For more information, refer to the ["Compact NX-OS Software Images on Cisco's Software Download Website" section of the Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.3\(x\) document](#).

Step 3: Copy Target Release to Cisco Nexus Switch through NX-OS Compact Image Procedure via SCP

Copy the target release unified binary image files to the Nexus 3000 or 3100 Series switch by executing the NX-OS Compact Image Procedure via SCP. For more information on this procedure, please refer to the [Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure document](#).

Note: If a USB flash drive is attached to the Nexus 3000 or 3100 Series switch, you can also execute the NX-OS Compact Image Procedure on the NX-OS unified binary image file located on the USB

flash drive, then copy the resulting unified binary image file to the bootflash of the switch.

Note: In order to run the NX-OS Compact Image Procedure and reduce the file size of the NX-OS unified binary image file, the MD5 and SHA512 checksum of the NX-OS unified binary image file changes and is different from the MD5/SHA512 checksum published on Cisco's Software Download website. This is expected behavior and is not indicative of an issue - proceed with an NX-OS software upgrade in this scenario.

This example demonstrates how to copy the NX-OS 9.3(5) software release unified binary image files through the NX-OS Compact Image Procedure via **SCP** (Secure Copy Protocol) from an SCP server **192.0.2.100** reachable via the **management** VRF.

```
<#root>
N3K-C3172PQ-10GE#
dir | include bin
 542848198   Sep 22 17:15:54 2020  nxos.9.2.4.bin
N3K-C3172PQ-10GE#

copy scp://username@192.0.2.100/nxos.9.3.5.bin bootflash: compact vrf management

The authenticity of host '192.0.2.100 (192.0.2.100)' can't be established.
ECDSA key fingerprint is SHA256:TwkQiy1htFDfPPwqh3U20q9ugrDuTQ50bB3boV5DkXM.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.0.2.100' (ECDSA) to the list of known hosts.
username@192.0.2.100's password:
nxos.9.3.5.bin                               100% 1880MB   4.8MB/s   06:33
Copy complete, now saving to disk (please wait)...
Copy complete.
N3K-C3172PQ-10GE#

dir | include bin
 542848198   Sep 22 17:15:54 2020  nxos.9.2.4.bin
 669892018   Sep 22 19:09:35 2020  nxos.9.3.5.bin
```

Step 4. Upgrade NX-OS Software to Target Release via Install All Command.

Begin a standard disruptive NX-OS software upgrade through the **install all** command. This command requires the **nxos** parameter to be passed in with the absolute filepath of the NX-OS unified binary image files corresponding with the target release.

This example shows the **install all** command where the **nxos** parameter points to the absolute filepath of the NX-OS 9.3(5) unified binary image file (**bootflash:nxos.9.3.5.bin**).

```
<#root>
N3K-C3172PQ-10GE#

install all nxos bootflash:nxos.9.3.5.bin

Installer will perform compatibility check first. Please wait.
Installer is forced disruptive
```

Verifying image bootflash:/nxos.9.3.5.bin for boot variable "nxos".
[#####] 100% -- SUCCESS

Verifying image type.
[#####] 100% -- SUCCESS

Preparing "nxos" version info using image bootflash:/nxos.9.3.5.bin.
[#####] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/nxos.9.3.5.bin.
[#####] 100% -- SUCCESS

Collecting "running" plugin(s) information.
[#####] 100% -- SUCCESS

Collecting plugin(s) information from "new" image.
[#####] 100% -- SUCCESS

Performing module support checks.
[#####] 100% -- SUCCESS

Notifying services about system upgrade.
[#####] 100% -- SUCCESS

Compatibility check is done:

Module	bootable	Impact	Install-type	Reason
1	yes	disruptive	reset	default upgrade is not hitless

Images will be upgraded according to following table:

Module	Image	Running-Version(pri:alt)	New-Version	Upg-Required
1	nxos	9.2(4)	9.3(5)	yes
1	bios	v5.3.1(05/17/2019)	v5.3.1(05/17/2019)	no

Switch will be reloaded for disruptive upgrade.
Do you want to continue with the installation (y/n)? [n]

y

Install is in progress, please wait.

Performing runtime checks.
[#####] 100% -- SUCCESS

Setting boot variables.
[#####] 100% -- SUCCESS

Performing configuration copy.
[#####] 100% -- SUCCESS

Module 1: Refreshing compact flash and upgrading bios/loader/bootrom.
Warning: please do not remove or power off the module at this time.
[#####] 100% -- SUCCESS

Finishing the upgrade, switch will reboot in 10 seconds.

Step 5. Verify Successful Target NX-OS Software Upgrade.

After the Nexus 3000 or 3100 Series switch has reloaded, verify that the upgrade was successful through the **show module** command. The output of this command shows the desired target release. An example of this is shown here, where the switch was successfully upgraded to NX-OS software release 9.3(5).

```
<#root>
N3K-C3172PQ-10GE#
show module
<snip>
Mod Ports      Module-Type      Model      Status
-----
1    54    48x10GE + 6x40G Supervisor    N3K-C3172PQ-10GE    active *

Mod  Sw              Hw  Slot
---
1    9.3(5)          1.1  NA
```

Step 6. Delete Intermediate Release Binary Image File from Cisco Nexus Switch.

After you verify that the NX-OS software upgrade from the intermediate release to the target release is successful, delete the intermediate release's unified binary image files from the bootflash of the device in order to preserve free space on the switch's bootflash. This can be done with the **delete bootflash:{filename}** command. An example of this is shown here, where the NX-OS 9.2(4) unified binary image file is deleted from the switch's bootflash.

```
<#root>
N3K-C3172PQ-10GE#
dir | include bin
 542848198    Sep 22 17:15:54 2020  nxos.9.2.4.bin
 669892018    Sep 22 19:09:35 2020  nxos.9.3.5.bin
N3K-C3172PQ-10GE#
delete bootflash:nxos.9.2.4.bin
Do you want to delete "/nxos.9.2.4.bin" ? (yes/no/abort)  [y]
N3K-C3172PQ-10GE#
dir | include bin
 669892018    Sep 22 19:09:35 2020  nxos.9.3.5.bin
```

Upgrade From NX-OS 9.3(x) to NX-OS 9.3(x)

This section of the document describes how to perform a standard disruptive NX-OS software upgrade from a source release in the NX-OS 9.3(x) minor release to a target release in the NX-OS 9.3(x) minor release.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus 3172PQ-10GE switch from a source release of 9.3(1) to a target release of 9.3(5):

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
show module
```

```
<snip>
```

Mod	Ports	Module-Type	Model	Status
1	54	48x10GE + 6x40G Supervisor	N3K-C3172PQ-10GE	active *

Mod	Sw	Hw	Slot
1	9.3(1)	1.1	NA

Step 1. Download Target Release from Cisco Software Download.

NX-OS 9.3(x) software uses a single NX-OS binary image file (sometimes referred to as a **unified** image file). You need to download this image from [Cisco's Software Download website](#) to your local computer. The specific steps you need to take to download software from Cisco's Software Download website are outside the scope of this document.

Note: If you are upgrading to NX-OS software release 9.3(4) or later, Cisco advises you download the compact NX-OS software image from [Cisco's Software Download website](#). When browsing the website, select the model of Nexus switch that you are attempting to upgrade and navigate to the desired target NX-OS software release. Then, locate the software image with "Compact Image" in its description and the word "compact" in its filename. For more information, refer to the "[Compact NX-OS Software Images on Cisco's Software Download Website](#)" section of the [Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.3\(x\) document](#).

Step 2. Copy Target Release to Cisco Nexus Switch through NX-OS Compact Image Procedure via SCP.

In order to copy the target release unified binary image files to the Nexus 3000 or 3100 Series switch, run the NX-OS Compact Image Procedure via SCP. For more information on this procedure, please *refer* to [Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure document](#)

Note: If a USB flash drive is attached to the Nexus 3000 or 3100 Series switch, you can also execute the NX-OS Compact Image Procedure on the NX-OS unified binary image file located on the USB flash drive, then copy the resulting unified binary image file to the bootflash of the switch.

Note: As the NX-OS Compact Image Procedure is executed and the file size of the NX-OS unified binary image file is reduced, the MD5 and SHA512 checksum of the NX-OS unified binary image file changes and is different than the MD5/SHA512 checksum published on Cisco's Software Download

website. This is expected behavior and is not indicative of an issue - proceed with an NX-OS software upgrade in this scenario.

This example demonstrates how to copy the NX-OS 9.3(5) software release unified binary image files through the NX-OS Compact Image Procedure via **SCP** (Secure Copy Protocol) from an SCP server **192.0.2.100** reachable via the **management** VRF.

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
510885739 Sep 22 19:56:37 2020 nxos.9.3.1.bin  
N3K-C3172PQ-10GE#
```

```
copy scp://username@192.0.2.100/nxos.9.3.5.bin bootflash: compact vrf management
```

```
The authenticity of host '192.0.2.100 (192.0.2.100)' can't be established.  
ECDSA key fingerprint is SHA256:TwkQiy1htFDFPPwqh3U20q9ugrDuTQ50bB3boV5DkXM.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added '192.0.2.100' (ECDSA) to the list of known hosts.  
username@192.0.2.100's password:  
nxos.9.3.5.bin 100% 1880MB 5.2MB/s 06:02  
Copy complete, now saving to disk (please wait)...  
Copy complete.  
N3K-C3172PQ-10GE#
```

```
dir | include bin
```

```
510885739 Sep 22 19:56:37 2020 nxos.9.3.1.bin  
669892018 Sep 22 21:38:04 2020 nxos.9.3.5.bin
```

Step 3. Upgrade NX-OS Software to Target Release via Install All Command.

Begin a standard disruptive NX-OS software upgrade through the **install all** command. This command requires the **nxos** parameter to be passed in with the absolute filepath of the NX-OS unified binary image files corresponding with the target release.

This example shows the **install all** command where the **nxos** parameter points to the absolute filepath of the NX-OS 9.3(5) unified binary image file (**bootflash:nxos.9.3.5.bin**).

```
<#root>
```

```
N3K-C3172PQ-10GE#
```

```
install all nxos bootflash:nxos.9.3.5.bin
```

```
Installer will perform compatibility check first. Please wait.  
Installer is forced disruptive
```

```
Verifying image bootflash:/nxos.9.3.5.bin for boot variable "nxos".  
[#####] 100% -- SUCCESS
```

```
Verifying image type.  
[#####] 100% -- SUCCESS
```

Preparing "nxos" version info using image bootflash:/nxos.9.3.5.bin.
[#####] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/nxos.9.3.5.bin.
[#####] 100% -- SUCCESS

Collecting "running" plugin(s) information.
[#####] 100% -- SUCCESS

Collecting plugin(s) information from "new" image.
[#####] 100% -- SUCCESS

Performing module support checks.
[#####] 100% -- SUCCESS

Notifying services about system upgrade.
[#####] 100% -- SUCCESS

Compatibility check is done:

Module	bootable	Impact	Install-type	Reason
1	yes	disruptive	reset	default upgrade is not hitless

Images will be upgraded according to following table:

Module	Image	Running-Version(pri:alt)	New-Version	Upg-Required
1	nxos	9.3(1)	9.3(5)	yes
1	bios	v5.3.1(05/17/2019)	v5.3.1(05/17/2019)	no

Switch will be reloaded for disruptive upgrade.
Do you want to continue with the installation (y/n)? [n]

y

Install is in progress, please wait.

Performing runtime checks.
[#####] 100% -- SUCCESS

Setting boot variables.
[#####] 100% -- SUCCESS

Performing configuration copy.
[#####] 100% -- SUCCESS

Module 1: Refreshing compact flash and upgrading bios/loader/bootrom.
Warning: please do not remove or power off the module at this time.
[#####] 100% -- SUCCESS

Finishing the upgrade, switch will reboot in 10 seconds.

Step 4. Verify Successful Target NX-OS Software Upgrade.

After the Nexus 3000 or 3100 Series switch has reloaded, verify that the upgrade was successful through the **show module** command. The output of this command shows the desired target release. An example of this is shown here, where the switch was successfully upgraded to NX-OS software release 9.3(5).

```
<#root>
N3K-C3172PQ-10GE#
show module
<snip>
Mod Ports      Module-Type      Model      Status
-----
1    54    48x10GE + 6x40G Supervisor  N3K-C3172PQ-10GE  active *

Mod  Sw          Hw  Slot
---  -
1    9.3(5)     1.1  NA
```

Step 5. Delete Source Release Binary Image File from Cisco Nexus Switch.

After you verify that the NX-OS software upgrade from the intermediate release to the target release was successful, preserve free space on the switch's bootflash by deleting the intermediate release's unified binary image files from the bootflash of the device. This can be done with the **delete bootflash:{filename}** command. An example of this is shown here, where the NX-OS 7.0(3)I7(8) unified binary image file is deleted from the switch's bootflash.

```
<#root>
N3K-C3172PQ-10GE#
dir | include bin
 510885739   Sep 22 19:56:37 2020  nxos.9.3.1.bin
 669892018   Sep 22 21:38:04 2020  nxos.9.3.5.bin
N3K-C3172PQ-10GE#

delete bootflash:nxos.9.3.1.bin

Do you want to delete "/nxos.9.3.1.bin" ? (yes/no/abort)  [y]
N3K-C3172PQ-10GE#

dir | include bin
 669892018   Sep 22 21:38:04 2020  nxos.9.3.5.bin
```

Related Information

- [YouTube - Documentation to Review Before an NX-OS Software Upgrade](#)
- [YouTube - NX-OS Software Upgrade from NX-OS 7.x to NX-OS 7.x Example](#)
- [YouTube - NX-OS Software Upgrade from NX-OS 6.x to NX-OS 7.x Example](#)
- [Cisco Nexus 3000 Series Switches Install and Upgrade Guides](#)
- [Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.3\(x\)](#)
- [Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.2\(x\)](#)

- [Cisco Nexus 3000 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x](#)
- [Cisco Nexus 3000 Series Switches Release Notes](#)
- [Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure](#)
- [Technical Support & Documentation - Cisco Systems](#)