Upgrade Nexus 3524 and 3548 NX-OS Software

Contents

Introduction

This document describes disruptive NX-OS software upgrade processes for Cisco Nexus 3524 and 3548 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 3548 Switch NX-OS Fundamentals Configuration Guide, Release 9.3 (x)
- Cisco Nexus 3548 Switch NX-OS Fundamentals Configuration Guide, Release 9.2(x)
- Cisco Nexus 3548 Switch NX-OS Fundamentals Configuration Guide, Release 7.x
- Cisco Nexus 3548 Switch NX-OS Fundamentals Configuration Guide, Release 6.x

Cisco recommends that you understand the basics of upgrading NX-OS software on Cisco Nexus 3524 and 3548 Series switches. For more information about this procedure, refer to one of these applicable documents:

- Cisco Nexus 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.3(x)
- Cisco Nexus 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.2(x)
- Cisco Nexus 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x
- Cisco Nexus 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 6.x

Components Used

The information in this document is based on the Cisco Nexus 3524 and 3548 Series switches listed in the Applicable Hardware section of this document. The device output in this document was taken from a Nexus 3548 (model number N3K-C3548-10G) 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 3524 and 3548 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 3524 and 3548 Series switches. ISSU software upgrades 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, 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 can 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 3548 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 can require an upgrade to one or more intermediate releases. For example, if you upgrade a Nexus 3548 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-C3524P-10G
- N3K-C3524P-10GX
- N3K-C3524P-XL
- N3K-C3548P-10G
- N3K-C3548P-10GX
- N3K-C3548P-XL

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 3548 switch from a source release of 6.0(2)A4(5) to a target release of 6.0(2)A8(11b):

<#root>

```
N3K-C3548#

show module

Mod Ports Module-Type                         Model                 Status
--- ----- ----------------------------------- --------------------- ------------
1   48    48x10GE Supervisor                  N3K-C3548P-10G-SUP    active *
```

```
Mod  Sw              Hw      World-Wide-Name(s) (WWN)
---  --------------  ------  ----------------------------------------------------
1    6.0(2)A4(5)     1.0     --
```

Upgrade Path Summary

A summary of the upgrade path from a source release in the NX-OS 6.x major release to a target release in the NX-OS 6.x major release is shown here:

6.x -> 6.x

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 3524 or 3548 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)A8(11b) software release via File Transfer Protocol (FTP) from an FTP server 192.0.2.100 reachable via the management VRF.

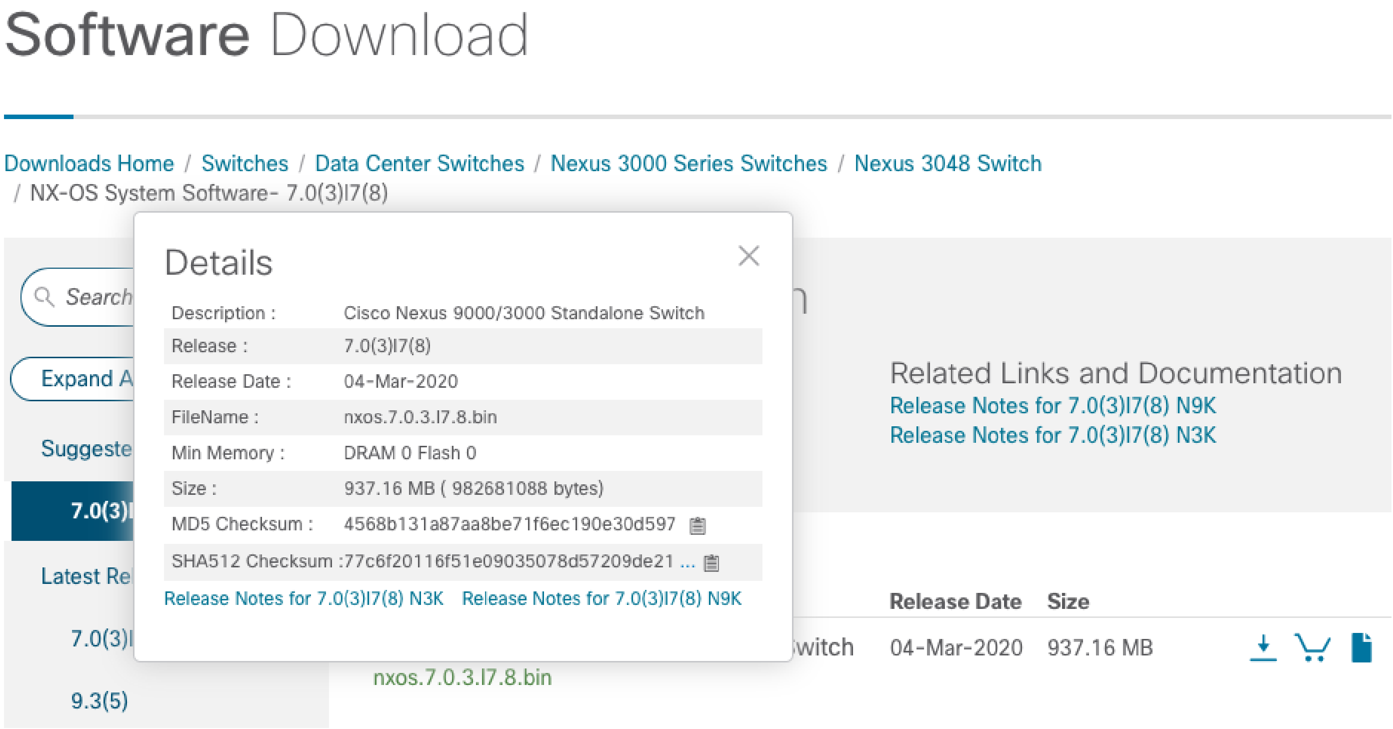
<#root>

```
N3K-C3548#

dir | include bin

   36742656    Nov 19 14:24:14 2020  n3500-uk9-kickstart.6.0.2.A4.5.bin
  166878338    Nov 19 14:22:40 2020  n3500-uk9.6.0.2.A4.5.bin
N3K-C3548#

copy ftp://username@192.0.2.100/n3500-uk9-kickstart.6.0.2.A8.11b.bin bootflash: vrf management

Password:
Copy complete, now saving to disk (wait)...
Copy complete.
N3K-C3548#

copy ftp://username@192.0.2.100/n3500-uk9.6.0.2.A8.11b.bin bootflash: vrf management

Password:
Copy complete, now saving to disk (wait)...
Copy complete.
N3K-C3548#

dir | include bin

   36742656    Nov 19 14:24:14 2020  n3500-uk9-kickstart.6.0.2.A4.5.bin
   37739008    Nov 19 18:13:12 2020  n3500-uk9-kickstart.6.0.2.A8.11b.bin
  166878338    Nov 19 14:22:40 2020  n3500-uk9.6.0.2.A4.5.bin
  197055713    Nov 19 18:14:46 2020  n3500-uk9.6.0.2.A8.11b.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 3524 or 3548 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

Related Links and Documentation

Release Notes for 7.0(3)I7(8) N9K

Release Notes for 7.0(3)I7(8) N3K

	Release Date	Size
witch 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)A8(11b) software release through the **show file bootflash:{filename} md5sum** command. The expected MD5 checksum for the NX-OS6.0(2)A8(11b) kickstart binary image file is **1b025734ed34aeb7a0ea48f55897b09a**, while the expected MD5 checksum for the NX-OS 6.0(2)A8(11b) system binary image file is **1f8bfb0b3d59049d5bf385ed7866ee25**.

<#root>

```
N3K-C3548#

show file bootflash:n3500-uk9-kickstart.6.0.2.A8.11b.bin md5sum

1b025734ed34aeb7a0ea48f55897b09a
N3K-C3548#

show file bootflash:n3500-uk9.6.0.2.A8.11b.bin md5sum

1f8bfb0b3d59049d5bf385ed7866ee25
```

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:n3500-uk9-kickstart.6.0.2.A8.11b.bin**) and the system parameter points to the absolute filepath of the NX-OS system binary image file (**bootflash:n3500-uk9.6.0.2.A8.11b.bin**).

<#root>

```
N3K-C3548#

install all kickstart bootflash:n3500-uk9-kickstart.6.0.2.A8.11b.bin system bootflash:n3500-uk9.6.0.2.A8

Installer is forced disruptive

Verifying image bootflash:/n3500-uk9-kickstart.6.0.2.A8.11b.bin for boot variable "kickstart".
[########################################] 100% -- SUCCESS

Verifying image bootflash:/n3500-uk9.6.0.2.A8.11b.bin for boot variable "system".
[########################################] 100% -- SUCCESS

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

Extracting "system" version from image bootflash:/n3500-uk9.6.0.2.A8.11b.bin.
[########################################] 100% -- SUCCESS

Extracting "kickstart" version from image bootflash:/n3500-uk9-kickstart.6.0.2.A8.11b.bin.
[########################################] 100% -- SUCCESS

Extracting "bios" version from image bootflash:/n3500-uk9.6.0.2.A8.11b.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)A4(5)            6.0(2)A8(11b)           yes
     1         kickstart             6.0(2)A4(5)            6.0(2)A8(11b)           yes
     1              bios      v1.9.0(10/13/2012)      v1.9.0(10/13/2012)            no
     1         power-seq                    v2.1                    v2.1            no


Switch will be reloaded for disruptive upgrade.
```

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

y

Time Stamp: Thu Nov 19 18:32:15 2020


Install is in progress, please wait.

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

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

Performing configuration copy.
[########################################] 100% -- SUCCESS
Time Stamp: Thu Nov 19 18:32:39 2020


Finishing the upgrade, switch will reboot in 10 seconds.
```

Step 5. Verify Successful NX-OS Software Upgrade

After the Nexus 3524 or 3548 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)A8(11b).

<#root>

```
N3K-C3548#

show module

Mod Ports Module-Type                         Model                  Status
--- ----- ----------------------------------- ---------------------- ------------
1   48    48x10GE Supervisor                  N3K-C3548P-10G-SUP     active *

Mod  Sw              Hw      World-Wide-Name(s) (WWN)
---  --------------  ------  --------------------------------------------------
1    6.0(2)A8(11b)   1.0     --
```

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)A4(5) kickstart and system binary image files are deleted from the switch's bootflash.

<#root>

```
N3K-C3548#

dir | include bin
```

```
   36742656    Nov 19 14:24:14 2020  n3500-uk9-kickstart.6.0.2.A4.5.bin
   37739008    Nov 19 18:13:12 2020  n3500-uk9-kickstart.6.0.2.A8.11b.bin
  166878338    Nov 19 14:22:40 2020  n3500-uk9.6.0.2.A4.5.bin
  197055713    Nov 19 18:14:46 2020  n3500-uk9.6.0.2.A8.11b.bin
N3K-C3548#

delete bootflash:n3500-uk9-kickstart.6.0.2.A4.5.bin

N3K-C3548#

delete bootflash:n3500-uk9.6.0.2.A4.5.bin

N3K-C3548#

dir | include bin

   37739008    Nov 19 18:13:12 2020  n3500-uk9-kickstart.6.0.2.A8.11b.bin
  197055713    Nov 19 18:14:46 2020  n3500-uk9.6.0.2.A8.11b.bin
```

Step 7. Run Initial Setup Script to Re-Apply CoPP Policies

Run the initial setup script with the **setup** command. Enter the basic configuration dialog by entering **yes**, then accept all default options shown by repeatedly pressing the Enter key until the NX-OS CLI prompt is returned.

> **Note**: Running the initial setup script does not modify the existing running configuration of the switch. The purpose of running the initial setup script is to ensure that updated Control Plane Policing (CoPP) policy configuration is present in the running configuration of the switch. Failure to perform this step can result in packet loss for control plane traffic.

An example of this is shown here.

<#root>

```
N3K-C3548#

setup



         ---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.

*Note: setup is mainly used for configuring the system initially,
when no configuration is present. So setup always assumes system
defaults and not the current system configuration values.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.

Would you like to enter the basic configuration dialog (yes/no):

yes
```

```
  Create another login account (yes/no) [n]:

  Configure read-only SNMP community string (yes/no) [n]:

  Configure read-write SNMP community string (yes/no) [n]:

  Enter the switch name :

  Continue with Out-of-band (mgmt0) management configuration? (yes/no) [y]:

    Mgmt0 IPv4 address :

  Configure the default gateway? (yes/no) [y]:

    IPv4 address of the default gateway :

  Enable the telnet service? (yes/no) [n]:

  Enable the ssh service? (yes/no) [y]:

    Type of ssh key you would like to generate (dsa/rsa) :

  Configure the ntp server? (yes/no) [n]:

  Configure default interface layer (L3/L2) [L2]:

  Configure default switchport interface state (shut/noshut) [noshut]:

  Configure CoPP System Policy Profile ( default / l2 / l3 ) [default]:

The following configuration will be applied:
  no telnet server enable
  system default switchport
  no system default switchport shutdown
  policy-map type control-plane copp-system-policy ( default )

Would you like to edit the configuration? (yes/no) [n]:

Use this configuration and save it? (yes/no) [y]:

[########################################] 100%
Copy complete, now saving to disk (wait)...
Copy complete.
```

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)A8(7b) or later before upgrading to the desired target release. Cisco recommends using 6.0(2)A8(11b) as the software release for this intermediate upgrade.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus 3548 switch from a source release of 6.0(2)A4(5) to a target release of 7.0(3)I7(9):

<#root>

```
N3K-C3548#

show module

Mod Ports Module-Type                         Model                  Status
--- ----- ----------------------------------- ---------------------- ------------
1   48    48x10GE Supervisor                  N3K-C3548P-10G-SUP     active *

Mod  Sw              Hw      World-Wide-Name(s) (WWN)
---  --------------  ------  ----------------------------------------------------
1    6.0(2)A4(5)     1.0     --
```

Upgrade Path Summary

A summary of the upgrade path from a source release in the NX-OS 6.x major release to a target release in the NX-OS 7.x major release through an intermediate release of 6.0(2)A8(11b) is shown here:

6.x -> 6.0(2)A8(11b) -> 7.x

Step 1. Upgrade from NX-OS 6.x to NX-OS 6.0(2)A8(11b)

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)A8(11b). 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), you can 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 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x document

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

Copy the target release unified binary image file to the Nexus 3524 or 3548 Series switch you would like to disruptively upgrade by executing the NX-OS Compact Image Procedure via SCP. For more information on this procedure, refer to Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure Document.

> **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 7.0(3)I7(9) software release unified binary image file through the Compact Image Procedure (denoted by the compact keyword) via SCP from an SCP server 192.0.2.100 reachable via the management VRF.

<#root>

```
N3K-C3548#

dir | include bin

   37739008    Nov 19 18:13:12 2020  n3500-uk9-kickstart.6.0.2.A8.11b.bin
  197055713    Nov 19 18:14:46 2020  n3500-uk9.6.0.2.A8.11b.bin
N3K-C3548#

copy scp://username@192.0.2.100/nxos.7.0.3.I7.9.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 SHA1:00:11:06:bf:16:10:7b:e4:95:41:f3:75:4d:cb:41:d7:c7:8a:63:d1.
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.7.0.3.I7.9.bin                               100%  937MB   2.6MB/s   06:06
Copy complete, now saving to disk (wait)...
Copy complete.
N3K-C3548#

dir | include bin

   37739008    Nov 19 18:13:12 2020  n3500-uk9-kickstart.6.0.2.A8.11b.bin
  197055713    Nov 19 18:14:46 2020  n3500-uk9.6.0.2.A8.11b.bin
  459209441    Nov 19 20:28:50 2020  nxos.7.0.3.I7.9.bin
```

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 file 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-C3548#

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 of



Images will be upgraded according to following table:
Module             Image         Running-Version             New-Version  Upg-Required
------  ----------------  ----------------------  ----------------------  ------------
     1         kickstart           6.0(2)A8(11b)             7.0(3)I7(9)           yes
     1              bios      v1.9.0(10/13/2012)      v5.4.0(10/23/2019)           yes
     1         power-seq                    v2.1                    v2.1            no


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

y


Time Stamp: Thu Nov 19 21:41:54 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.
[#                                       ]   0%
```

```
Time Stamp: Thu Nov 19 21:46:02 2020


Finishing the upgrade, switch will reboot in 10 seconds.
```

Step 5. Verify Successful NX-OS Software Upgrade

After the Nexus 3524 or 3548 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 7.0(3)I7(9).

<#root>

```
N3K-C3548#

show module

Mod Ports             Module-Type                         Model          Status
--- ----- ------------------------------------- --------------------- ---------
1    48   48x10GE Supervisor                  N3K-C3548P-10G        active *

Mod  Sw                Hw     Slot
---  ----------------  ------ ----
1    7.0(3)I7(9)       1.0    NA
```

Step 6. 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)A8(11b) kickstart and system binary image files are deleted from the switch's bootflash.

<#root>

```
N3K-C3548#

dir | include bin

   37739008    Nov 19 18:13:12 2020  n3500-uk9-kickstart.6.0.2.A8.11b.bin
  197055713    Nov 19 18:14:46 2020  n3500-uk9.6.0.2.A8.11b.bin
  459209441    Nov 19 20:28:50 2020  nxos.7.0.3.I7.9.bin
N3K-C3548#

delete bootflash:n3500-uk9-kickstart.6.0.2.A8.11b.bin

Do you want to delete "/n3500-uk9-kickstart.6.0.2.A8.11b.bin" ? (yes/no/abort)   [y]
N3K-C3548#

delete bootflash:n3500-uk9.6.0.2.A8.11b.bin

Do you want to delete "/n3500-uk9.6.0.2.A8.11b.bin" ? (yes/no/abort)   [y]
N3K-C3548#

dir | include bin
```

```
  459209441    Nov 19 20:28:50 2020  nxos.7.0.3.I7.9.bin
```

Step 7. Run Initial Setup Script to Re-Apply CoPP Policies

Run the initial setup script with the **setup** command. Enter the basic configuration dialog by entering **yes**, then accept all default options shown by repeatedly pressing the Enter key until the NX-OS CLI prompt is returned.

> **Note**: Running the initial setup script does not modify the existing running configuration of the switch. The purpose of running the initial setup script is to ensure that updated CoPP (Control Plane Policing) policy configuration is present in the running configuration of the switch. Failure to perform this step can result in packet loss for control plane traffic.

An example of this is shown here.

<#root>

```
N3K-C3548#

setup



         ---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.

*Note: setup is mainly used for configuring the system initially,
when no configuration is present. So setup always assumes system
defaults and not the current system configuration values.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.

Would you like to enter the basic configuration dialog (yes/no):

yes



  Create another login account (yes/no) [n]:

  Configure read-only SNMP community string (yes/no) [n]:

  Configure read-write SNMP community string (yes/no) [n]:

  Enter the switch name :

  Continue with Out-of-band (mgmt0) management configuration? (yes/no) [y]:

    Mgmt0 IPv4 address :

  Configure the default gateway? (yes/no) [y]:

    IPv4 address of the default gateway :
```

```
  Enable the telnet service? (yes/no) [n]:



  Enable the ssh service? (yes/no) [y]:


    Type of ssh key you would like to generate (dsa/rsa) :

  Configure the ntp server? (yes/no) [n]:

  Configure default interface layer (L3/L2) [L2]:


  Configure default switchport interface state (shut/noshut) [noshut]:

  Configure CoPP System Policy Profile ( default / l2 / l3 ) [default]:

The following configuration will be applied:
  no telnet server enable
  system default switchport
  no system default switchport shutdown
  policy-map type control-plane copp-system-policy ( default )

Would you like to edit the configuration? (yes/no) [n]:


Use this configuration and save it? (yes/no) [y]:

MTC:Executing copp config


[########################################] 100%
Copy complete, now saving to disk (wait)...
Copy complete.
```

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 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 in the NX-OS 6.x major release requires a mandatory intermediate upgrade to 6.0(2)A8(11b) before upgrading to the desired target release.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus 3548 switch from a source release of 6.0(2)A4(5) to a target release of 9.2(4):

<#root>

```
N3K-C3548#

show module


Mod Ports Module-Type                         Model             Status
```

```
--- ----- ----------------------------------- ---------------------- ------------
1   48    48x10GE Supervisor                  N3K-C3548P-10G-SUP     active *

Mod  Sw              Hw      World-Wide-Name(s) (WWN)
---  --------------  ------  ---------------------------------------------------
1    6.0(2)A4(5)     1.0     --
```

Upgrade Path Summary

A summary of the upgrade path from a source release in the NX-OS 6.x major release to a target release in the NX-OS 9.2(x) minor release through an intermediate release of 6.0(2)A8(11b) is shown here:

6.x -> 6.0(2)A8(11b) -> 9.2(x)

Step 1. Upgrade from NX-OS 6.x to NX-OS 6.0(2)A8(11b)

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)A8(11b). 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. 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), you can 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 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x Document

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

Copy the target release unified binary image file to the Nexus 3524 or 3548 Series switch you would like to disruptively upgrade by executing the NX-OS Compact Image Procedure via SCP. For more information on this procedure, refer to Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure Document

> **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 file through the Compact Image Procedure (denoted by the compact keyword) via SCP from an SCP server

192.0.2.100 reachable via the management VRF.

<#root>

```
N3K-C3548#

dir | include bin

   37739008    Nov 19 22:06:28 2020  n3500-uk9-kickstart.6.0.2.A8.11b.bin
  197055713    Nov 19 22:15:20 2020  n3500-uk9.6.0.2.A8.11b.bin
N3K-C3548#

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 SHA1:00:11:06:bf:16:10:7b:e4:95:41:f3:75:4d:cb:41:d7:c7:8a:63:d1.
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   2.4MB/s   08:45
Copy complete, now saving to disk (wait)...
Copy complete.
N3K-C3548#

dir | include bin

   37739008    Nov 19 22:06:28 2020  n3500-uk9-kickstart.6.0.2.A8.11b.bin
  197055713    Nov 19 22:15:20 2020  n3500-uk9.6.0.2.A8.11b.bin
  530509806    Nov 19 22:41:28 2020  nxos.9.2.4.bin
```

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 file 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-C3548#

install all nxos bootflash:nxos.9.2.4.bin

Installer is forced disruptive

Verifying image bootflash:/nxos.9.2.4.bin for boot variable "nxos".
[########################################] 100% -- SUCCESS

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

Extracting "nxos" version from image bootflash:/nxos.9.2.4.bin.
[########################################] 100% -- SUCCESS
```

```
Extracting "bios" version from image bootflash:/nxos.9.2.4.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 of



Images will be upgraded according to following table:
Module             Image         Running-Version           New-Version  Upg-Required
------  ----------------  ----------------------  ----------------------  ------------
     1         kickstart           6.0(2)A8(11b)             9.2(4)I9(1)           yes
     1              bios      v1.9.0(10/13/2012)      v5.3.0(06/08/2019)           yes
     1         power-seq                    v2.1                    v2.1            no


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

y

```
Time Stamp: Thu Nov 19 22:56:09 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.
[#                                       ]   0%
Time Stamp: Thu Nov 19 23:00:22 2020


Finishing the upgrade, switch will reboot in 10 seconds.
```

Step 5. Verify Successful NX-OS Software Upgrade

After the Nexus 3524 or 3548 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 9.2(4).

```
<#root>

N3K-C3548#

show module

Mod Ports             Module-Type                         Model          Status
--- ----- ------------------------------------- -------------------- ---------
1    48   48x10GE Supervisor                   N3K-C3548P-10G       active *

Mod  Sw                     Hw     Slot
---  ---------------------- ------ ----
1    9.2(4)                 1.0    NA
```

Step 6. 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)A8(11b) kickstart and system binary image files are deleted from the switch's bootflash.

```
<#root>

N3K-C3548#

dir | include bin

   37739008    Nov 19 22:06:28 2020  n3500-uk9-kickstart.6.0.2.A8.11b.bin
  197055713    Nov 19 22:15:20 2020  n3500-uk9.6.0.2.A8.11b.bin
  530509806    Nov 19 22:41:28 2020  nxos.9.2.4.bin
N3K-C3548#

delete bootflash:n3500-uk9-kickstart.6.0.2.A8.11b.bin

Do you want to delete "/n3500-uk9-kickstart.6.0.2.A8.11b.bin" ? (yes/no/abort)   [y]
N3K-C3548#

delete bootflash:n3500-uk9.6.0.2.A8.11b.bin

Do you want to delete "/n3500-uk9.6.0.2.A8.11b.bin" ? (yes/no/abort)   [y]
N3K-C3548#

dir | include bin

  530509806    Nov 19 22:41:28 2020  nxos.9.2.4.bin
```

Step 7. Run Initial Setup Script to Re-Apply CoPP Policies

Run the initial setup script with the **setup** command. Enter the basic configuration dialog by entering **yes**, then accept all default options shown by repeatedly pressing the Enter key until the NX-OS CLI prompt is returned.

Note: Running the initial setup script does not modify the existing running configuration of the switch. The purpose of running the initial setup script is to ensure that updated Control Plane Policing (CoPP) policy configuration is present in the running configuration of the switch. Failure to perform this step can result in packet loss for control plane traffic.

An example of this is shown here.

<#root>

```
N3K-C3548#

setup



         ---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.

*Note: setup is mainly used for configuring the system initially,
when no configuration is present. So setup always assumes system
defaults and not the current system configuration values.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.

Would you like to enter the basic configuration dialog (yes/no):

yes



  Create another login account (yes/no) [n]:

  Configure read-only SNMP community string (yes/no) [n]:

  Configure read-write SNMP community string (yes/no) [n]:

  Enter the switch name :

  Continue with Out-of-band (mgmt0) management configuration? (yes/no) [y]:

    Mgmt0 IPv4 address :

  Configure the default gateway? (yes/no) [y]:

    IPv4 address of the default gateway :

  Enable the telnet service? (yes/no) [n]:

  Enable the ssh service? (yes/no) [y]:

    Type of ssh key you would like to generate (dsa/rsa) :

  Configure the ntp server? (yes/no) [n]:
```

```
  Configure default interface layer (L3/L2) [L2]:

  Configure default switchport interface state (shut/noshut) [noshut]:

  Configure CoPP System Policy Profile ( default / l2 / l3 ) [default]:

The following configuration will be applied:
  no telnet server enable
  system default switchport
  no system default switchport shutdown
  policy-map type control-plane copp-system-policy ( default )

Would you like to edit the configuration? (yes/no) [n]:

Use this configuration and save it? (yes/no) [y]:
MTC:Executing copp config

[########################################] 100%
Copy complete, now saving to disk (wait)...
Copy complete.
```

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)A8(11b). The second intermediate upgrade is to NX-OS 7.0(3)I7(9). After the second intermediate upgrade to 7.0(3)I7(9), 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 3548 switch from a source release of 6.0(2)A4(5) to a target release of 9.3(6):

<#root>

```
N3K-C3548#

show module

Mod Ports Module-Type                         Model                  Status
--- ----- ----------------------------------- ---------------------- ------------
1   48    48x10GE Supervisor                  N3K-C3548P-10G-SUP     active *

Mod  Sw              Hw      World-Wide-Name(s) (WWN)
---  --------------  ------  ----------------------------------------------------
1    6.0(2)A4(5)     1.0     --
```

Upgrade Path Summary

A summary of the upgrade path 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 through intermediate releases of 6.0(2)A8(11b) and 7.0(3)I7(9) is shown here:

6.x -> 6.0(2)A8(11b) -> 7.0(3)I7(9) -> 9.3(x)

Step 1. Upgrade from NX-OS 6.x to NX-OS 6.0(2)A8(11b)

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)A8(11b). This is required in order for an upgrade to an intermediate release of 7.0(3)I7(9) to be successful.

Step 2. Upgrade from NX-OS 6.0(2)A8(11b) to NX-OS 7.0(3)I7(9)

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)A8(11b) to an intermediate release of 7.0(3)I7(9). 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) 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 an intermediate release of 7.0(3)I7(9) to the 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 in the NX-OS 7.x major release.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus 3548 switch from a source release of 7.0(3)I7(2) to a target release of 7.0(3)I7(9):

<#root>

```
N3K-C3548#

show module

Mod Ports             Module-Type                       Model            Status
--- ----- ------------------------------------- --------------------- ---------
1    48   48x10GE Supervisor                    N3K-C3548P-10G        active *

Mod  Sw                Hw     Slot
---  ----------------  ------ ----
1    7.0(3)I7(2)       1.0    NA
```

Upgrade Path Summary

A summary of the upgrade path from a source release in the NX-OS 7.x major release to a target release in the NX-OS 7.x major release is shown here:

7.x -> 7.x

> **Note**: Within the NX-OS 7.x major release, Nexus 3524 and 3548 Series switches only support NX-OS 7.0(3)I7(2) or later software releases. Software release prior to 7.0(3)I7(2) (for example 7.0(3)I7(1), 7.0(3)I6(2), and so on) within the NX-OS 7.x major release are not supported on Nexus 3524 and 3548 Series switches.

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) or 7.0(3)I7(9), you can 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 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x Document

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

> **Note**: Nexus 3524 and 3548 Series switches with a model number ending in -XL do not need to perform the Compact Image Procedure via SCP. These models have sufficient bootflash space to store the full, un-compacted NX-OS software release unified binary image file. Transfer the full, un-compacted NX-OS software release unified binary image file to the Nexus switch using your file transfer protocol of choice (for example FTP, SFTP, SCP, TFTP, and so on) and continue with the next step of this procedure.

Copy the target release unified binary image file to the Nexus 3524 or 3548 Series switch you would like to disruptively upgrade by executing the NX-OS Compact Image Procedure via SCP. For more information on this procedure, refer to Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure Document

> **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 7.0(3)I7(9) software release unified binary image file through the Compact Image Procedure (denoted by the compact keyword) via SCP from an SCP server 192.0.2.100 reachable via the management VRF.

<#root>

```
N3K-C3548#
```

```
dir | include bin

  416939523    Nov 20 03:26:37 2020  nxos.7.0.3.I7.2.bin
N3K-C3548#

copy scp://username@192.0.2.100/nxos.7.0.3.I7.9.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:TwkQiylhtFDFPPwqh3U2Oq9ugrDuTQ50bB3boV5DkXM.
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.7.0.3.I7.9.bin                               100%  937MB   3.6MB/s   04:24
Copy complete, now saving to disk (wait)...
Copy complete.
N3K-C3548#

dir | include bin

  416939523    Nov 20 03:26:37 2020  nxos.7.0.3.I7.2.bin
  459209441    Nov 20 03:43:38 2020  nxos.7.0.3.I7.9.bin
```

Step 3. 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 file 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-C3548#

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

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.
[####################] 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(2)           7.0(3)I7(9)           yes
     1        bios                        v5.4.0(10/23/2019)    v5.4.0(10/23/2019)            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 NX-OS Software Upgrade

After the Nexus 3524 or 3548 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 7.0(3)I7(9).

<#root>

```
N3K-C3548#
```

```
show module

Mod Ports             Module-Type                         Model          Status
--- ----- ------------------------------------- --------------------- ---------
1    48   48x10GE Supervisor                    N3K-C3548P-10G        active *

Mod  Sw               Hw     Slot
---  ---------------- ------ ----
1    7.0(3)I7(9)      1.0    NA
```

Step 5. 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 unified binary image file 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(2) unified binary image file is deleted from the switch's bootflash.

<#root>

```
N3K-C3548#

dir | include bin

  416939523    Nov 20 03:26:37 2020  nxos.7.0.3.I7.2.bin
  459209441    Nov 20 03:43:38 2020  nxos.7.0.3.I7.9.bin
N3K-C3548#

delete bootflash:nxos.7.0.3.I7.2.bin

Do you want to delete "/nxos.7.0.3.I7.2.bin" ? (yes/no/abort)   [y]
N3K-C3548#

dir | include bin

  459209441    Nov 20 03:43:38 2020  nxos.7.0.3.I7.9.bin
```

Step 6. Run Initial Setup Script to Re-Apply CoPP Policies

Run the initial setup script with the **setup** command. Enter the basic configuration dialog by entering **yes**, then accept all default options shown by repeatedly pressing the Enter key until the NX-OS CLI prompt is returned.

> **Note**: Running the initial setup script does not modify the existing running configuration of the switch. The purpose of running the initial setup script is to ensure that updated Control Plane Policing (CoPP) policy configuration is present in the running configuration of the switch. Failure to perform this step can result in packet loss for control plane traffic.

An example of this is shown here.

<#root>

```
N3K-C3548#
```

```
setup



         ---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.

*Note: setup is mainly used for configuring the system initially,
when no configuration is present. So setup always assumes system
defaults and not the current system configuration values.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.

Would you like to enter the basic configuration dialog (yes/no):

yes



  Create another login account (yes/no) [n]:

  Configure read-only SNMP community string (yes/no) [n]:

  Configure read-write SNMP community string (yes/no) [n]:

  Enter the switch name :

  Continue with Out-of-band (mgmt0) management configuration? (yes/no) [y]:

    Mgmt0 IPv4 address :

  Configure the default gateway? (yes/no) [y]:

    IPv4 address of the default gateway :

  Enable the telnet service? (yes/no) [n]:

  Enable the ssh service? (yes/no) [y]:

    Type of ssh key you would like to generate (dsa/rsa) :

  Configure the ntp server? (yes/no) [n]:

  Configure default interface layer (L3/L2) [L2]:

  Configure default switchport interface state (shut/noshut) [noshut]:

  Configure CoPP System Policy Profile ( default / l2 / l3 ) [default]:

The following configuration will be applied:
  no telnet server enable
  system default switchport
  no system default switchport shutdown
  policy-map type control-plane copp-system-policy ( default )

Would you like to edit the configuration? (yes/no) [n]:

Use this configuration and save it? (yes/no) [y]:
MTC:Executing copp config
```

```
[########################################] 100%
Copy complete, now saving to disk (please wait)...
Copy complete.
```

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 in the NX-OS 7.x major release requires a mandatory intermediate upgrade to 7.0(3)I7(6) or later before upgrading to the desired target release. Cisco recommends using 7.0(3)I7(9) as the software release for this intermediate upgrade.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus 3548 switch from a source release of 7.0(3)I7(2) to a target release of 9.2(4):

<#root>

```
N3K-C3548#

show module

Mod Ports             Module-Type                         Model          Status
--- ----- ------------------------------------- --------------------- ---------
1    48   48x10GE Supervisor                    N3K-C3548P-10G        active *

Mod  Sw                Hw     Slot
---  ----------------  ------ ----
1    7.0(3)I7(2)       1.0    NA
```

Upgrade Path Summary

A summary of the upgrade path 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 through an intermediate release of 7.0(3)I7(9) is shown here:

7.x -> **7.0(3)I7(9)** -> **9.2(x)**

> **Note**: Within the NX-OS 7.x major release, Nexus 3524 and 3548 Series switches only support NX-OS 7.0(3)I7(2) or later software releases. Software release prior to 7.0(3)I7(2) (for example 7.0(3)I7(1), 7.0(3)I6(2), and so on within the NX-OS 7.x major release are not supported on Nexus 3524 and 3548 Series switches.

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 an intermediate release of NX-OS software release 7.0(3)I7(9). 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. 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), you can 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 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x Document.

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

> **Note**: Nexus 3524 and 3548 Series switches with a model number ending in -XL do not need to perform the Compact Image Procedure via SCP. These models have sufficient bootflash space to store the full, un-compacted NX-OS software release unified binary image file. Transfer the full, un-compacted NX-OS software release unified binary image file to the Nexus switch using your file transfer protocol of choice (for example FTP, SFTP, SCP, TFTP, and so on) and continue with the next step of this procedure.

Copy the target release unified binary image file to the Nexus 3524 or 3548 Series switch you would like to disruptively upgrade by executing the NX-OS Compact Image Procedure via SCP. For more information on this procedure, refer to Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure Document

---

> **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 file through the Compact Image Procedure (denoted by the compact keyword) via SCP from an SCP server 192.0.2.100 reachable via the management VRF.f

<#root>

```
N3K-C3548#

dir | include bin

  459209441    Nov 20 03:43:38 2020  nxos.7.0.3.I7.9.bin
N3K-C3548#

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:TwkQiylhtFDFPPwqh3U2Oq9ugrDuTQ5ObB3boV5DkXM.
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   3.0MB/s   07:09
Copy complete, now saving to disk (please wait)...
Copy complete.
N3K-C3548#

dir | include bin

  459209441    Nov 20 03:43:38 2020  nxos.7.0.3.I7.9.bin
  530509806    Nov 20 04:30:47 2020  nxos.9.2.4.bin
```

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 file 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-C3548#

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
[##                  ]   5% -- 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                        v5.4.0(10/23/2019)    v5.3.0(06/08/2019)            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 3524 or 3548 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 9.2(4).

<#root>

```
N3K-C3548#

show module

Mod Ports             Module-Type                         Model           Status
--- ----- ------------------------------------- -------------------- ---------
1    48   48x10GE Supervisor                    N3K-C3548P-10G       active *

Mod  Sw                       Hw     Slot
---  ----------------------- ------ ----
1    9.2(4)                   1.0    NA
```

Step 6. 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 unified image file 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-C3548#

dir | include bin

  459209441    Nov 20 03:43:38 2020  nxos.7.0.3.I7.9.bin
  530509806    Nov 20 04:30:47 2020  nxos.9.2.4.bin
N3K-C3548#

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-C3548#

dir | include bin

  530509806    Nov 20 04:30:47 2020  nxos.9.2.4.bin
```

Step 7. Run Initial Setup Script to Re-Apply CoPP Policies

Run the initial setup script with the **setup** command. Enter the basic configuration dialog by entering **yes**, then accept all default options shown by repeatedly pressing the Enter key until the NX-OS CLI prompt is returned.

> **Note**: Running the initial setup script does not modify the existing running configuration of the switch. The purpose of running the initial setup script is to ensure that updated Control Plane Policing (CoPP) policy configuration is present in the running configuration of the switch. Failure to perform this step can result in packet loss for control plane traffic.

An example of this is shown here.

<#root>

```
N3K-C3548#

setup



         ---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.
```

```
*Note: setup is mainly used for configuring the system initially,
when no configuration is present. So setup always assumes system
defaults and not the current system configuration values.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.

Would you like to enter the basic configuration dialog (yes/no):

yes



  Create another login account (yes/no) [n]:

  Configure read-only SNMP community string (yes/no) [n]:

  Configure read-write SNMP community string (yes/no) [n]:

  Enter the switch name :

  Continue with Out-of-band (mgmt0) management configuration? (yes/no) [y]:

    Mgmt0 IPv4 address :

  Configure the default gateway? (yes/no) [y]:

    IPv4 address of the default gateway :

  Enable the telnet service? (yes/no) [n]:

  Enable the ssh service? (yes/no) [y]:

    Type of ssh key you would like to generate (dsa/rsa) :

  Configure the ntp server? (yes/no) [n]:

  Configure default interface layer (L3/L2) [L2]:

  Configure default switchport interface state (shut/noshut) [noshut]:

  Configure CoPP System Policy Profile ( default / l2 / l3 ) [default]:

The following configuration will be applied:
  no telnet server enable
  system default switchport
  no system default switchport shutdown
  policy-map type control-plane copp-system-policy ( default )

Would you like to edit the configuration? (yes/no) [n]:

Use this configuration and save it? (yes/no) [y]:
MTC:Executing copp config

[########################################] 100%
Copy complete, now saving to disk (wait)...
Copy complete.
```

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 in the NX-OS 7.x major release requires a mandatory intermediate upgrade to 7.0(3)I7(8) or later before upgrading to the desired target release. Cisco recommends using 7.0(3)I7(9) as the software release for this intermediate upgrade.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus 3548 switch from a source release of 7.0(3)I7(2) to a target release of 9.3(6):

<#root>

```
N3K-C3548#

show module

Mod Ports             Module-Type                         Model           Status
--- ----- ------------------------------------- --------------------- ---------
1    48   48x10GE Supervisor                    N3K-C3548P-10G        active *

Mod  Sw                Hw     Slot
---  ---------------- ------ ----
1    7.0(3)I7(2)       1.0    NA
```

Upgrade Path Summary

A summary of the upgrade path 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 through an intermediate release of 7.0(3)I7(9) is shown here:

7.x -> **7.0(3)I7(9)** -> **9.3(x)**

> **Note**: Within the NX-OS 7.x major release, Nexus 3524 and 3548 Series switches only support NX-OS 7.0(3)I7(2) or later software releases. Software release prior to 7.0(3)I7(2) (for example 7.0(3)I7(1), 7.0(3)I6(2), and so on) within the NX-OS 7.x major release are not supported on Nexus 3524 and 3548 Series switches.

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 an intermediate release of NX-OS software release 7.0(3)I7(9). This is required in order for an upgrade to a target release in the NX-OS 9.3(x) minor release to be successful.

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, you can 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 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x Document.

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

> **Note**: Nexus 3524 and 3548 Series switches with a model number ending in -XL do not need to perform the Compact Image Procedure via SCP. These models have sufficient bootflash space to store the full, un-compacted NX-OS software release unified binary image file. Transfer the full, un-compacted NX-OS software release unified binary image file to the Nexus switch using your file transfer protocol of choice (for example FTP, SFTP, SCP, TFTP, and so on) and continue with the next step of this procedure.

Copy the target release unified binary image file to the Nexus 3524 or 3548 Series switch you would like to disruptively upgrade by executing the NX-OS Compact Image Procedure via SCP. For more information on this procedure, refer to Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure Document

> **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(6) software release unified binary image file through the Compact Image Procedure (denoted by the compact keyword) via SCP from an SCP server 192.0.2.100 reachable via the management VRF.

<#root>

```
N3K-C3548#

dir | include bin

  459209441    Nov 19 23:44:19 2020  nxos.7.0.3.I7.9.bin
N3K-C3548#

copy scp://username@192.0.2.100/nxos.9.3.6.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:TwkQiylhtFDFPPwqh3U2Oq9ugrDuTQ5ObB3boV5DkXM.
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.9.3.6.bin                                100% 1882MB   3.1MB/s   10:09
Copy complete, now saving to disk (wait)...
Copy complete.
N3K-C3548#
```

```
dir | include bin

  459209441    Nov 19 23:44:19 2020  nxos.7.0.3.I7.9.bin
  671643688    Nov 20 00:47:00 2020  nxos.9.3.6.bin
```

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 file 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(6) unified binary image file (bootflash:nxos.9.3.6.bin).

<#root>

```
N3K-C3548#

install all nxos bootflash:nxos.9.3.6.bin

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

Verifying image bootflash:/nxos.9.3.6.bin for boot variable "nxos".
[####################] 100% -- SUCCESS

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

Preparing "nxos" version info using image bootflash:/nxos.9.3.6.bin.
[####################] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/nxos.9.3.6.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                              7.0(3)I7(9)            9.3(6)           yes
     1       bios                      v5.4.0(10/23/2019)    v5.4.0(10/23/2019)          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 3524 or 3548 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 9.3(6).

<#root>

```
N3K-C3548#

show module

Mod Ports             Module-Type                         Model           Status
--- ----- ------------------------------------- --------------------- ---------
1    48   48x10GE Supervisor                    N3K-C3548P-10G       active *

Mod  Sw                      Hw    Slot
---  ----------------------- ------ ----
1    9.3(6)                  1.0    NA
```

Step 6. 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 unified binary image file 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-C3548#

dir | include bin

  459209441    Nov 19 23:44:19 2020  nxos.7.0.3.I7.9.bin
  671643688    Nov 20 00:47:00 2020  nxos.9.3.6.bin
N3K-C3548#

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-C3548#

dir | include bin

  671643688    Nov 20 00:47:00 2020  nxos.9.3.6.bin
```

Step 7. Run Initial Setup Script to Re-Apply CoPP Policies

Run the initial setup script with the **setup** command. Enter the basic configuration dialog by entering **yes**, then accept all default options shown by repeatedly pressing the Enter key until the NX-OS CLI prompt is returned.

> **Note**: Running the initial setup script does not modify the existing running configuration of the switch. The purpose of running the initial setup script is to ensure that updated Control Plane Policing (CoPP) policy configuration is present in the running configuration of the switch. Failure to perform this step can result in packet loss for control plane traffic.

An example of this is shown here.

<#root>

```
N3K-C3548#

setup



         ---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.

*Note: setup is mainly used for configuring the system initially,
when no configuration is present. So setup always assumes system
defaults and not the current system configuration values.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.

Would you like to enter the basic configuration dialog (yes/no):
```

```
yes


  Create another login account (yes/no) [n]:

  Configure read-only SNMP community string (yes/no) [n]:

  Configure read-write SNMP community string (yes/no) [n]:

  Enter the switch name :

  Continue with Out-of-band (mgmt0) management configuration? (yes/no) [y]:

    Mgmt0 IPv4 address :

  Configure the default gateway? (yes/no) [y]:

    IPv4 address of the default gateway :

  Enable the telnet service? (yes/no) [n]:

  Enable the ssh service? (yes/no) [y]:

    Type of ssh key you would like to generate (dsa/rsa) :

  Configure the ntp server? (yes/no) [n]:

  Configure default interface layer (L3/L2) [L2]:

  Configure default switchport interface state (shut/noshut) [noshut]:

  Configure CoPP System Policy Profile ( default / l2 / l3 ) [default]:

The following configuration will be applied:
  no telnet server enable
  system default switchport
  no system default switchport shutdown
  policy-map type control-plane copp-system-policy ( default )

Would you like to edit the configuration? (yes/no) [n]:

Use this configuration and save it? (yes/no) [y]:
MTC:Executing copp config

[########################################] 100%
Copy complete, now saving to disk (please wait)...
Copy complete.
```

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 3548 switch from a source release of 9.2(1) to a target release of 9.2(4):

<#root>

```
N3K-C3548#

show module

Mod Ports             Module-Type                         Model          Status
--- ----- ------------------------------------- --------------------- ---------
1    48   48x10GE Supervisor                    N3K-C3548P-10G        active *

Mod  Sw                     Hw     Slot
---  ----------------------- ------ ----
1    9.2(1)                 1.0     NA
```

Upgrade Path Summary

A summary of the upgrade path 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 is shown here:

9.2(x) -> 9.2(x)

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), you can 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 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x Document.

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

> **Note**: Nexus 3524 and 3548 Series switches with a model number ending in -XL do not need to perform the Compact Image Procedure via SCP. These models have sufficient bootflash space to store the full, un-compacted NX-OS software release unified binary image file. Transfer the full, un-compacted NX-OS software release unified binary image file to the Nexus switch using your file transfer protocol of choice (for example FTP, SFTP, SCP, TFTP, and so on) and continue with the next step of this procedure.

Copy the target release unified binary image file to the Nexus 3524 or 3548 Series switch you would like to disruptively upgrade by executing the NX-OS Compact Image Procedure via SCP. For more information on this procedure, refer to Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure Document

> **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 file through the Compact Image Procedure (denoted by the compact keyword) via SCP (Secure Copy Protocol) from an SCP server 192.0.2.100 reachable via the management VRF.

<#root>

```
N3K-C3548#

dir | include bin

  512339094    Nov 20 16:58:21 2020  nxos.9.2.1.bin
N3K-C3548#

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:TwkQiylhtFDFPPwqh3U2Oq9ugrDuTQ5ObB3boV5DkXM.
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   3.9MB/s   05:31
Copy complete, now saving to disk (please wait)...
Copy complete.
N3K-C3548#

dir | include bin

  512339094    Nov 20 16:58:21 2020  nxos.9.2.1.bin
  530509806    Nov 23 18:58:45 2020  nxos.9.2.4.bin
```

Step 3. 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 file 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-C3548#

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                        v5.4.0(10/23/2019)    v5.3.0(06/08/2019)            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 NX-OS Software Upgrade

After the Nexus 3524 or 3548 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 9.2(4).

<#root>

```
N3K-C3548#

show module

Mod Ports             Module-Type                         Model          Status
--- ----- ------------------------------------- --------------------- ---------
1    48   48x10GE Supervisor                    N3K-C3548P-10G        active *

Mod  Sw                      Hw    Slot
---  ----------------------- ------ ----
1    9.2(4)                  1.0    NA
```

Step 5. 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 unified binary image file 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-C3548#

dir | include bin

  512339094    Nov 20 16:58:21 2020  nxos.9.2.1.bin
  530509806    Nov 23 18:58:45 2020  nxos.9.2.4.bin
N3K-C3548#

delete bootflash:nxos.9.2.1.bin

Do you want to delete "/nxos.9.2.1.bin" ? (yes/no/abort)   [y]
N3K-C3548#

dir | include bin

  530509806    Nov 23 18:58:45 2020  nxos.9.2.4.bin
```

Step 6. Run Initial Setup Script to Re-Apply CoPP Policies

Run the initial setup script with the **setup** command. Enter the basic configuration dialog by entering **yes**, then accept all default options shown by repeatedly pressing the Enter key until the NX-OS CLI prompt is returned.

Note: Running the initial setup script does not modify the existing running configuration of the switch. The purpose of running the initial setup script is to ensure that updated Control Plane Policing (CoPP) policy configuration is present in the running configuration of the switch. Failure to perform this step can result in packet loss for control plane traffic.

An example of this is shown here.

<#root>

```
N3K-C3548#

setup



         ---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.

*Note: setup is mainly used for configuring the system initially,
when no configuration is present. So setup always assumes system
defaults and not the current system configuration values.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.

Would you like to enter the basic configuration dialog (yes/no):

yes



  Create another login account (yes/no) [n]:

  Configure read-only SNMP community string (yes/no) [n]:

  Configure read-write SNMP community string (yes/no) [n]:

  Enter the switch name :

  Continue with Out-of-band (mgmt0) management configuration? (yes/no) [y]:

    Mgmt0 IPv4 address :

  Configure the default gateway? (yes/no) [y]:

    IPv4 address of the default gateway :

  Enable the telnet service? (yes/no) [n]:

  Enable the ssh service? (yes/no) [y]:

    Type of ssh key you would like to generate (dsa/rsa) :

  Configure the ntp server? (yes/no) [n]:

  Configure default interface layer (L3/L2) [L2]:
```

```
  Configure default switchport interface state (shut/noshut) [noshut]:

  Configure CoPP System Policy Profile ( default / l2 / l3 ) [default]:

The following configuration will be applied:
  no telnet server enable
  system default switchport
  no system default switchport shutdown
  policy-map type control-plane copp-system-policy ( default )

Would you like to edit the configuration? (yes/no) [n]:

Use this configuration and save it? (yes/no) [y]:
MTC:Executing copp config

[########################################] 100%
Copy complete, now saving to disk (please wait)...
Copy complete.
```

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 in the NX-OS 9.2(x) minor release requires a mandatory intermediate upgrade to 9.2(4) before upgrading to the desired target release.

An example standard disruptive NX-OS software upgrade is performed on a Cisco Nexus 3548 switch from a source release of 9.2(1) to a target release of 9.3(6):

<#root>

```
N3K-C3548#
```

`show module`

```
Mod Ports             Module-Type                         Model          Status
--- ----- ------------------------------------- --------------------- ---------
1    48   48x10GE Supervisor                    N3K-C3548P-10G        active *

Mod  Sw                       Hw    Slot
---  ----------------------- ------ ----
1    9.2(1)                   1.0    NA
```

Upgrade Path Summary

A summary of the upgrade path 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 is shown here:

9.2(x) -> 9.2(4) -> 9.3(x)

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 an intermediate release of NX-OS software release 9.2(4). This is required in order for an upgrade to a target release in the NX-OS 9.3(x) minor release to be successful.

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, you can 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 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x Document.

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

> **Note**: Nexus 3524 and 3548 Series switches with a model number ending in -XL do not need to perform the Compact Image Procedure via SCP. These models have sufficient bootflash space to store the full, un-compacted NX-OS software release unified binary image file. Transfer the full, un-compacted NX-OS software release unified binary image file to the Nexus switch using your file transfer protocol of choice (for example FTP, SFTP, SCP, TFTP, and so on) and continue with the next step of this procedure.

Copy the target release unified binary image file to the Nexus 3524 or 3548 Series switch you would like to disruptively upgrade by executing the NX-OS Compact Image Procedure via SCP. For more information on this procedure, refer to Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure Document

> **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(6) software release unified binary image file through the Compact Image Procedure (denoted by the compact keyword) via SCP from an SCP server 192.0.2.100 reachable via the management VRF.

<#root>

```
N3K-C3548#

dir | include bin
```

```
  530509806    Nov 23 18:58:45 2020  nxos.9.2.4.bin
N3K-C3548#
```

```
copy scp://username@192.0.2.100/nxos.9.3.6.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:TwkQiylhtFDFPPwqh3U2Oq9ugrDuTQ5ObB3boV5DkXM.
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.9.3.6.bin                                100% 1882MB   3.9MB/s   08:09
Copy complete, now saving to disk (please wait)...
Copy complete.
N3K-C3548#
```

```
dir | include bin
```

```
  530509806    Nov 23 18:58:45 2020  nxos.9.2.4.bin
  671643688    Nov 23 19:51:21 2020  nxos.9.3.6.bin
```

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 file 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(6) unified binary image file (bootflash:nxos.9.3.6.bin).

<#root>

```
N3K-C3548#
```

```
install all nxos bootflash:nxos.9.3.6.bin
```

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

Verifying image bootflash:/nxos.9.3.6.bin for boot variable "nxos".
[####################] 100% -- SUCCESS

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

Preparing "nxos" version info using image bootflash:/nxos.9.3.6.bin.
[####################] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/nxos.9.3.6.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(4)                9.3(6)           yes
     1        bios                        v5.4.0(10/23/2019)    v5.4.0(10/23/2019)            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 3524 or 3548 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 9.3(6).

<#root>

```
N3K-C3548#
```

```
show module
```

```
Mod Ports             Module-Type                         Model           Status
--- ----- ------------------------------------- --------------------- ---------
1    48   48x10GE Supervisor                    N3K-C3548P-10G       active *

Mod  Sw                       Hw     Slot
---  ----------------------- ------ ----
1    9.3(6)                   1.0     NA
```

Step 6. Delete Intermediate 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 unified binary image file 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(4) unified binary image file is deleted from the switch's bootflash.

<#root>

```
N3K-C3548#

dir | include bin

  530509806    Nov 23 18:58:45 2020  nxos.9.2.4.bin
  671643688    Nov 23 19:51:21 2020  nxos.9.3.6.bin
N3K-C3548#

delete bootflash:nxos.9.2.4.bin

Do you want to delete "/nxos.9.2.4.bin" ? (yes/no/abort)   [y]
N3K-C3548#

dir | include bin

  671643688    Nov 23 19:51:21 2020  nxos.9.3.6.bin
```

Step 7. Run Initial Setup Script to Re-Apply CoPP Policies

Run the initial setup script with the **setup** command. Enter the basic configuration dialog by entering **yes**, then accept all default options shown by repeatedly pressing the Enter key until the NX-OS CLI prompt is returned.

> **Note**: Running the initial setup script does not modify the existing running configuration of the switch. The purpose of running the initial setup script is to ensure that updated Control Plane Policing (CoPP) policy configuration is present in the running configuration of the switch. Failure to perform this step can result in packet loss for control plane traffic.

An example of this is shown here.

<#root>

```
N3K-C3548#

setup
```

```
         ---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.

*Note: setup is mainly used for configuring the system initially,
when no configuration is present. So setup always assumes system
defaults and not the current system configuration values.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.

Would you like to enter the basic configuration dialog (yes/no):
```

yes

```
  Create another login account (yes/no) [n]:

  Configure read-only SNMP community string (yes/no) [n]:

  Configure read-write SNMP community string (yes/no) [n]:

  Enter the switch name :

  Continue with Out-of-band (mgmt0) management configuration? (yes/no) [y]:

    Mgmt0 IPv4 address :

  Configure the default gateway? (yes/no) [y]:

    IPv4 address of the default gateway :

  Enable the telnet service? (yes/no) [n]:

  Enable the ssh service? (yes/no) [y]:


    Type of ssh key you would like to generate (dsa/rsa) :

  Configure the ntp server? (yes/no) [n]:

  Configure default interface layer (L3/L2) [L2]:

  Configure default switchport interface state (shut/noshut) [noshut]:

  Configure CoPP System Policy Profile ( default / l2 / l3 ) [default]:

The following configuration will be applied:
  no telnet server enable
  system default switchport
  no system default switchport shutdown
  policy-map type control-plane copp-system-policy ( default )

Would you like to edit the configuration? (yes/no) [n]:

Use this configuration and save it? (yes/no) [y]:
MTC:Executing copp config
```

```
[########################################] 100%
Copy complete, now saving to disk (please wait)...
Copy complete.
```

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 3548 switch from a source release of 9.3(1) to a target release of 9.3(6):

<#root>

```
N3K-C3548#

show module

Mod Ports             Module-Type                        Model           Status
--- ----- -------------------------------------- --------------------- ---------
1    48   48x10GE Supervisor                     N3K-C3548P-10G         active *

Mod  Sw                       Hw     Slot
---  ----------------------- ------ ----
1    9.3(1)                   1.0     NA
```

Upgrade Path Summary

A summary of the upgrade path 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 is shown here:

9.3(x) -> 9.3(x)

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, you can 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 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x Document.

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

> **Note**: Nexus 3524 and 3548 Series switches with a model number ending in -XL do not need to perform the Compact Image Procedure via SCP. These models have sufficient bootflash space to store the full, un-compacted NX-OS software release unified binary image file. Transfer the full, un-compacted NX-OS software release unified binary image file to the Nexus switch using your file transfer protocol of choice (for example FTP, SFTP, SCP, TFTP, and so on) and continue with the next step of this procedure.

Copy the target release unified binary image file to the Nexus 3524 or 3548 Series switch you would like to disruptively upgrade by executing the NX-OS Compact Image Procedure via SCP. For more information on this procedure, refer to Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure document

> **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(6) software release unified binary image file through the Compact Image Procedure (denoted by the compact keyword) via SCP from an SCP server 192.0.2.100 reachable via the management VRF.

<#root>

```
N3K-C3548#

dir | include bin

  511694599    Nov 23 20:34:22 2020  nxos.9.3.1.bin
N3K-C3548#

copy scp://username@192.0.2.100/nxos.9.3.6.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:TwkQiylhtFDFPPwqh3U2Oq9ugrDuTQ5ObB3boV5DkXM.
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.9.3.6.bin                              100% 1882MB   4.4MB/s   07:09
Copy complete, now saving to disk (please wait)...
Copy complete.
N3K-C3548#

dir | include bin

  511694599    Nov 23 20:34:22 2020  nxos.9.3.1.bin
  671643688    Nov 23 20:52:16 2020  nxos.9.3.6.bin
```

Step 3. 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 file 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(6) unified binary image file (bootflash:nxos.9.3.6.bin).

<#root>

```
N3K-C3548#

install all nxos bootflash:nxos.9.3.6.bin

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

Verifying image bootflash:/nxos.9.3.6.bin for boot variable "nxos".
[####################] 100% -- SUCCESS

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

Preparing "nxos" version info using image bootflash:/nxos.9.3.6.bin.
[####################] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/nxos.9.3.6.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                                    9.3(1)                9.3(6)           yes
     1        bios                        v5.4.0(10/23/2019)    v5.4.0(10/23/2019)            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 NX-OS Software Upgrade

After the Nexus 3524 or 3548 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 9.3(6).

<#root>

```
N3K-C3548#

show module

Mod Ports             Module-Type                         Model           Status
--- ----- ------------------------------------ --------------------- ---------
1    48   48x10GE Supervisor                   N3K-C3548P-10G        active *

Mod  Sw                      Hw     Slot
---  ----------------------- ------ ----
1    9.3(6)                  1.0     NA
```

Step 5. 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 unified binary image file 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 9.3(1) unified binary image file is deleted from the switch's bootflash.

<#root>

```
N3K-C3548#

dir | include bin

  511694599    Nov 23 20:34:22 2020  nxos.9.3.1.bin
  671643688    Nov 23 20:52:16 2020  nxos.9.3.6.bin
N3K-C3548#

delete bootflash:nxos.9.3.1.bin
```

```
Do you want to delete "/nxos.9.3.1.bin" ? (yes/no/abort)   [y]
N3K-C3548#

dir | include bin

  671643688    Nov 23 20:52:16 2020  nxos.9.3.6.bin
```

Step 6. Run Initial Setup Script to Re-Apply CoPP Policies

Run the initial setup script with the **setup** command. Enter the basic configuration dialog by entering **yes**, then accept all default options shown by repeatedly pressing the Enter key until the NX-OS CLI prompt is returned.

> **Note**: Running the initial setup script does not modify the existing running configuration of the switch. The purpose of running the initial setup script is to ensure that updated Control Plane Policing policy configuration is present in the running configuration of the switch. Failure to perform this step can result in packet loss for control plane traffic.

An example of this is shown here.

<#root>

```
N3K-C3548#

setup



         ---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.

*Note: setup is mainly used for configuring the system initially,
when no configuration is present. So setup always assumes system
defaults and not the current system configuration values.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.

Would you like to enter the basic configuration dialog (yes/no):

yes



  Create another login account (yes/no) [n]:

  Configure read-only SNMP community string (yes/no) [n]:

  Configure read-write SNMP community string (yes/no) [n]:

  Enter the switch name :

  Continue with Out-of-band (mgmt0) management configuration? (yes/no) [y]:
    Mgmt0 IPv4 address :

  Configure the default gateway? (yes/no) [y]:

    IPv4 address of the default gateway :

  Enable the telnet service? (yes/no) [n]:

  Enable the ssh service? (yes/no) [y]:

    Type of ssh key you would like to generate (dsa/rsa) :

  Configure the ntp server? (yes/no) [n]:

  Configure default interface layer (L3/L2) [L2]:

  Configure default switchport interface state (shut/noshut) [noshut]:

  Configure CoPP System Policy Profile ( default / l2 / l3 ) [default]:

The following configuration will be applied:
  no telnet server enable
  system default switchport
  no system default switchport shutdown
  policy-map type control-plane copp-system-policy ( default )

Would you like to edit the configuration? (yes/no) [n]:

Use this configuration and save it? (yes/no) [y]:
MTC:Executing copp config

[########################################] 100%
Copy complete, now saving to disk (please wait)...
Copy complete.
```

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 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.3(x)
- Cisco Nexus 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.2(x)
- Cisco Nexus 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 7.x
- Cisco Nexus 3500 Series NX-OS Software Upgrade and Downgrade Guide, Release 6.x
- Cisco Nexus 3000 Series Switches Release Notes
- Nexus 3000, 3100, and 3500 NX-OS Compact Image Procedure
- Technical Support & Documentation - Cisco Systems