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Cisco Nexus Hyperfabric — Software Lifecycle Management

Software lifecycle management

Cisco Nexus Hyperfabric simplifies the task of changing the software version of the devices in your fabric. Cisco Nexus Hyperfabric can change the software version after you bind the devices to a fabric or while the devices are already bound to a fabric.

The fabric tiles on the **Fabrics** page can include these tags to inform you of software version change-related statuses:

-  **Software upgrade required** —The software of the devices in your fabric will reach the end of support date in a month or less.
-  **Software upgrade required** —Support has ended for the software of the devices in your fabric.
-  **Software upgrade** —A software version change is in progress.

These same tags appear at the top of the page after you click a tile to view information about that fabric.

Limitations for software lifecycle management

These limitations apply for software lifecycle management:

- During a software change, you can still monitor all devices, but you cannot push configuration changes to the fabric except for changes related to unbinding switches, admin state change on the ports, and software management.
- You must push existing configuration changes before you can change the target release.

Change the software version of the bound devices of a fabric

You can configure the running software version of a fabric and have Cisco Nexus Hyperfabric change the software version of bound devices to the running version. If a device's current software version is different from the running version, this results in Cisco Nexus Hyperfabric upgrading or downgrading, as appropriate, the device's software and rebooting the device.

A device has two partitions--active and standby--both of which have the operating system software installed. During a software version change, Cisco Nexus Hyperfabric changes the version of the standby partition first, then changes the version of the active partition.



Note

The GUI specifies "upgrade" in some places. However, this software version change can be a downgrade.

Follow these steps to change the software version of the bound devices of a fabric.

- Step 1** Select **Fabrics**, then click the fabric that contains the devices.
- Step 2** If the fabric is not in the edit mode, click **Switch to edit mode**.

Step 3 Follow these substeps to select the running software version.

- a) Click **Software management**.
- b) In the **Target** area, click **Change target** and select the software version to which you want the devices to change.
You can select the latest version or a version that another fabric in the same organization has installed.
- c) Check **Allow software changes**.
- d) In the **Devices** area, check the box next to each device whose software version you want to change.
Optionally, check the box next to the **Device** column header to select all devices.
- e) Click **Set to target version**.
Running version for the selected devices gets set to the target version.

Step 4 Follow these substeps to begin the device software version change.

- a) Click **Review configuration**.
- b) Verify your changes in the review list.
If the list of changes does not include text that begins with "Create node image_update" for the devices you selected, troubleshoot the issue.
- c) Click **Comment and push**.
A dialog appears that informs you that this process reboots the devices and begins the software change process. Nexus Hyperfabric automatically enters "Software upgrade commit" for the comment without prompting you to enter anything.
- d) Click **Reboot (begin upgrade)**.
The target image gets downloaded and distributed to the selected devices.

Step 5 In the **Devices** area, observe the **Upgrade progress** column.

During the software change process, the progress state for the selected devices goes through these values:

- `Standby partition ready`—The standby partition of the device is ready for the software change. This is the starting progress state.
- `Downloading`—The device is downloading the target software image to the standby partition. During this state, Nexus Hyperfabric verifies the expected secure hash algorithms (SHA) and file size of the image.
- `Pre check`—The image download to the standby partition has completed. Nexus Hyperfabric extracts the artifacts from the image and verifies the signatures.
- `Post check`—Nexus Hyperfabric has completed extracting the artifacts and verifies additional SHAs and signatures.
- `Upgrade in progress`—The standby partition is changing to the target software image. When the device begins rebooting with the new image, the **Switch status** shows a red "x". The reboot can take a few minutes. The device has finished rebooting when **Switch status** shows a green checkmark.
- `Pre check`—At this point, the original standby partition is now the active partition and the device has reestablished connectivity to Nexus Hyperfabric. This state is similar to the first `Pre check` state, except that Nexus Hyperfabric extracts the artifacts from the image verifies the signatures on the new standby partition.
- `Post check`—Nexus Hyperfabric has completed extracting the artifacts and verifies additional SHAs and signatures on the new standby partition.

- `Upgrade complete`—Nexus Hyperfabric changed both partitions to the target version and the device is fully operational. **Running version** shows the version that you chose as the target version.

Step 6 Follow these substeps to finalize the software change.

- In the **Running** area, click **Finish Upgrade**.
- Click **Review configuration**.
- Verify your software changes in the review list.
- Click **Comment and push**.
- In the **Comment before pushing configuration** dialog box, enter a comment regarding to the software change.
- Click **Push configuration**.

Change the software version of devices when you bind them to a fabric

You can configure the running software version of a fabric and have Cisco Nexus Hyperfabric change a device's software version to the running version when you bind the device to the fabric. If the device's current software version is different from the running version, this results in Cisco Nexus Hyperfabric upgrading or downgrading, as appropriate, the device's software version. The device automatically reboots as part of the software version change.



Note

The GUI does not display the upgrade or downgrade progress.

A device has two partitions--active and standby--both of which have the operating system software installed. During a software version change, Cisco Nexus Hyperfabric changes the version of the standby partition first, then changes the version of the active partition.

Follow these steps to change the software version of devices when you bind them to a fabric.

Step 1 Select **Fabrics**, then click the fabric for which you want to select the running software version.

Step 2 If the fabric is not in the edit mode, click **Switch to edit mode**.

Step 3 Follow these substeps to select the running software version.

- Click **Software management**.
- In the **Running** area, click **Set Running Image** and select the software version to which you want the devices to change after you bind them.

You can select the latest version or a version that another fabric uses in the same organization.

Step 4 Bind devices to the fabric.

For information about binding devices, see [Bind the switches](#) in the *Cisco Nexus Hyperfabric — Getting Started* document.

Step 5 Follow these substeps to change the software version of the devices that you just bound.

- Click **Review configuration**.
- Verify your changes in the review list, then click **Comment and push**.
- Enter the reason for the change, then click **Push configuration**.

The fabric changes to the running mode and Nexus Hyperfabric displays to the **Summary** page.

- Click **Software management**.
- Observe the **Devices** area until the devices show the running version that you selected.