Get Started With Fleet Upgrade

This document covers the following topics:

About Fleet Upgrade

Cisco Crosswork Workflow Manager (CWM) Solutions is a collection of pre-built use cases that offers customers a convenient and efficient way to manage, configure and upgrade their devices. It provides out-the-box use cases that are easy to deploy and ready to use, allowing users to quickly onboard their devices for management.

CWM Solutions Fleet Upgrade lets users manage, distribute, and commit software images and image upgrades to multiple devices at the same time, including to third-party devices.

Fleet Upgrade is automated, customizable, extensible, provides strong error checking, and supports devices from Cisco and other vendors.

Installing Fleet Upgrade

This version of Crosswork Workflow Manager Solutions (CWM-S) Fleet Upgrade is part of the Cisco Crosswork Network Controller Advantage tier. You must install the Advantage tier package as a CAPP (**C**rosswork **APP**lication) on an SVM (single virtual machine) deployment of Cisco Crosswork Network Controller.

For installation instructions, see the Cisco Crosswork Workflow Manager Solutions 2.0 Fleet Upgrade Installation Guide.

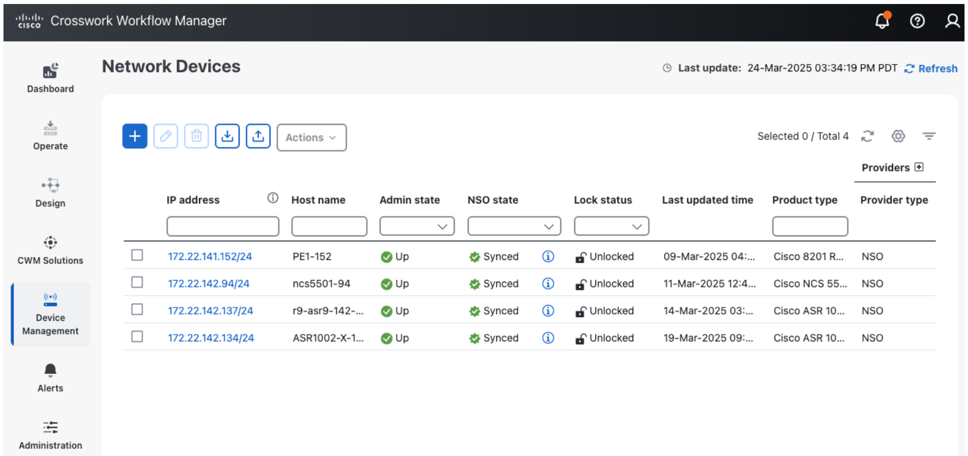
Onboard Devices

Before you can test devices for compliance with software image standards, or upgrade them, the devices must be part of your device inventory. Follow the steps below to add devices one by one to your inventory, using the Crosswork Workflow Manager user interface.

You can also add devices using the method in Import Devices in Bulk. You may also want to consider making a backup of your device information by following the steps in Export devices.

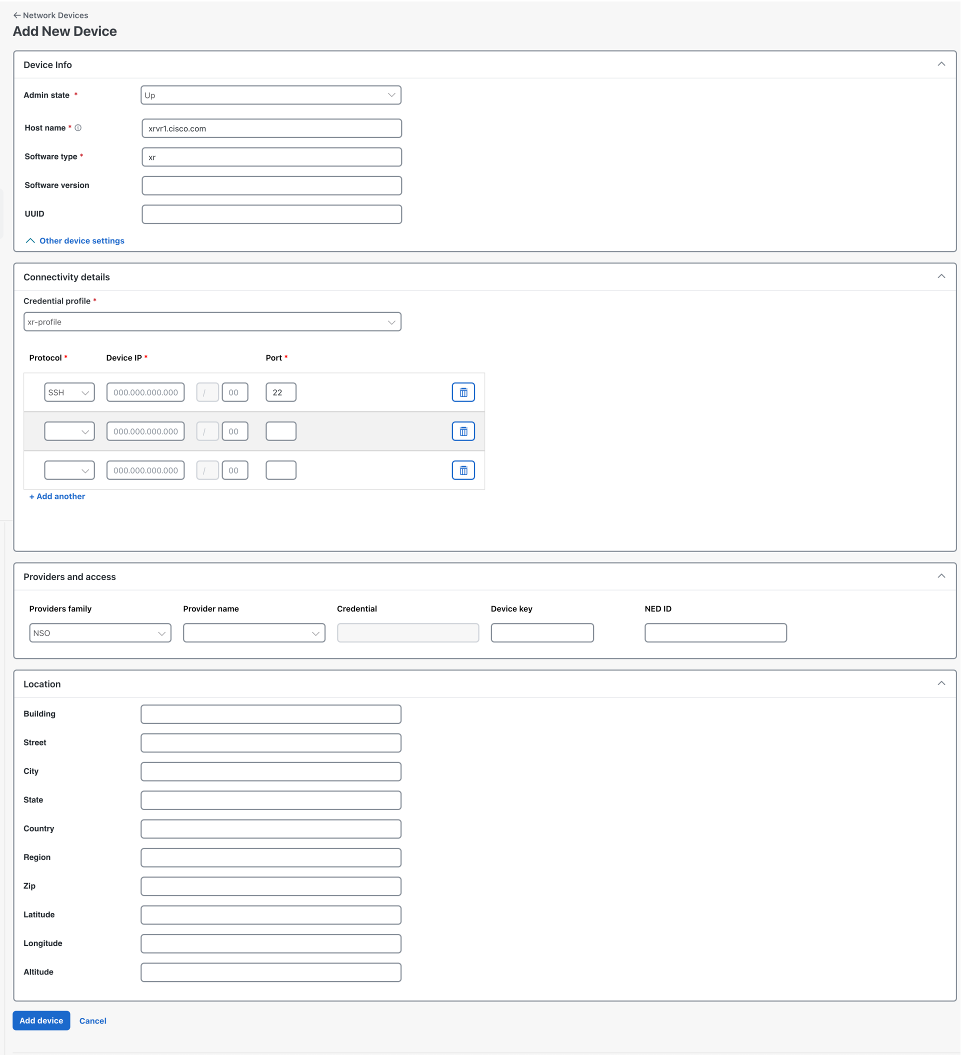
Procedure

Step 1 Log in to Crosswork Workflow Manager and, from the main menu, choose **Device Management** > **Network Devices**.



	IP address	Host name	Admin state	NSO state		Lock status	Last updated time	Product type	Provider type
□	172.22.141.152/24	PE1-152	Up	Synced	ⓘ	Unlocked	09-Mar-2025 04:...	Cisco 8201 R...	NSO
□	172.22.142.94/24	ncs5501-94	Up	Synced	ⓘ	Unlocked	11-Mar-2025 12:4...	Cisco NCS 55...	NSO
□	172.22.142.137/24	r9-asr9-142-...	Up	Synced	ⓘ	Unlocked	14-Mar-2025 03:...	Cisco ASR 10...	NSO
□	172.22.142.134/24	ASR1002-X-1...	Up	Synced	ⓘ	Unlocked	19-Mar-2025 09:...	Cisco ASR 10...	NSO

Step 2 Click the + icon to display the **Add New Device** window.



Add New Device

Device Info

Admin state *	Up
Host name *	xrvr1.cisco.com
Software type *	xr
Software version	
UUID	

Connectivity details

Credential profile *: xr-profile

Protocol *	Device IP *		Port *
SSH	000.000.000.000	/ 00	22
	000.000.000.000	/ 00	
	000.000.000.000	/ 00	

Providers and access

Providers family	Provider name	Credential	Device key	NED ID
NSO				

Location

Building	
Street	
City	
State	
Country	
Region	
Zip	
Latitude	
Longitude	
Altitude	

Step 3 Enter the required values for the new device, as listed in the table below. The **Add device** device button is disabled until all required fields are completed.

Table 1: Add New Device (=Required)*

Field	Description
Device info Provide basic device information.	
Admin state *	The management state of the device. Options are: • **DOWN**—The device is not being managed and is down. • **UP**—The device is being managed and is up.
Host name *	The hostname of the device.
Software type *	Enter the software type of the device (such as `IOS-XE`).

Field	Description
Software version	Software version of the operating system.
UUID	Universally unique identifier (UUID) for the device.
Connectivity details Provide basic connectivity information.	
Credential profile *	The name of the credential profile to be used to access the device for data collection and configuration changes. For example: `nso-51`.
Protocol *	The connectivity protocols used by the device. Choices are: `SSH`, `NETCONF`, and `HTTP`. To add more connectivity protocols for this device, click **+ Add another** at the end of the last row in the **Connectivity Details** panel. To delete a protocol you have entered, click 🗑 shown next to that row in the panel. You can enter as many sets of connectivity details as you want, but only one set for each protocol. You must enter details for at least `SSH` and `HTTP`.
Device IP *	Enter the device's IP address (IPv4 or IPv6) and subnet mask. Please ensure that the subnets chosen for the IP networks (including devices and destinations) do not have overlapping address space (subnets/supernets) as it may result in unpredictable connectivity issues.
*** Port**	The port used for this connectivity protocol. Each protocol is mapped to a port, so be sure to enter the port number that corresponds to the protocol you chose. The standard port assignments for each protocol are: • SSH: 22 • NETCONF: 830 • HTTP: 80
Timeout (sec)	The elapsed time (in seconds) before communication attempts using this protocol will time out. The default value is 30 seconds. For XE devices using NETCONF, the recommended minimum timeout value is 90 seconds. For all other devices and protocols, the recommended minimum timeout value is 60 seconds.
Providers and access Give information about the access provider.	
Providers family	Provider type used for topology computation. Choose a provider from the list (the default is NSO and should be the only option).
Provider name	Provider name used for topology computation. Choose a provider from the list.
Credential	The credential profile used for the provider. This field is read-only and is autopopulated based on the provider you select.
Device key	The host name used for the provider.

Field	Description
NED ID	The ID of the Cisco NSO Network Element Driver (NED) used to manage the device. For example: `cisco-iosxr-cli-7.61`.
Location Provide location information for the device.	
Building	The name or number of the building where the device is located
Street	The street address where the device is located.
City	The name of the city where the device is located.
State	The name of the state, district or province where the device is located.
Country	The name of the nation or country where the device is located.
Region	Where applicable, the name of the geographical region where the device is located.
Zip	The zip or postal code of the device location.
Latitude	The geographical latitude of the device location, entered in Decimal Degrees (DD) format.
Longitude	The geographical longitude of the device location, entered in Decimal Degrees (DD) format.
Altitude	The altitude at which the device is located, in feet or meters. For example, **`123m`**.

Step 4 When you are finished, click **Add device**.

Step 5 (Optional) Repeat steps 3 and 4 to add another device.

What to do next

Follow the steps in Populate the image repository, on page 5.

Populate the image repository

Before you use Fleet Upgrade to standardize, test conformance, and upgrade the images installed on your network devices, you must first populate the local software image repository with the images you need. Follow these steps to populate the repository.

Before you begin

Crosswork Workflow Manager Solutions Fleet Upgrade provides a local software image repository that you can use to set up policies that establish your software-image standards. You can then use the same repository to test whether your devices are in conformance with those standards, and deploy software images and upgrades to your managed devices. You can browse, choose and automatically download SMUs to the local repository directly from Cisco.com, using your Cisco customer login. You can also upload software images to the repository.

Fleet Upgrade image repository downloading is not yet available for Cisco ISO network operating system files, or the network OS files offered by supported third parties. For this reason, Cisco recommends that you download network OS files in advance, so that they are ready for upload to the Fleet Upgrade repository when you follow the steps in this topic.

Note To reduce your internet visibility, you can configure Fleet Upgrade to download SMUs from Cisco.com using a proxy server. For details, see Download software upgrades using a proxy server.

Procedure

Step 1 From the main menu, choose **CWM Solutions** > **Image Repository**. The **Fleet Upgrade** window's **Image repository** tab displays the list of ISOs and SMUs loaded to the local image repository.

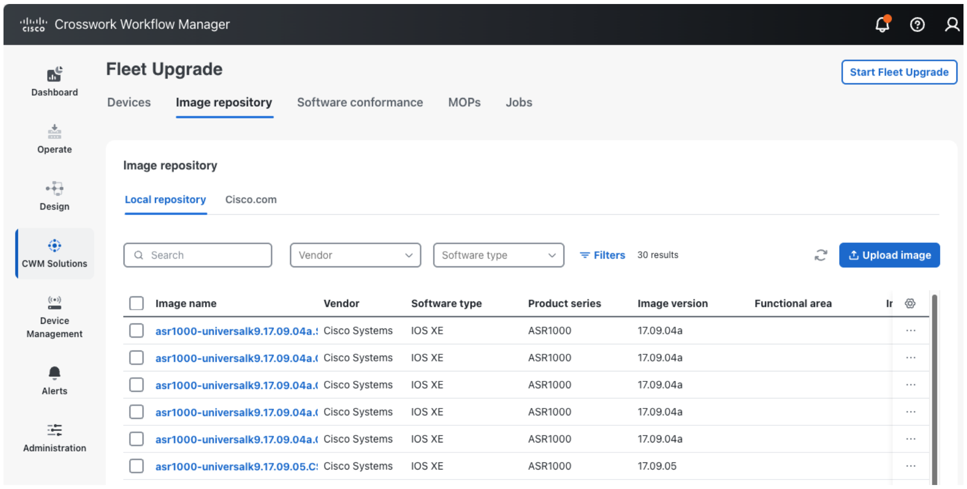


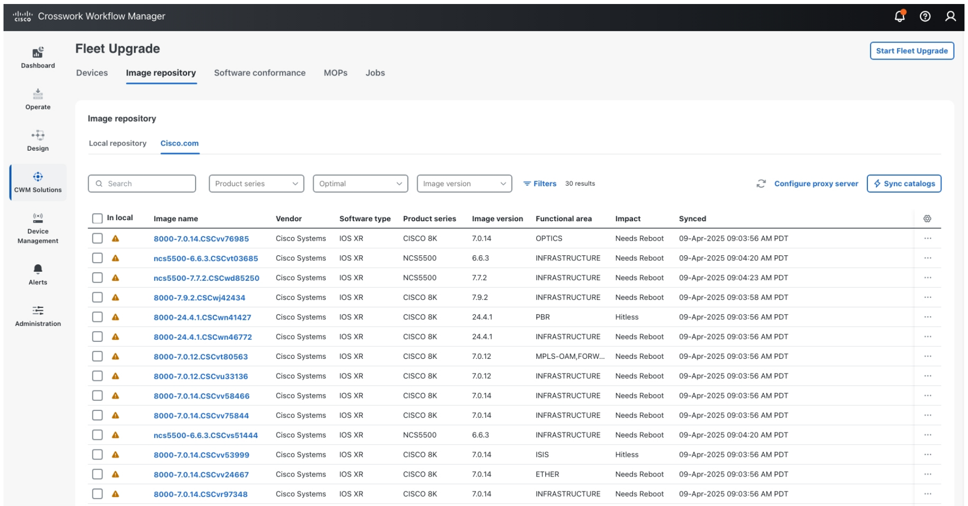
Image name	Vendor	Software type	Product series	Image version	Functional area	Ir
asr1000-universalk9.17.09.04a.	Cisco Systems	IOS XE	ASR1000	17.09.04a		···
asr1000-universalk9.17.09.04a.	Cisco Systems	IOS XE	ASR1000	17.09.04a		···
asr1000-universalk9.17.09.04a.	Cisco Systems	IOS XE	ASR1000	17.09.04a		···
asr1000-universalk9.17.09.04a.	Cisco Systems	IOS XE	ASR1000	17.09.04a		···
asr1000-universalk9.17.09.04a.	Cisco Systems	IOS XE	ASR1000	17.09.04a		···
asr1000-universalk9.17.09.05.C	Cisco Systems	IOS XE	ASR1000	17.09.05		···

Step 2 There are two ways to load images into the local repository:

- If you want to load Cisco SMUs, go to Step 3.
- If you want to load Cisco or third-party network OS software images you have previously downloaded, go to Step 4.

Step 3 To load Cisco SMUs:

a) Click the **Cisco.com** tab. The window's **Image repository** section now displays the catalog of all SMUs available from the Cisco.com software image download site.



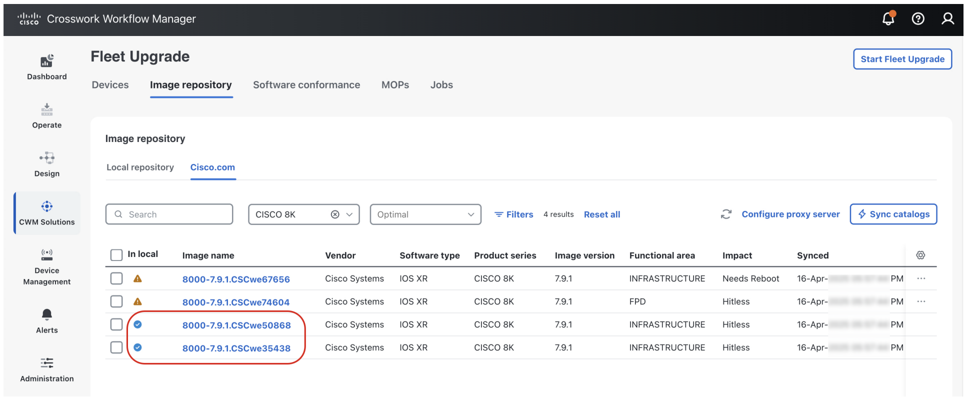
□ In local	Image name	Vendor	Software type	Product series	Image version	Functional area	Impact	Synced	
□ ⚠	8000-7.0.14.CSCvv76985	Cisco Systems	IOS XR	CISCO 8K	7.0.14	OPTICS	Needs Reboot	09-Apr-2025 09:03:56 AM PDT	...
□ ⚠	ncs5500-6.6.3.CSCvt03685	Cisco Systems	IOS XR	NCS5500	6.6.3	INFRASTRUCTURE	Needs Reboot	09-Apr-2025 09:04:20 AM PDT	...
□ ⚠	ncs5500-7.7.2.CSCwd85250	Cisco Systems	IOS XR	NCS5500	7.7.2	INFRASTRUCTURE	Needs Reboot	09-Apr-2025 09:04:23 AM PDT	...
□ ⚠	8000-7.9.2.CSCwj42434	Cisco Systems	IOS XR	CISCO 8K	7.9.2	INFRASTRUCTURE	Needs Reboot	09-Apr-2025 09:03:58 AM PDT	...
□ ⚠	8000-24.4.1.CSCwn41427	Cisco Systems	IOS XR	CISCO 8K	24.4.1	PBR	Hitless	09-Apr-2025 09:03:56 AM PDT	...
□ ⚠	8000-24.4.1.CSCwn46772	Cisco Systems	IOS XR	CISCO 8K	24.4.1	INFRASTRUCTURE	Needs Reboot	09-Apr-2025 09:03:56 AM PDT	...
□ ⚠	8000-7.0.12.CSCvt80563	Cisco Systems	IOS XR	CISCO 8K	7.0.12	MPLS-OAM,FORW...	Needs Reboot	09-Apr-2025 09:03:56 AM PDT	...
□ ⚠	8000-7.0.12.CSCvu33136	Cisco Systems	IOS XR	CISCO 8K	7.0.12	INFRASTRUCTURE	Needs Reboot	09-Apr-2025 09:03:56 AM PDT	...
□ ⚠	8000-7.0.14.CSCvv58466	Cisco Systems	IOS XR	CISCO 8K	7.0.14	INFRASTRUCTURE	Needs Reboot	09-Apr-2025 09:03:56 AM PDT	...
□ ⚠	8000-7.0.14.CSCvv75844	Cisco Systems	IOS XR	CISCO 8K	7.0.14	INFRASTRUCTURE	Needs Reboot	09-Apr-2025 09:03:56 AM PDT	...
□ ⚠	ncs5500-6.6.3.CSCvs51444	Cisco Systems	IOS XR	NCS5500	6.6.3	INFRASTRUCTURE	Needs Reboot	09-Apr-2025 09:04:20 AM PDT	...
□ ⚠	8000-7.0.14.CSCvv53999	Cisco Systems	IOS XR	CISCO 8K	7.0.14	ISIS	Hitless	09-Apr-2025 09:03:56 AM PDT	...
□ ⚠	8000-7.0.14.CSCvv24667	Cisco Systems	IOS XR	CISCO 8K	7.0.14	ETHER	Needs Reboot	09-Apr-2025 09:03:56 AM PDT	...
□ ⚠	8000-7.0.14.CSCvr97348	Cisco Systems	IOS XR	CISCO 8K	7.0.14	INFRASTRUCTURE	Needs Reboot	09-Apr-2025 09:03:56 AM PDT	...

Tip

Cisco releases many new SMUs each quarter. Use the **Filters** button to limit the display to the SMUs of interest to you. If you don't see the ones you want, or the timestamps shown under **Synced** are more than three months old, click **Sync catalogs** to update the list.

b) Choose one or more of the SMUs you want to download by clicking the checkboxes shown next to each SMU image's name in the far left column.

A blue check mark shown next to the SMU image's name under the **In local** column (circled in the image below) indicates that the image is already in the local repository. You need not select it and try to download it again.



□ In local	Image name	Vendor	Software type	Product series	Image version	Functional area	Impact	Synced	
□ ⚠	8000-7.9.1.CSCwe67656	Cisco Systems	IOS XR	CISCO 8K	7.9.1	INFRASTRUCTURE	Needs Reboot	16-Apr-[redacted] PM	...
□ ⚠	8000-7.9.1.CSCwe74604	Cisco Systems	IOS XR	CISCO 8K	7.9.1	FPD	Hitless	16-Apr-[redacted] PM	...
□ ✓	8000-7.9.1.CSCwe50868	Cisco Systems	IOS XR	CISCO 8K	7.9.1	INFRASTRUCTURE	Hitless	16-Apr-[redacted] PM	
□ ✓	8000-7.9.1.CSCwe35438	Cisco Systems	IOS XR	CISCO 8K	7.9.1	INFRASTRUCTURE	Hitless	16-Apr-[redacted] PM	

c) To begin the download, click the **More** icon (**…**) in the far right column in the same row as any of the SMUs you chose.

d) Choose **Download to local**. You will be shown a list of the SMUs you chose and a device activation code. Click **Authenticate to download**, and log in with the activation code. Record the activation code and follow the instructions on your device for the next steps.

Step 4 To load Cisco or third-party network OS software images you have previously downloaded:

a) Click **Upload image**.

b) Complete the fields on the **Upload Image** window as shown in the following table (the **Vendor** and **Image File Name** are required):

In this field...	Enter or choose:
Vendor *	**Cisco** or **Juniper**.
Software Type *	If **Vendor** is Cisco, **IOS XR** or **IOS XE**. If **Vendor** is **Juniper**, **MX 960**.
Product Series *	A supported Product Series for the chosen **Vendor** and **Software Type** (for example, "CAT2000" for Cisco IOS XE).
Functional area (optional)	A description of the OS functional area affected by the upgrade (such as: "ACL" or "Infrastructure").
Impact (optional)	A description of the operational impact of the upgrade installation (such as: "Requires reboot" or "Hitless")
Choose image file *	The path and filename of (or click **Browse** to choose) the software image file to be uploaded

c) When you are finished, click **Upload image**.

What to do next

Follow the steps in Create image policies, on page 8.

Create image policies

Software image policies are a critical part of the Crosswork Workflow Manager Solutions Fleet Upgrade workflow. Whenever you create a software image policy, you choose one or more software image versions stored in your local repository, making them part of that image policy. Choosing them establishes those images as the standards that are supposed to be installed on your devices. As different types of devices run different types of software images, you'll need to establish image policies for each type of device. Whenever you run a Fleet Upgrade conformance report against a particular type of device, you will also need to pick the appropriate image policy for that device type. The Fleet Upgrade workflow will then check the software actually installed on those devices against the standard image established in the policy. If the installed and standard image versions don't match, then the device is non-conformant.

Note that Fleet Upgrade will rate as conformant only those devices that have *all* the chosen target images and image versions in the image policy installed at the time you run the conformance report. If you run a conformance report against a device that does not have one or more of the policy's images or versions installed, the report will rate that device as non-conformant.

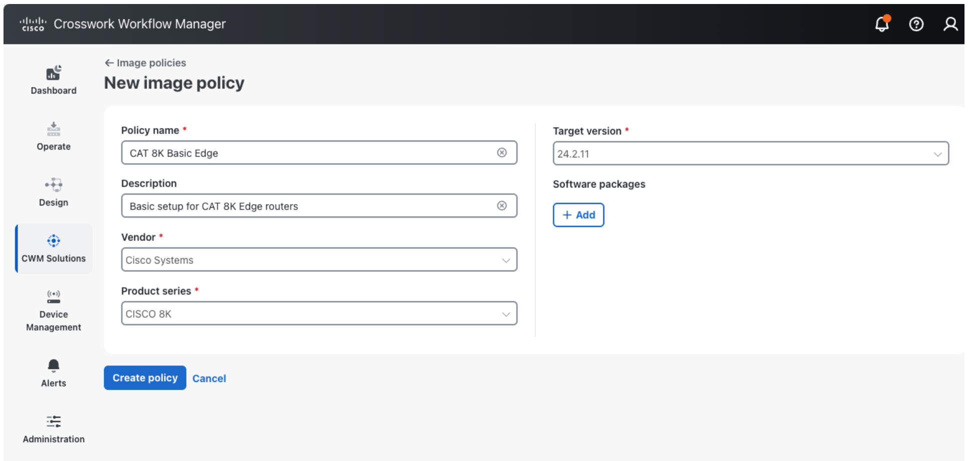
Before you begin

Ensure you have downloaded one or more SMUs and network OS software images to your local Crosswork Workflow Manager Solutions image repository, as explained in Populate the image repository, on page 5.

Procedure

Step 1 From the main menu, choose **CWM Solutions** > **Software conformance** > **Image policies**

Step 2 Click **+ Add image policy** to display the **New image policy** window.



New image policy

Policy name * CAT 8K Basic Edge

Description Basic setup for CAT 8K Edge routers

Vendor * Cisco Systems

Product series * CISCO 8K

Target version * 24.2.11

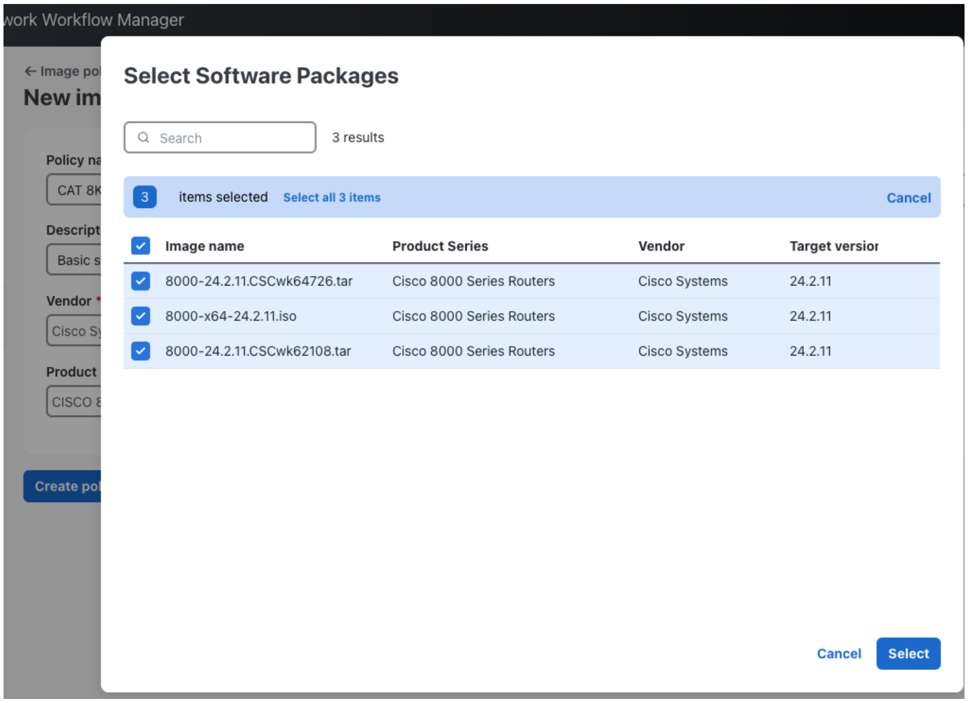
Software packages

Step 3 Complete the first five fields in the **New image policy** window as shown in the following table:

In this field...	Enter or choose...
Policy name	A unique name for the image policy, such as **`ASR1KSMU`**.
Description	An optional description of the policy's purpose, such as **`Standard minimum SMU level for all Cisco ASR 1000 routers`**.
Vendor	The name of the software vendor, such **`Cisco Systems`**.
Product series	The network device product series, such as the **`Cisco ASR1000`**.
Target version	The target version of the product series, such as **17.09.04a** for the Cisco ASR1000 (supported target versions are pre-selected for you based on the target version).

Step 4 In the **Software packages** field, click the **+ Add** button. The **Select Software Packages** window lists all the software images downloaded to your local repository that can be installed on the network device product series you specified.

Step 5 Click the check box next to the **Image name** of each software image you want to make part of this image policy.



Select Software Packages

Search 3 results

3 items selected Select all 3 items Cancel

☑	Image name	Product Series	Vendor	Target versior
☑	8000-24.2.11.CSCwk64726.tar	Cisco 8000 Series Routers	Cisco Systems	24.2.11
☑	8000-x64-24.2.11.iso	Cisco 8000 Series Routers	Cisco Systems	24.2.11
☑	8000-24.2.11.CSCwk62108.tar	Cisco 8000 Series Routers	Cisco Systems	24.2.11

Step 6 When you are finished selecting software images, click **Select**. You can continue revising your entries as needed, or click **+ Add** again to change your software image selections. When you are finished, click **Create policy** to save the new policy.

What to do next

Follow the steps in Run a policy conformance report, on page 10

Run a policy conformance report

Use the policy conformance report to determine when you need to perform a Fleet Upgrade on one or more of your network devices.

You can create Fleet Upgrade conformance reports to check software image conformance for any device type and any combination of software images and versions. The core of the report is the software image policy you choose. The software image policy specifies the standard software images your devices should have installed on them. In addition, you can choose to run Fleet Upgrade conformance reports against devices on demand, at a future date or time you choose, or at regular recurring intervals. Each time the report runs, it will compare the software image installed on the devices with the software images specified in the image policy. The report will identify as "conformant" every device with all the policy's images installed. The report will flag as "non-conformant" any devices missing one or more of the policy images.

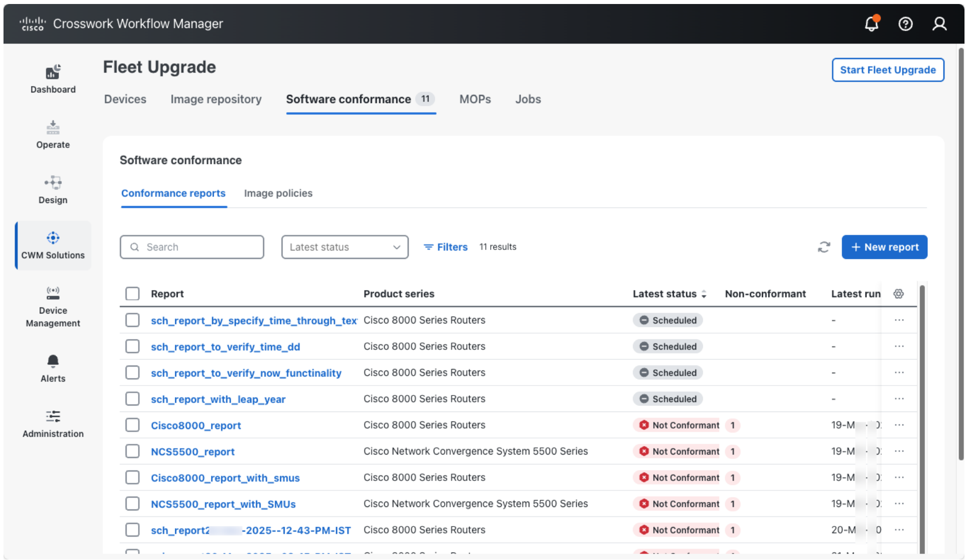
Tip You may find that the image policy that forms the basis of the conformance report you ran is out of date or otherwise incorrect. If that's the case, you can easily edit the policy and then run the report again. To edit an existing image policy, select **CWM Solutions** > **Fleet Upgrade** > **Software Conformance** > **Image policies** to display the list of image policies. Scroll or use **Search** to find the policy you want, then click the **More (…)** menu at the far right in the same row and select **Edit**.

Before you begin

Ensure you have created one or more software image policies, as explained in Create image policies, on page 8.

Procedure

Step 1 From the main menu, select **CWM Solutions** > **Fleet Upgrade** > **Software conformance** > **Conformance reports**. The **Conformance reports** tab displays the status of all completed software conformance reports, as shown in the figure below.



Report	Product series	Latest status	Non-conformant	Latest run
sch_report_by_specify_time_through_tex	Cisco 8000 Series Routers	Scheduled		-
sch_report_to_verify_time_dd	Cisco 8000 Series Routers	Scheduled		-
sch_report_to_verify_now_functinality	Cisco 8000 Series Routers	Scheduled		-
sch_report_with_leap_year	Cisco 8000 Series Routers	Scheduled		-
Cisco8000_report	Cisco 8000 Series Routers	Not Conformant	1	19-M[redacted]
NCS5500_report	Cisco Network Convergence System 5500 Series	Not Conformant	1	19-M[redacted]
Cisco8000_report_with_smus	Cisco 8000 Series Routers	Not Conformant	1	19-M[redacted]
NCS5500_report_with_SMUs	Cisco Network Convergence System 5500 Series	Not Conformant	1	19-M[redacted]
sch_report2[redacted]-2025--12-43-PM-IST	Cisco 8000 Series Routers	Not Conformant	1	20-M[redacted]

Step 2 Click **+ New report**.

Step 3 Complete the first five fields in the **New image policy** window as shown in the following table:

In this field...	Enter or select...
Report name	A unique name for the conformance report, such as **`ASR1KStandard`**.
Select image policy	An optional description of the policy's purpose, such as **`Cisco ASR 1000 edge router SMU status`**.
Current version	The device software version number, such as **`24.2.2`**.

In this field...	Enter or select...
Run schedule	One of the following: • **Run now**. • **Schedule for specific data and time**. If you select this option, you must also specify a **Time** and **Date**. • **Run recurring report**. If you select this option, you must also specify an **Interval** between runs, or the **Days of the week** or **Days of the month** you want the recurring report to run on.

Step 4 When you are finished, click **Create Report** to save the new report. If you selected **Run now**, you will also run the new report.

Clicking **Create Report** will return you to the **Conformance reports** tab, where you can review the status of any report you have already run.

What to do next

If you're still viewing the results of a report and you see non-conforming devices, consider running a Fleet Upgrade using the steps in Run a Fleet Upgrade job, on page 14.

If your conformance report failed, investigate by following the steps in Monitor conformance report results, on page 12.

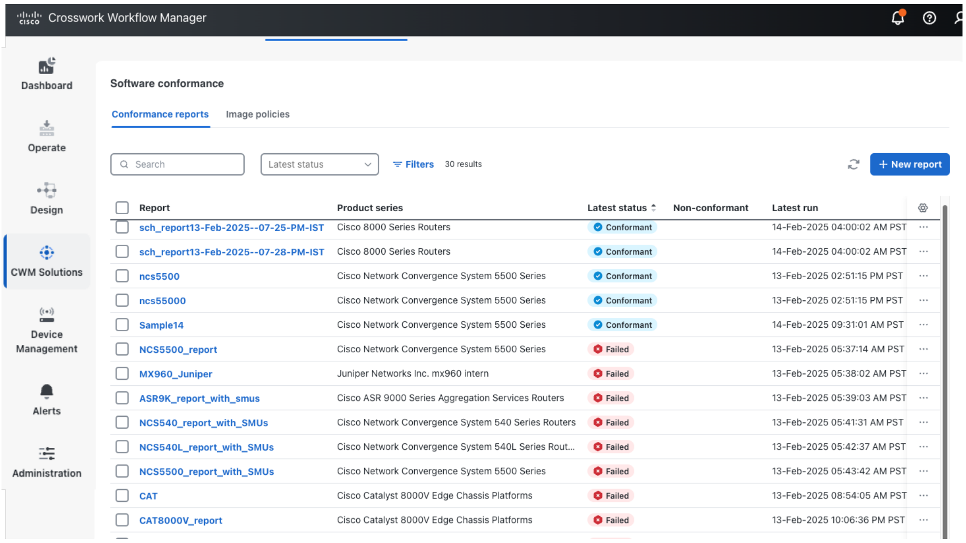
Monitor conformance report results

Use the **Conformance reports** tab to monitor the results of a conformance report, including any failures that occur. The status details for failures will help you diagnose the cause and correct it.

Procedure

Step 1 Choose **CWM Solutions** > **Software Conformance** > **Conformance reports**

Step 2 Click the **Latest status** column header to sort the column alphabetically. Reports with "Conformant" and "Failed" results will be sorted like those shown in the following figure.

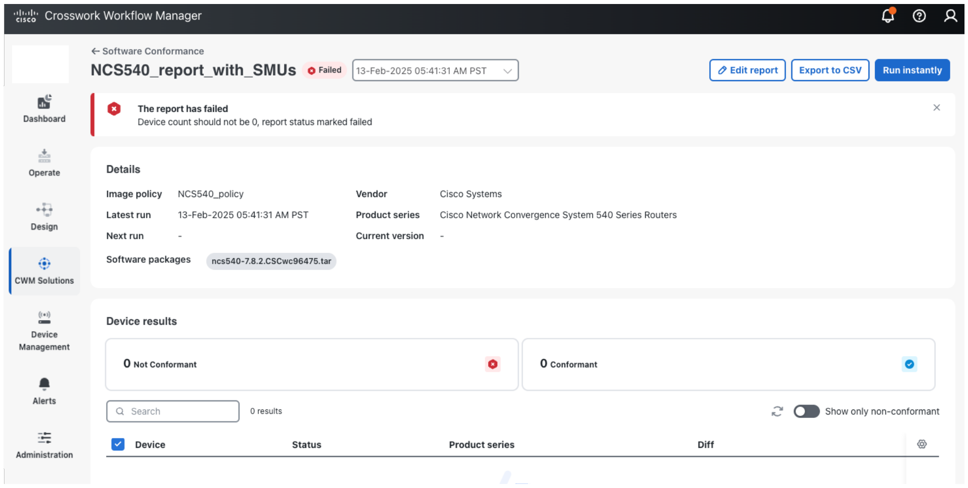


Software conformance

30 results

Report	Product series	Latest status	Non-conformant	Latest run
sch_report13-Feb-2025--07-25-PM-IST	Cisco 8000 Series Routers	Conformant		14-Feb-2025 04:00:02 AM PST
sch_report13-Feb-2025--07-28-PM-IST	Cisco 8000 Series Routers	Conformant		14-Feb-2025 04:00:02 AM PST
ncs5500	Cisco Network Convergence System 5500 Series	Conformant		13-Feb-2025 02:51:15 PM PST
ncs55000	Cisco Network Convergence System 5500 Series	Conformant		13-Feb-2025 02:51:15 PM PST
Sample14	Cisco Network Convergence System 5500 Series	Conformant		14-Feb-2025 09:31:01 AM PST
NCS5500_report	Cisco Network Convergence System 5500 Series	Failed		13-Feb-2025 05:37:14 AM PST
MX960_Juniper	Juniper Networks Inc. mx960 intern	Failed		13-Feb-2025 05:38:02 AM PST
ASR9K_report_with_smus	Cisco ASR 9000 Series Aggregation Services Routers	Failed		13-Feb-2025 05:39:03 AM PST
NCS540_report_with_SMUs	Cisco Network Convergence System 540 Series Routers	Failed		13-Feb-2025 05:41:31 AM PST
NCS540L_report_with_SMUs	Cisco Network Convergence System 540L Series Rout...	Failed		13-Feb-2025 05:42:37 AM PST
NCS5500_report_with_SMUs	Cisco Network Convergence System 5500 Series	Failed		13-Feb-2025 05:43:42 AM PST
CAT	Cisco Catalyst 8000V Edge Chassis Platforms	Failed		13-Feb-2025 08:54:05 AM PST
CAT8000V_report	Cisco Catalyst 8000V Edge Chassis Platforms	Failed		13-Feb-2025 10:06:36 PM PST

Step 3 **For any report that failed**: Click the **Report** name. CWM displays a detail screen like the one shown below, giving the reason for the report failure. In this example, no existing devices were specified, so there was nothing against which to compare the software image policy. You can easily correct this by ensuring that the next run includes devices.



NCS540_report_with_SMUs Failed 13-Feb-2025 05:41:31 AM PST

The report has failed
Device count should not be 0, report status marked failed

Details

Image policy NCS540_policy
Latest run 13-Feb-2025 05:41:31 AM PST
Next run -
Software packages ncs540-7.8.2.CSCwc96475.tar
Vendor Cisco Systems
Product series Cisco Network Convergence System 540 Series Routers
Current version -

Device results

0 Not Conformant
0 Conformant

0 results

Device	Status	Product series	Diff

Tip

For any software conformance report whose details you're viewing:

- Click on the dropdown date field to see details for other runs of the same report.
- Click **Edit report** to change the report settings and re-run or re-schedule it.
- Click **Export to CSV** to save the report as a CSV file in your default downloads directory.
- Click **Run instantly** to re-run the report immediately with the same settings as before.

Step 4 **For any report showing non-conformant devices**: Click the **Report** name. CWM displays a detail screen like the one shown below, listing the non-conformant devices. If needed, click the **Device** name to see details for each non-conforming device. In this example, the first of the three devices was missing both of the required software packages.

Any non-conforming device will also be identified as non-conformant on the **Fleet Upgrade** > **Devices** page.

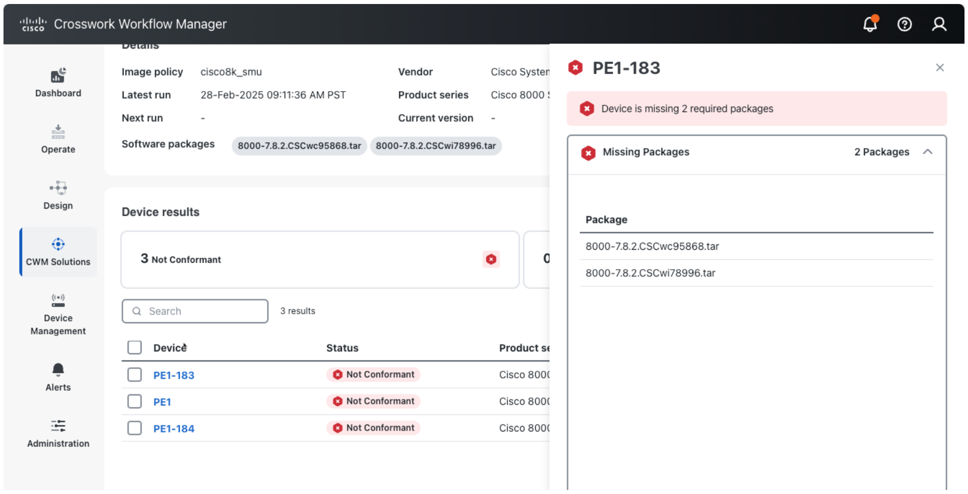


Image policy cisco8k_smu
Latest run 28-Feb-2025 09:11:36 AM PST
Next run -
Software packages 8000-7.8.2.CSCwc95868.tar 8000-7.8.2.CSCwi78996.tar
Vendor Cisco Systen
Product series Cisco 8000 S
Current version -

Device results

3 Not Conformant

Search 3 results

Device	Status	Product se
PE1-183	Not Conformant	Cisco 800(
PE1	Not Conformant	Cisco 800(
PE1-184	Not Conformant	Cisco 800(

PE1-183

Device is missing 2 required packages

Missing Packages 2 Packages

Package
8000-7.8.2.CSCwc95868.tar
8000-7.8.2.CSCwi78996.tar

Run a Fleet Upgrade job

Fleet Upgrade uses Methods Of Procedure (MOPs) to perform automated device upgrades. The term "MOP" as used in Fleet Upgrade refers to a set of pre-programmed actions that are performed in sequenced phases. Each Action in the MOP is selected and (where needed) customized to deliver a complete, successful upgrade for the combination of software image and device for which it is intended. Fleet Upgrade provides default MOPs for the devices and software it supports, as well as facilities for creating custom versions of the default MOPs, and entirely new MOPs with mixtures of default and new Actions. At runtime, you have the opportunity to select which MOP your Fleet Upgrade job will use, as well as customizing other variables (such as the job name and the execution schedule). For more on these topics, see Use the default MOPs and Create custom MOPs.

Before you begin

The easiest way to run a Fleet Upgrade is, first, to run a conformance report, as explained in Run a policy conformance report, on page 10, and then select the non-conforming device and click **Start Fleet Upgrade**. Running the conformance report first not only ensures that the Fleet Upgrade is really needed, it also lets you launch the upgrade automatically.

The steps below assume that you will want to launch a Fleet Upgrade from the **Software conformance** > **Conformance report** window. But you can also launch an upgrade by clicking the **Start Fleet Upgrade** button on any of the other **Fleet Upgrade** windows where it appears: **Devices**, **Image repository** > **Local repository**, **Image repository** > **Cisco.comSoftware conformance** > **Image policies**, **MOPs**, and **Jobs**,

Procedure

Step 1 Choose **CWM Solutions** > **Software conformance** to display the **Conformance reports** list. The list should show a **Report** with one or more devices with a **Latest status** that is **Not Conformant**.

Step 2 Click the selection checkbox shown next to the name of the **Report**. Click **Start Fleet Upgrade**. The **New Software Update** window displays a list of all the devices that were checked for conformance. The non-conformant devices are already selected for you.

Step 3 For each additional device you want Fleet Upgrade to update, click the check box shown next to the device **Host name**. Or click the check box shown next to the **Host name** column title to select all of them.

You can select a maximum of 50 devices to be upgraded in the same Fleet Upgrade job.

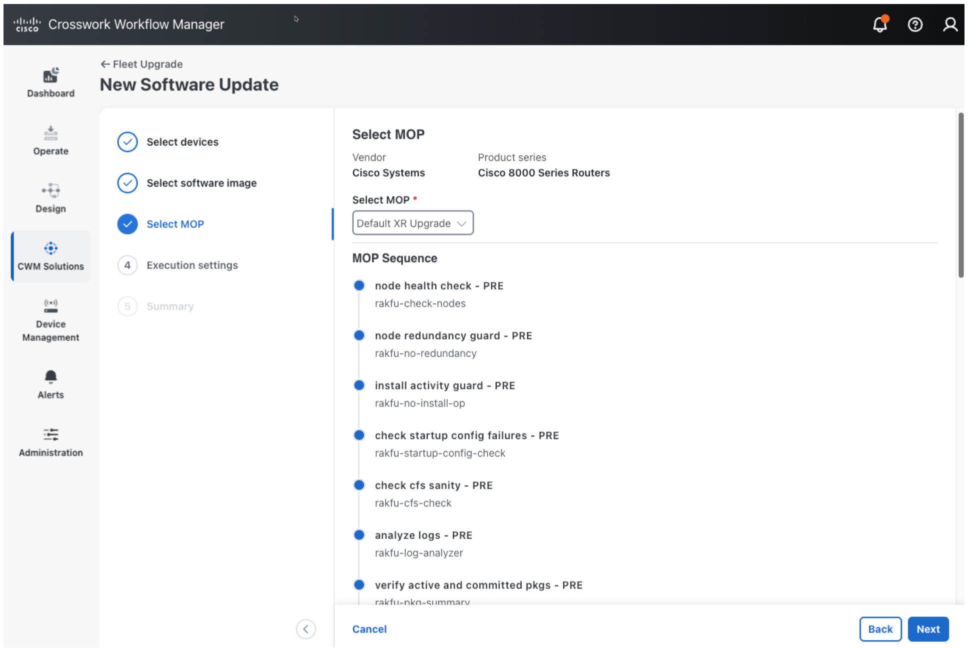
Step 4 Click **Next** to display the **Select software image** window. If the software image policy you used to create the conformance report specified a target version and software packages, the list of software packages to be installed on the devices will be pre-selected for you.

Step 5 If the image policy did not specify packages, or you want to install more packages, click **+Add**, then click the check box shown next to each package's **Image name**. Then click **Select** to display the list of all packages to be installed.

Step 6 Click **Next** to display the **Select MOP** window.

Step 7 Click the **Select MOP** drop down list to select the MOP you want to use to install the chosen software packages on the selected devices.

The drop down list will always display one or more MOPs pre-selected for the type of device series you are trying to upgrade. Unless you have a special purpose in mind, use the pre-defined MOPs supplied with Fleet Upgrade, such as the **Default XR Upgrade** MOP shown in the following figure.



Select MOP

Vendor: Cisco Systems
Product series: Cisco 8000 Series Routers

Select MOP *: Default XR Upgrade

MOP Sequence

- node health check - PRE
  rakfu-check-nodes
- node redundancy guard - PRE
  rakfu-no-redundancy
- install activity guard - PRE
  rakfu-no-install-op
- check startup config failures - PRE
  rakfu-startup-config-check
- check cfs sanity - PRE
  rakfu-cfs-check
- analyze logs - PRE
  rakfu-log-analyzer
- verify active and committed pkgs - PRE
  rakfu-pkg-summary

Step 8 Click **Next** to display the **Execution settings** window.

Step 9 Complete the fields in the **Execution settings** window as shown in the following table:

In this field...	Enter or select...
Job name	A unique name for the job, such as `ASR1KStandard`.
Job tags	An optional, comma-separated list of search tags to help you find the job in the job listing, `ASR1000, ASRUpdates`.

In this field...	Enter or select...
Parallel upgrades	Specify the number of device upgrades to be executed at the same time, in parallel. Defaults to 1. For help with setting this and the **Acceptable failures** value, see Use Parallel Upgrades With Acceptable Failures.
Acceptable failures	Specify the number of installation failures to be allowed before further upgrades are canceled. Defaults to 1.
Execution time	Specify one of the following: • **Run now**. CMW Solutions will begin executing the upgrade as soon as you click **Submit**. • **Schedule for specific data and time**. If you select this option, you must also specify a **Time** and **Date**.

Step 10 Click **Next** to display the **Summary** window.

Step 11 When you are finished, make sure the confirmation checkbox is selected. Then click **Submit** to save the new update job and either schedule or (if you selected **Run now**) run it.

What to do next

Follow the steps in Monitor Fleet Upgrade job results, on page 16.

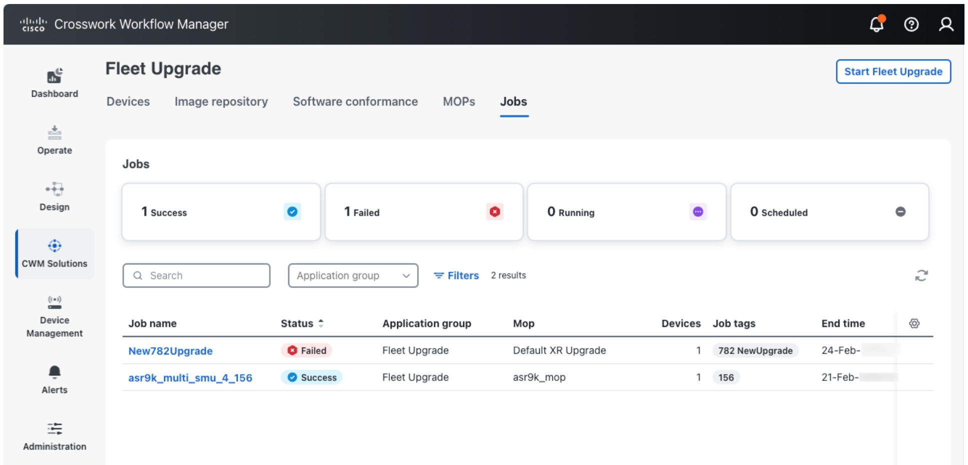
Monitor Fleet Upgrade job results

Use the Fleet Upgrade **Jobs** page to monitor the results of a Fleet Upgrade, including any failures that occur. The status details for failures will help you diagnose the cause and correct it.

Procedure

Step 1 Choose **CWM Solutions** > **Fleet Upgrade** > **Jobs**

Step 2 Click the **Status** column header to sort the column alphabetically. Upgrade jobs will be sorted like those shown in the following figure.



Fleet Upgrade

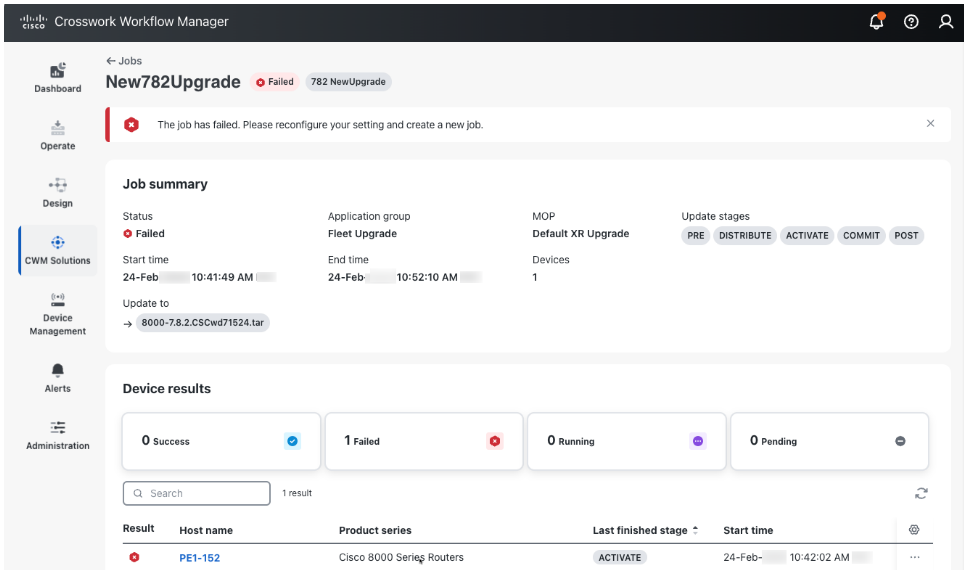
Jobs

1 Success | 1 Failed | 0 Running | 0 Scheduled

2 results

Job name	Status	Application group	Mop	Devices	Job tags	End time
New782Upgrade	Failed	Fleet Upgrade	Default XR Upgrade	1	782 NewUpgrade	24-Feb-[redacted]
asr9k_multi_smu_4_156	Success	Fleet Upgrade	asr9k_mop	1	156	21-Feb-[redacted]

Step 3 Click the **Job name** for a job that failed. CWM displays a **Job Summary** page like the one shown below. Under **Device results**, the page lists the **Host name** of the device where the update failed and the **Last finished stage** where the failure occurred.



New782Upgrade Failed 782 NewUpgrade

The job has failed. Please reconfigure your setting and create a new job.

Job summary

Status: Failed

Application group: Fleet Upgrade

MOP: Default XR Upgrade

Update stages: PRE DISTRIBUTE ACTIVATE COMMIT POST

Start time: 24-Feb[redacted] 10:41:49 AM [redacted]

End time: 24-Feb-[redacted] 10:52:10 AM [redacted]

Devices: 1

Update to: → 8000-7.8.2.CSCwd71524.tar

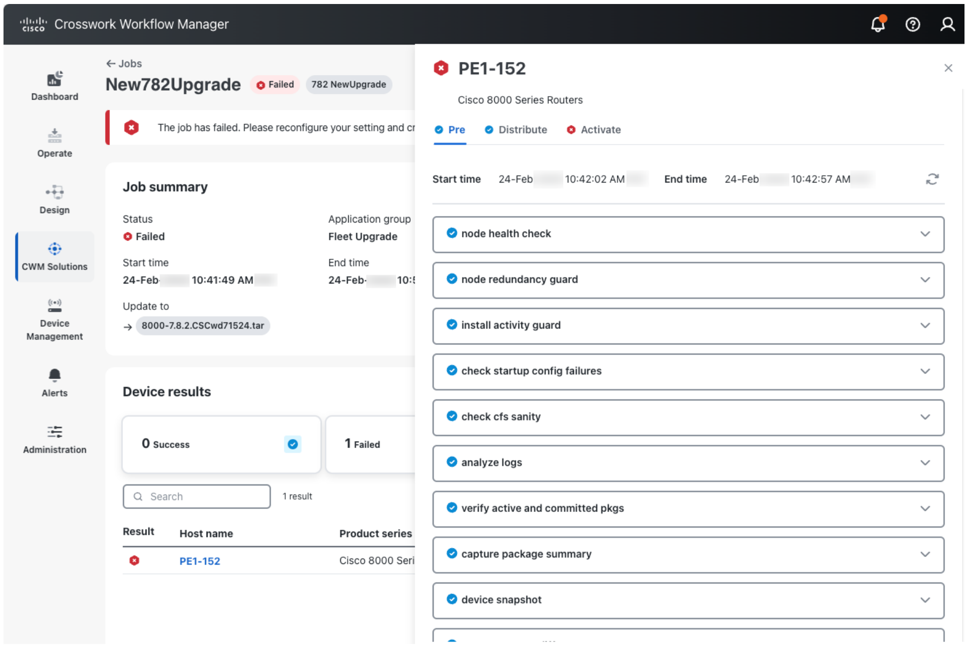
Device results

0 Success | 1 Failed | 0 Running | 0 Pending

1 result

Result	Host name	Product series	Last finished stage	Start time
✖	PE1-152	Cisco 8000 Series Routers	ACTIVATE	24-Feb-[redacted] 10:42:02 AM [redacted]

Step 4 Click the **Host name** to display a pop up screen with tabs representing the stages of the upgrade. As we can see in the example below, all the pre-checks passed.



New782Upgrade Failed 782 NewUpgrade

The job has failed. Please reconfigure your setting and cr

Job summary

Status: Failed

Application group: Fleet Upgrade

Start time: 24-Feb 10:41:49 AM

End time: 24-Feb- 10:

Update to: → 8000-7.8.2.CSCwd71524.tar

Device results

0 Success

1 Failed

Search 1 result

Result	Host name	Product series
✕	PE1-152	Cisco 8000 Seri

PE1-152

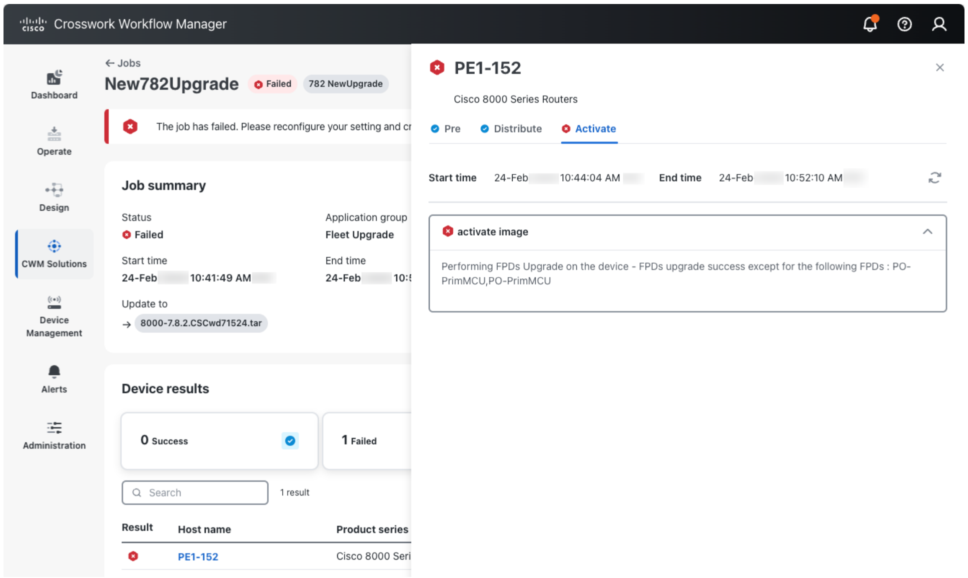
Cisco 8000 Series Routers

Pre | Distribute | Activate

Start time 24-Feb 10:42:02 AM End time 24-Feb 10:42:57 AM

- ✓ node health check
- ✓ node redundancy guard
- ✓ install activity guard
- ✓ check startup config failures
- ✓ check cfs sanity
- ✓ analyze logs
- ✓ verify active and committed pkgs
- ✓ capture package summary
- ✓ device snapshot

Step 5 Click the tab for the stage where the upgrade failed (in this example, **Activate**), and expand the tab as needed to display further detail. In this example, it appears the upgrade could not be activated due to a problem with two of the Field Programmable Devices (FPDs) in this release.



New782Upgrade Failed 782 NewUpgrade

The job has failed. Please reconfigure your setting and cr

Job summary

Status: Failed

Application group: Fleet Upgrade

Start time: 24-Feb 10:41:49 AM

End time: 24-Feb 10:

Update to: → 8000-7.8.2.CSCwd71524.tar

Device results

0 Success

1 Failed

Search 1 result

Result	Host name	Product series
✕	PE1-152	Cisco 8000 Seri

PE1-152

Cisco 8000 Series Routers

Pre | Distribute | Activate

Start time 24-Feb 10:44:04 AM End time 24-Feb 10:52:10 AM

✕ activate image

Performing FPDs Upgrade on the device - FPDs upgrade success except for the following FPDs : PO-PrimMCU,PO-PrimMCU