



Use Cisco ONC

Table 1: Feature History

Feature	Release Information	Description
Network Periodic Full Sync Configuration	Cisco ONC Release 1.1	You can now configure a periodic full sync for all the devices onboarded to Cisco ONC.

This section contains the following topics:

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- [Configure Network Periodic Full Sync, on page 5](#)
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Onboard Devices and Discover Network

A device is added after a REST API call is issued to onboard the device. The Device Manager initiates data collection and this data is collected and translated into TAPI model which is eventually published to Hierarchical Controller.

For more information, see *CONC TAPI Northbound Interface API Guide*.

You can onboard a device using Cisco ONC GUI.

Onboard Devices to Cisco ONC

Devices must be onboarded to Cisco ONC to enable collection of device related information. Cisco ONC supports Cisco NCS 2000 Shelf Virtualization Orchestrator (SVO) Series, Release 12.212.3 devices and Cisco NCS 1010 devices.

Manage Devices on Cisco ONC

Use the following tasks to add, import, edit, delete, resync, or reconnect the devices onboarded to Cisco ONC.

Add Devices on Cisco ONC

Use this task to add the devices onboarded to Cisco ONC.

Before you begin

[Log into Cisco ONC](#)

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- Step 1** Click **Devices** in the left panel.
- Step 2** Click **New**.
- Step 3** Enter the device details necessary connect to the device.

The following fields are mandatory:

- Name
- IP
- Port
- Type
- GRPC Port (only for NCS1010)
- Username
- Password
- Site Name

- Note**
- Ensure that you enter valid a username and password of the device to enable Cisco ONC to connect to the device.
 - If the device type is NCS1010, GRPC Port is a mandatory field. For NCS2000 devices, do not fill this field.
 - NCS 1010 OLT nodes at a multidegree site can share a common site name. All other devices must have unique site names.

- Step 4** Click **Save**.

The new device is onboarded and added to the **Devices** table. Cisco ONC validates the connection with the onboarded device.

The **Name** column includes name, image, device connection status, and an icon indicating the connection status.

- Green—Device is connected.
- Yellow—Device is waiting to be connected.

- Red—Device is disconnected or a resync is needed or device deletion failed.
- Orange—Device deletion in progress.

Import Devices on Cisco ONC

Use this task to import the devices onboarded to Cisco ONC.



Restriction When you import devices into Cisco ONC using an excel file, do not include more than 200 devices in one excel file.

Before you begin

[Log into Cisco ONC](#)

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- Step 1** Click **Devices** in the left panel.
- Step 2** Click **Import Devices**.
- Step 3** Select the spreadsheet which has all the device details and click **Open**.
The new devices are onboarded and added to the **Devices** table.
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Edit Devices on Cisco ONC

Use this task to edit the devices onboarded to Cisco ONC.

Before you begin

[Log into Cisco ONC](#)

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- Step 1** Click **Devices** in the left panel.
- Step 2** Select the target device and click **Edit** or click the device name under the **Name** column.
- Note** You can modify only the username and password fields for the device.
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Delete Devices on Cisco ONC

Use this task to delete the devices onboarded to Cisco ONC.



Restriction Do not delete more than 10 devices in a 5 minute interval.

Before you begin

[Log into Cisco ONC](#)

Step 1 Click **Devices** in the left panel.

Step 2 Select the target device and click **Delete**.

- Note**
- You cannot delete a device if collection is in progress.
 - You cannot delete devices if they have circuits provisioned. Remove the circuits before deleting the devices.

Resync Devices on Cisco ONC

Use this task to resync the devices onboarded to Cisco ONC.

Before you begin

[Log into Cisco ONC](#)

Step 1 Click **Devices** in the left panel.

Step 2 Select the device that you want to resync and click **Resync**.

To resync multiple devices, select the devices and click **Resync**.

To resync all the devices, click **ResyncAll**.

To schedule a periodic resync of all the devices, see [Configure Network Periodic Full Sync, on page 5](#).

- Note**
- If a device is in **Disconnected** status, either **Reconnect** the device or **Resync** the device directly to recover the device connection.
 - The Resync All operation is faster than initial onboarding.
 - The time the Resync All operation takes depends on the number of devices in the network and amount misaligned data detected in the network.

Reconnect a Device on Cisco ONC

Use this task to reconnect the devices onboarded to Cisco ONC.

Before you begin

[Log into Cisco ONC](#)

Step 1 Click **Devices** in the left panel.

Step 2 Click **Reconnect** next to the **Disconnected** status or select the device and click **Reconnect**.

Configure Network Periodic Full Sync

Use this task to schedule a periodic sync for all the devices that are onboarded to Cisco ONC.

Before you begin

[Log into Cisco ONC](#)

Step 1 Click **Configurations** in the left panel.

Step 2 In the **Periodic Network Full Sync** tab, click **Enable**.

Step 3 In the **Scheduled Start Time** field, enter the start time of full network sync in HH:MM:SS format in UTC.

Step 4 In the **Repeat Every** field, enter the interval rate in hours at which full network sync must run. Minimum value is 1 and maximum value is 23.

Step 5 Click **Apply**.

Note To disable the periodic sync for the entire network, click **Disable** and click **Apply**.

Use the Sites Page

This task and the following tasks describe how to use the Sites page on Cisco ONC.

Before you begin

[Log into Cisco ONC](#)

Step 1 Click **Sites** in the left panel.

Cisco ONC displays the Sites page. This page lists the sites of the devices that Cisco ONC manages. The Sites page displays the Site Name, Type, and Operational status of each site.

Note Devices that share a site are grouped in this view.

Step 2 Click the site that you want to view the details of.

Cisco ONC displays the Site details page. By default, Cisco ONC displays the Alarms tab. This tab displays all alarms related to the selected site.

View and Export Alarms

This task describes how to view and export alarms information from the Sites page on Cisco ONC.

Before you begin

[Log into Cisco ONC](#)

- Step 1** Click **Sites** in the left panel.
- Step 2** Click the site that you want to view the details of. Cisco ONC displays the Site details page. By default, Cisco ONC displays the Alarms tab. This tab displays all alarms related to the selected site.
- Step 3** To export the alarm information into an Excel file, click **Export**.
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View and Export Inventory

This task describes how to view inventory details from the Sites page on Cisco ONC.

Before you begin

[Log into Cisco ONC](#)

- Step 1** Click **Sites** in the left panel.
- Step 2** Click the site that you want to view the details of.
- Step 3** Click **Inventory**. Cisco ONC displays the Inventory tab. This tab displays all the inventory at the selected site.
- Step 4** (Optional) To export inventory data into an excel file, click **Export**.
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View Optical Configurations

This task describes how to use the Optical Configurations tab of the Sites page.

Before you begin

[Log into Cisco ONC](#)

- Step 1** Click **Sites** in the left panel.
- Step 2** Click the site that you want to view the details of.
- Step 3** Click **Optical Configurations**. Cisco ONC displays the Optical Configurations tab. The Optical Configurations tab displays Internal Patch Cord (IPC) information.
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Add IPC

This task describes how to add an IPC from the Optical Configurations tab of the Sites page.

Before you begin

[Log into Cisco ONC](#)

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- Step 1** Click **Sites** in the left panel.
 - Step 2** Click the site that you want to view the details of.
 - Step 3** Click **Optical Configurations**.
 - Step 4** Click **Add**.
 - Step 5** Select the source and destination devices and ports from the respective dropdown lists.
 - Step 6** Click **Add**.
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Delete IPC

This task describes how to delete an IPC from the Optical Configurations tab of the Sites page.

Before you begin

[Log into Cisco ONC](#)

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- Step 1** Click **Sites** in the left panel.
 - Step 2** Click the site that you want to view the details of.
 - Step 3** Click **Optical Configurations**.
 - Step 4** Select the target IPC.
You can select multiple IPCs.
 - Step 5** Click **Delete**.
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Verify Connections

This task describes how to perform Connection Verification from the Optical Configurations tab of the Sites page.

Before you begin

- [Log into Cisco ONC](#)
- IPC must be added in Cisco ONC.
- You must have provided a unique 8 or more digit tone pattern while adding an IPC.

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- Step 1** Click **Sites** in the left panel.
- Step 2** Click the site that you want to view the details of.
- Step 3** Click **Optical Configurations**.
- Step 4** Select the target IPC.
You can select multiple IPCs.
- Step 5** Click **Verify Connection**. Accept the warning prompt.
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The CV status columns in the IPC table changes to IN PROGRESS. Once the Connection Verification process is complete, the status changes to SUCCESS or FAILURE.

You can see the reason for a failure by hovering over the failure status. Connection verification may fail for the following reasons:

- Tone ID not configured
- Empty Tone ID
- Empty Expected Tone ID
- Empty Tone Rate
- Empty Tone Info
- Tone ID not matching
- Reverse CV failed
- Forward CV failed
- Empty response received
- Could not Start Tone Generation or Detection
- Could not Stop Tone Generation or Detection
- Couldn't configure tone on given port
- Could not get interface names
- Could not apply src tone config
- Could not apply dst tone config
- Exception while sleeping
- Internal Error
- Could not Start Tone Generation
- Could not Start Tone Detection
- Could not Stop Tone Generation
- Could not Stop Tone Detection

Export Optical Configuration

This task describes how to delete an IPC from the Optical Configurations tab of the Sites page.

Before you begin

[Log into Cisco ONC](#)

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- Step 1** Click **Sites** in the left panel.
- Step 2** Click the site that you want to view the details of.
- Step 3** Click **Optical Configurations**.
- Step 4** To export the IPC information into an Excel file, click **Export**.
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Use Planning Data Import

This task describes how to use Cisco ONC to:

- Import the planning data from Cisco Optical Network Planner.
- Push the configurations on to the devices.

Before you begin

[Log into Cisco ONC](#)

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- Step 1** Hover over the **Import** icon in the left panel and click **Planning Data Import**.
- Step 2** Click **Import**.
- Step 3** Upload the JSON file from Cisco Optical Network Planner.
The Planning Data Import page displays the details of the imported devices. Map the planning data to actual data in the next step.
- Step 4** Click **Edit**.
- a) Select the Actual Site Name and Actual Device Name for each device from the respective drop-down lists.
 - b) Click **Apply changes**.
- Step 5** Select the target devices and click **Bulk Push** to push the configurations from Cisco ONP on to the target devices.
- Note** You can push equipment, internal patchcords, and optical attributes configurations individually or in any combination.
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Use Alien Import

This task describes how to use Cisco ONC to:

- Import the planning data from Cisco Optical Network Planner.
- Push the configurations on to the devices.

Before you begin

[Log into Cisco ONC](#)

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- Step 1** Hover over the **Import** icon in the left panel and click **Alien Import**.
- Step 2** Click **Import**.
Cisco ONC imports and displays the information of all the alien devices from the XML file.
- Step 3** To export the alien device information in JSON or XML formats, click **Export** and choose the target format from the drop-down list.
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Cisco ONC TAPI Northbound Interface

Cisco ONC exposes a standard T-API Northbound Interface (NBI) towards northbound clients. The TAPI NBI supports RESTCONF and NETCONF protocols. An SDN-C client such as Hierarchical Controller can communicate with Cisco ONC TAPI NBI Server (SDN-C) using one these protocols and exchange TAPI model information.

For more information, see *CONC TAPI Northbound Interface API Guide*.