Display Your Network Topology

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About topology

The **Topology** window displays a graphical view of your network. Using the Discovery settings that you have configured, Catalyst Center discovers the devices in your network and assigns a device role to them. Based on the device role assigned during discovery (or manually changed in inventory), Catalyst Center creates a physical topology map with detailed device-level data.

Topology map

Using the topology map, you can do various tasks, including:

- Display the topology of a selected area, site, building, or floor.
- Display detailed device information.
- Display detailed link information.
- Filter devices based on a specific Layer 2 VLAN.
- Filter devices based on a Layer 3 protocol (such as Intermediate System - Intermediate System [IS-IS], Open Shortest Path First [OSPF], Enhanced Interior Gateway Routing Protocol [EIGRP], or static routing).
- Filter devices with Virtual Routing and Forwarding (VRF) capability.
- Pin devices to the topology map.

- Save a topology map layout.
- Open a topology map layout.
- Export screen shots of the complete topology layout in SVG, PDF, and PNG format.

Display the topology of areas, sites, buildings, and floors

You can display the topology of an area, site, building, or floor.

Before you begin

- Make sure that you have devices in your inventory. If not, discover devices using the Discovery feature.
- You must have defined a network hierarchy and provisioned devices to the buildings or floors within it.

Procedure

Step 1 From the main menu, choose **Tools** > **Topology**.

Step 2 From the left hierarchy tree, select the area, site, building, or floor that you are interested in.

Step 3 In the top-right corner, use the toggle button ( ) to switch between the Geographical map view and the Layer 2 map view.

The Geographical map view displays the sites. The nearer sites are grouped together and indicated with the number of sites in the group. The device health is indicated in different colors. Hover over the site to view the detailed device health.

Use the Search field in the top-right corner to find a building in the Geographical map view, and a device in the Layer 2 map view.

Note

- Click the legend icon ( ) in the lower-right corner to open a legend that shows the available shortcut keys for the topology maps.
- Click the **Toggle Annotate** icon to draw annotations in the Layer 2 map. You can click the export icon to export the topology map along with the annotations.

Step 4 Click **Take a Tour** for information about the various options in the **Topology** window.

Filter devices on a topology map

You can filter devices based on one of these attributes:

- VRF
- VLAN

- Routing
- Tagging
- Redundancy

Before you begin

Make sure that you have devices in your inventory. If not, discover devices using the Discovery feature.

Procedure

Step 1 From the main menu, choose **Tools** > **Topology**.

Step 2 Click **Filter**.

Note
If you are not able to view the **Filter**, click a site in the left tree view menu.

Step 3 Do one of these tasks:

- From the **VRF** drop-down list, choose the VRF that you want to view.
- From the **VLAN** drop-down list, choose the VLAN that you want to view.
- From the **Routing** drop-down list, choose the protocol that interests you.
- Click the **Redundancy** radio button, from the PRP drop-down list choose **Show Redbox, LAN A, LAN B** to view Parallel Redundancy Protocol (PRP) status.
- Click **View All Tags** and choose the tags you want to view. The devices associated with the selected tags is highlighted. If you want to create a new tag, do these steps:

a) Click **Create New Tag**.
b) Enter the **Tag Name**.
c) Click **Save**.

You can also associate a device with the tag by doing these steps:

a) Click the device.
b) Click **Tag Device**.
c) Select the tag to which you want to associate the device.
d) Click **Apply**.

Display device information

Catalyst Center allows you to display the device name, IP address, and other information about devices.

Note The device information that is accessible in the **Topology** window is also accessible in the **Device Inventory** window.

Before you begin

Make sure that you have devices in your inventory. If not, discover devices using the Discovery feature.

Procedure

Step 1 From the main menu, choose **Tools** > **Topology**.

Step 2 In the tree view menu, select the area, site, building, or floor that you are interested in.

Step 3 In the topology area, hover your mouse over the device or device group that interests you.

Note
A device group is labeled with the number and types of devices it contains. A blue arrow under a switch indicates that switch has a host. Click the blue arrow to view the host.

Step 4 Click **Display** and enable items to view additional device details. For more information, hover your mouse over the icon next to the items.

- **Device Health**: Displays the health of the devices.
- **Link Health**: Displays the health of the links between the devices.
- **License status**: Displays the license status of the device. Catalyst Center highlights a device if its license is about to expire and a warning icon appear next to it. Click the highlighted device to view its license details.
- **Device IP**: Displays device IP address under device label.
- **Device Suffixes**: Displays full name of the device, with its suffix.

Note
- Topology uses Link Layer Discovery Protocol (LLDP) to determine the neighbor devices when network devices are not configured with Cisco Discovery Protocol (CDP) in Catalyst Center.
- For third-party devices, only the added device icon displays, the links are not detected.

Display link information

Catalyst Center allows you to display information about the links in the topology map. For simple links, the display shows information for the single link. For aggregated links, the display shows a listing of all the underlying links. The information includes the interface name, its speed, and its IP address.

Before you begin

Make sure that you have devices in your inventory. If not, discover devices using the Discovery feature.

Procedure

Step 1 From the main menu, choose **Tools** > **Topology**.

Step 2 In the tree view menu, select the area, site, building, or floor that you are interested in.

Step 3 Hover your cursor over the link that interests you.

Step 4 Click **Display** and enable **Link Health**.

A down link is shown in red. If you want to delete the link, select it and click **Delete**. To bring the link up:

a) Log in to the device.
b) Enable the interface.
c) Resynchronize the device on the Inventory page.

Note
Topology uses Link Layer Discovery Protocol (LLDP) to determine the links for devices that are discovered using LLDP in Catalyst Center.

Pin devices to a topology map

Devices can be grouped or aggregated so that they take up less room on the map. However, at times, you might want to separate a device from its group. You can do this by pinning a device to the map.

Before you begin

Make sure that you have devices in your inventory. If not, discover devices using the Discovery feature.

Procedure

Step 1 From the main menu, choose **Tools** > **Topology**.

Step 2 Do one of these tasks:

- To pin a device, collapse the device group, click the collapsed group, and in the dialog box, click the pin icon to the left of the device name.
- To pin all the devices, collapse the device group, click the collapsed group, and, in the dialog box, click **Pin All**.

Note
Double click the group to unpin the devices in the group.

Assign devices to sites

Devices can be assigned to specific sites using a topology map.

Before you begin

Make sure that you have devices in your inventory. If not, discover devices using the Discovery feature.

Procedure

Step 1 From the main menu, choose **Tools** > **Topology**.

Step 2 Click **Unassigned Devices** in the left pane. All the unassigned devices display in the topology area.

Step 3 Click the device for which you want to assign a site. Device details display in a pop-up window. In the **Assign devices to:** section, click the **choose the location** drop-down list to select a location.

Step 4 (Optional) To assign the site only for the selected device and not for the connected (downstream) devices, uncheck the **Auto-assign unclaimed downstream devices** check box.

Step 5 Click **Assign**.

Save a topology map layout

Catalyst Center has a Cisco-recommended topology layout that displays by default when you open the topology tool. You can customize multiple layouts and save them to view later. You can also set one of the layouts as the default to be displayed when you open the topology map.

Before you begin

Make sure that you have devices in your inventory. If not, discover devices using the Discovery feature.

Procedure

Step 1 From the main menu, choose **Tools** > **Topology**.

Step 2 Click **Custom View**.

Step 3 In the **Enter Focus Title** field, enter a name for your customized map.

Step 4 Click **Save**.

Step 5 (Optional) To set your customized map as the default, click **Custom View**, hover over the name of the custom map, and click ***** (default focus).

Open a topology map layout

You can open previously saved topology maps.

Before you begin

You should have saved topology map layouts.

Procedure

Step 1 From the main menu, choose **Tools** > **Topology**.
Step 2 Click **Custom View**.
Step 3 Click the name of the map that you want to display.

Share a topology map layout

You can share a customized map with other users.

Before you begin

- You must have topology map layouts saved.
- You must have at least one topology view saved.

Procedure

Step 1 From the main menu, choose **Tools** > **Topology**.
Step 2 Click **Custom View**.
Step 3 Hover the cursor over the name of the custom map and click the **Share Focus** icon.
Step 4 In the confirmation window, click **Yes**.

Export the topology layout

You can export a snapshot of the full topology layout (up to a maximum of 16,384 pixels). The snapshot is downloaded as an SVG, PDF, or PNG file to your local machine.

Before you begin

Make sure that you have devices in your inventory. If not, discover devices using the Discovery feature.

Procedure

Step 1 From the main menu, choose **Tools** > **Topology**.
Step 2 Click (this icon represents **Export Topology**).

Step 3 Select a file format and click **Export**.