Using Network Topology Maps

Cisco Prime Infrastructure provides a visual map that allows you to view the physical network topology, including the network devices and the links that connect them. The topology maps have indicators that show the current alarm status of network devices and links. By using the network topology maps, you can easily monitor your network by viewing alarms and viewing the interconnection between the devices.

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Information Displayed in Topology Maps

Prime Infrastructure topology maps are based on Location and User Defined groups. (See Types of Groups for more information.) Topology maps show the devices in the group as well as any links between the devices.

The links between devices are discovered using the Cisco Discovery Protocol (CDP). If Prime Infrastructure is unable to discover some links, for example, if CDP is disabled on an interface, you can manually add the link to the topology map, and the associate the link with a specific interface on the appropriate managed device.

You can also add “unmanaged devices” or “unmanaged network” icons to a topology map and add links between these unmanaged objects and managed devices in the topology map. See Adding Unmanaged Devices and Links to Topology Maps.

You can add autonomous APs to Prime Infrastructure topology maps, but you cannot add not add Unified APs.
Before Using Topology Maps

Before you create or view topology maps:

1. Make sure your devices were successfully added to Prime Infrastructure as explained in Validating That Devices Were Added Successfully.
2. Create device groups. See Types of Groups. Any devices that you do not assign to a group will appear under the Unassigned device group.

Note
If you attempt to view a map with more than 500 devices, a warning appears asking if you want to continue and that it might take longer to display the map.

Understanding Topology Map Functions and Icons

From the Device Group selector on the left, expand the Location or User Defined group and click on a group. By default, the Location > All Locations > Unassigned group contains all network devices that you have not assigned to any other location group.

When you select a network device group, the topology map for the devices contained in that group is displayed, including any discovered links connecting the devices. Links to devices outside the map are not displayed. See Navigating in Topology Maps for more information.

The following options at the of the topology pane provide additional features:

- **Overview**—Displays an overview window in lower right corner of the topology window, which shows the full map and, if you have zoomed in on the map, the currently viewable portion of the map.

- **Search**—To find a specific device in your network topology, enter a device hostname or IP address, or substring, for the device in the topology Search field. If a device was moved from its initial deployed location but is still on the network, you can use the network topology search to locate the device.

- **Layout**—Choose a layout option or specify one of these options:
  - **Incremental Layout**—Choose this option when creating a manual or custom layout to re-render links and clean up overlaps before saving it as a Manual Layout.
  - **Save Manual Layout**—Choose this option to save the selected layout for the map.
  - **Load Manual Layout**—Choose this option to load a previously saved layout for this map.

- **Create Element**—You can create an unmanaged device (represented by a generic icon) or an unmanaged network (represented by a cloud icon). You can also create links between objects.

Tip
To show the interface and link status for a created link, click on the created link that connects one more managed devices, then click **Edit Interface Assignment** to assign the link to the appropriate interface on the managed device.
Navigating in Topology Maps

In a topology map, icons represent network devices or groups of devices. You can click on the icon for a group to bring up the information summary, which shows the group name and alarm summary. You can view the contents of a group in two ways:

- Click on a device group icon, then in the summary panel that appears, click **Drill Down Group**.
- From the Device Group navigation pane, find the group in the hierarchy and click on the group name.

In addition to the summary information, you can also click on a device or group icon, or a link to get additional tools, such as the device 360° view.

Topology Map Icons

In topology maps, device icons reflect the device alarm state and correspond to the most severe alarm currently active for the device, which can be minor, major, or critical. Similarly, group icons indicate whether any devices within the group have active alarms.

Click on a device or group icon, or a link to display summary information and additional tools, such as the Device 360° View.

Icons on the topology maps display network fault information:

- If a device is currently down or unreachable, the device icon is gray.
- If a device has an alarm associated with it, an alarm badge is displayed on the device icon on the topology map. The color of the alarm badge corresponds with the alarm severity—minor (yellow), major (orange), or critical (red)—and matches the alarms displayed in the Alarm Browser.
- A link down alarm generates an alarm badge on a connector or associated link in the topology map. After the link up alarm is received, the connector and link alarms and corresponding badges are cleared.
- The alarm badges on group icons represent the most severe alarm currently active for any object in the group.

Adding Unmanaged Devices and Links to Topology Maps

You can add unmanaged devices and links to your topology maps in order to get a complete view of the network. For example, you can add an “unmanaged device” icon to your topology map to represent a network device that is not managed by Prime Infrastructure but is connected to a managed device, and then manually draw the link in your network topology. You can then assign the manually created link to a specific interface on the managed device so you can see the interface alarm status in the topology map.

Viewing Fault Information for Devices and Links

You can use the network topology maps to see the device and link faults in your network. Viewing the physical topology helps you understand the potential impact of the fault on the rest of the network and helps you troubleshoot and fix the issues. Network topology maps also help you see the interconnection between network devices and view details about the interconnections, such as link speed and link types.

See **Topology Map Icons** for more information about the alarm information that is provided by the icons.
### Using Device 360° to View a Device’s Network Topology

The Device 360° view allows you to view the local, or *N-hop*, topology for a device in order to picture where in the network the device is located and to view its context within the overall network. This can be helpful if you are viewing the Alarm Browser and want to see more information about a specific device associated with an alarm. By launching the Device 360° view, you can see the local topology for that selected device.

**Step 1** From the Device 360° view, click the **Topology** icon.

By default, Prime Infrastructure displays all devices within two hops of the device and the alarm status of all displayed devices and links.

**Step 2** To modify the hop count, click the **Edit** icon and select a new value from the Hops pulldown menu.

### Creating a Topology Dashlet

You can add a topology dashlet to the Overview dashboard to make it easier to view your physical network.

**Step 1** Choose **Dashboards**, then select the dashboard to which you want to add the topology dashlet.

**Step 2** Click the Settings icon (see **Figure 7-3**), then choose **Add Dashlet(s)**.

**Step 3** Click **Add** next to the Network Topology dashlet. You can drag and drop the topology dashlet to the desired location in the dashboard.

**Step 4** Edit the dashlet to enter a title and select the device group for which you want to display its topology.