

Topology

UI Navigation - Click **Topology**.

The **Topology** window displays color-encoded nodes and links that correspond to various network elements, including switches, links, fabric extenders, port-channel configurations, virtual port-channels, and more. Use this window to perform the following tasks:

- To view more information about each of these elements, hover your cursor over the corresponding element.
- To view your navigation in the topology, view the breadcrumb at the top.
- When you click the device or the element, a slide-in pane appears from the right that displays more information about the device or the element. To view more information in the topology, double-click a node to open the node topology. For example, to view the fabric topology and its components in the **Topology** window, double-click the fabric node and then double-click an element that you want to view such as a host, a multicast group or a multicast flow, as applicable to the fabric type, and view the respective topology.
- If you want to view the fabric summary for the fabrics, click the fabric node. From the **Fabric Summary** slide-in pane, open the **Fabric Overview** window. Alternatively, you can right-click a fabric and choose **Detailed View** to open the **Fabric Overview** window. For more information about fabric overview window, see Fabric Overview.
- Similarly, you can click on a switch to display the configured switch name, IP address, switch model, and other summary information such as status, serial number, health, last-polled CPU utilization, and last-polled memory utilization in the **Switch** slide-in pane. To view more information, click the **Launch** icon to open the **Switch Overview** window. For more information about switch overview window, see Switch Overview.

  SAN switches have only two roles, Core Router and Edge Router.
- Choose an action from the **Actions** drop-down list to perform various actions based on the element you select in the topology.
- To perform actions on the elements in the topology, other than the ones listed in the actions drop-down list, right-click the element. This opens the appropriate windows and allows you to perform tasks based on the elements. For example, if you right-click a fabric, you can perform tasks such as various configurations, delete the fabric, backup and restore, and many more.

This section contains the following:

- Searching Topology, on page 2

• Viewing Topology, on page 2

Searching Topology

Use a combination of search attributes and search criteria in the search bar for an effective search. As you enter a combination of search attribute and search criteria in the search bar, the corresponding devices are highlighted in the topology.

You can apply the search criteria such as equals (**=**), does not equal (**!=**), contains (**contains**), and does not contain (**!contains**).

The search attribute that you can use for SAN fabric is fabric name.

When a device is displayed on the topology, double-click it to navigate further into the topology. For example, when the fabric that you searched is displayed on the topology, double-click on the fabric (cloud icon) to navigate inside its topology. Furthermore, after the fabric is displayed on the topology, you can continue to search based on a combination of a criteria and various search attributes such as switch name, IP address, model, serial, software version, and up time.



Note Certain levels of the topology allow filters only, that is, filters take the place of Search. The topology listing for these levels display a limited number of entities.

Viewing Topology

To pan, click and hold anywhere in the whitespace and drag the cursor up, down, left, or right. To drag switches, click, hold, and move the cursor around the whitespace region of the topology.

In case of multiple selection of switch, you must release the modifier keys (cmd/ctrl) before releasing mouse drag to end the switch selection.

You can view the following information of the devices and links in the **View** pane:

- Layout options - You can zoom in, zoom out, or adjust the layout to fit the screen. You can also refresh the topology or save any changes to the topology. For more information, see Zooming, Panning, and Dragging, on page 4.
- Select Layout drop-down list - Choose the layout for your topology from this drop-down list, and click **Save Topology Layout** in the layout options. For more information, see Layouts, on page 5.
- Status - The status of every device or link is represented by different colors. You can view the configurational status and operational status as well for LAN topologies. For more information, see Status, on page 5.

Topology for a node is displayed at multiple scope. Each scope is shown in the hierarchical order. The scope hierarchy is shown as breadcrumbs and can be navigated to required scope. Scopes are as follows:

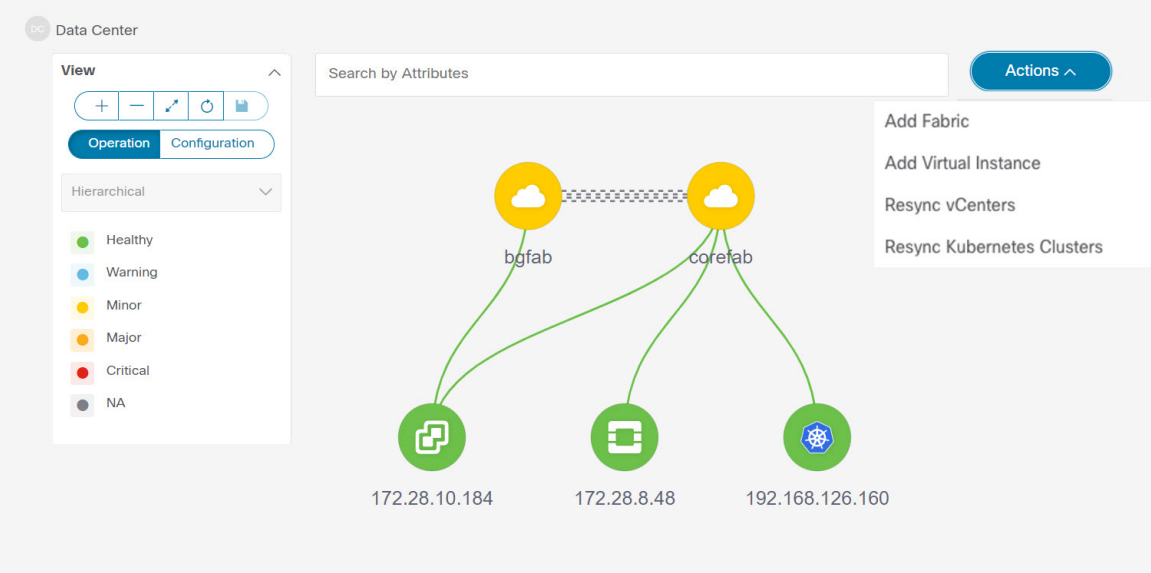
- Data Center
- Cluster (vCenter)
- Resource List (DVS, Compute, and VM)

- Resource

Note

- In the **Topology** window, FEX appears in gray (**Unknown** or **NA**) because Operation and Configuration status is not calculated for FEX.
- After moving a cable from one port to another port, the old fabric link is retained in the **Topology** window, and it is shown in the red color indicating that the link is down. Right-click on the link and delete it if the removal was intentional. A manual Rediscover of the switch will also delete and re-learn all links to that switch.

When a Multi-Site Domain (MSD) fabric is deployed with the child fabrics, to view multi-site topology, double-click on a fabric node, and then choose MSD scope or double click on the gray MSD node to view the MSD topology.



Viewing Elements in SAN Topology

UI Navigation - Click **Topology**.

This section provides information about various elements or entities displayed in the **Topology** window for SAN fabrics.

VSAN

In the **Topology** window, double-click on the fabric to view the fabric topology. A SAN fabric contains VSAN node and switches. The VSAN node has a number displayed in brackets, which indicates the number of VSANs in the fabric. Double-click on the VSAN node to view the individual VSANs in the VSAN node topology.

The VSAN topology displays zones and switches connected to the VSAN. Double-click on a VSAN to open the VSAN topology and view the zones and switches. However, the switches must have the VSAN configured and have links with VSAN membership.

Zone

Double-click on the VSAN node, VSAN zone is displayed. The switches in that VSAN and a Zones node show the number of zones. Double click on that zones node, which displays individual zone nodes. Double click on zone node display switches in that zone and its connectivity (ISL) with end devices that are a member of the selected zone.

Hosts and Storage

The zone topology displays hosts and storage devices pertaining to the zone and connected to a switch. In the **Topology** window, double-click on a zone to view hosts and storage devices.

Alternatively, to view the switch topology, you can directly click on a switch in the fabric topology. The switch topology displays the hosts and storage devices connected to the switch.

Hosts

Click on the host device to view more information about the host in the slide-in pane. From the slide-in pane, you can open the host dashboard. Alternatively, you can right-click on the host device and click **Detailed View** to open the host dashboard.

Storage

Click on the storage device to view more information about storage in the slide-in pane. From the slide-in pane, you can open the storage dashboard. Alternatively, you can right-click on the storage device and click **Detailed View** to open the storage dashboard.

Links

In the switch topology, click on the link that connects two devices, for example, the switch and the storage to open the **Link** slide-in pane. This pane displays the details related to the last polling of the performance data. However, you must have configured performance monitoring for the fabric in **Performance Data Collection Settings**. This allows the Nexus Dashboard Fabric Controller to collect the traffic information and the aggregated information is displayed along with a graph showing traffic utilization. The Nexus Dashboard Fabric Controller updates the last poll metric every 5 minutes for all the ports, links, and so on for all the switches in the fabric. If the date and time displayed in this pane is current, then the last poll metric details are up to date. The details provided in this slide-in pane are as follows:

- General information such as link capacity, VSAN, and status.
- Information about the traffic for the last 24 hours with details such as average, maximum, and minimum Rx and Tx in Bytes.
- The last poll metrics such as Time, Rx, and Tx can be viewed in a graph on the **Graph** tab and in a table format on the **Table** tab. Note that the table is paginated.

Zooming, Panning, and Dragging

You can zoom in and zoom out using the controls that are provided at the bottom left of the windows or by using your mouse's wheel.

To pan, click and hold anywhere in the whitespace and drag the cursor up, down, left, or right.

To drag switches, click, hold, and move the cursor around the whitespace region of the topology.

Layouts

The topology supports different layouts along with a **Save Layout** option that remembers how you positioned your topology.

- **Hierarchical** and **Hierarchical Left-Right** - Provide an architectural view of your topology. Various switch roles can be defined that will draw the nodes on how you configure your CLOS topology.



Note When running a large-scale setup, being able to easily view all your switches on a leaf-tier can become difficult. To mitigate this, Nexus Dashboard Fabric Controller splits your leaf-tier every 16 switches.

- **Circular** and **Tiered-Circular** - Draw nodes in a circular or concentric circular pattern.
- **Random** - Nodes are placed randomly on the window. Nexus Dashboard Fabric Controller tries to make a guess and intelligently place nodes that belong together in close proximity.
- **Custom saved layout** - Nodes can be dragged around according to your preference. After you position as required, click **Save** to retain the positions. The next time you come to the topology, Nexus Dashboard Fabric Controller will draw the nodes based on your last saved layout positions.

Before a layout is chosen, Nexus Dashboard Fabric Controller checks if a custom layout is applied. If a custom layout is applied, Nexus Dashboard Fabric Controller uses it. If a custom layout is not applied, Nexus Dashboard Fabric Controller checks if switches exist at different tiers, and chooses the Hierarchical layout or the Hierarchical Left-Right layout. Force-directed layout is chosen if all the other layouts fail.

Status

The color coding of each node and link corresponds to its state. The operational colors and what they indicate are described in the following list:

- Green - Indicates that the element is in good health and functioning as intended.
- Blue - Indicates that the element is in a warning state and requires attention to prevent any further problems.
- Yellow - Indicates that the element has minor issues.
- Orange - Indicates that the element has major issues and requires attention to prevent any further problems.
- Red - Indicates that the element is in critical state and requires immediate attention.
- Gray: Indicates lack of information to identify the element or the element has been discovered.

The configurational colors and what they indicate are described in the following list:

- Green - Indicates that the element is element is In-Sync with the intended configuration.
- Blue - Indicates that the element has pending deployments.

- Yellow - Indicates that active deployments are in-progress.
- Red - Indicates that the element is Out-of-Sync with the intended configuration.
- Gray: Indicates lack of information or no support for Configuration Sync calculation.



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