



Integrating Cisco Nexus Data Broker With Cisco ACI

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Viewing the SPAN Management Tab

The **SPAN Management** tab is displayed on the **Devices** screen under the **Administration** tab in the GUI. On the **SPAN Management** tab, click **+ Add Device**. The **Connect to Device** window is displayed. Complete the following steps to connect to the device:

Before You Begin

For APIC and production switches, the centralized deployment of Cisco Nexus Data Broker is mandatory.

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- Step 1** Choose **ACI** device to add an APIC device.
 - Step 2** In the **APIC IP Addresses** panel, add the **APIC IP Address (Primary)**, **APIC IP address (Secondary)**, and **APIC IP address (Tertiary)**.
 - Step 3** In the **User Details** panel, add **Username** and **Password**.
 - Step 4** After an ACI device has been added, the ACI radio button is disabled. Then you can add a NXOS production switch. Click **NXOS** in the first step to add a NXOS production switch. The NX-API feature has to be enabled for the NXOS production switch to be added. To add a NXOS production switch in the **SPAN Management** tab, one NX-API device should already exist. This is a pre-requisite.
 - Step 5** Click **Connect**.
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The NXOS production switch is displayed with the **Type** as **PS** in the **SPAN Management** tab. The **APIC IP Address (Primary)**, **APIC IP address (Secondary)**, and **APIC IP address (Tertiary)** do not apply to the NXOS production switch. Therefore, those fields are blank. You can also edit the credentials of the NXOS production switch. Once the production switch is added, it is displayed in the Configuration tab in green. In the Port Configuration window, you can configure SPAN Destination in the production Nexus switches that are NX-API enabled.

Viewing the SPAN Destination Tab

When you click **Port Definition** tab in the GUI, the **Port Definition** screen is displayed. Select the switch from the drop-down list to configure the ports.

On the **Port Definition** screen, the following two tabs are displayed:

- Port Configuration
- SPAN Destination

On the **SPAN Destination** tab, the following details are displayed:

- SPAN Destination Name
- SPAN Destinations
- Node Connector
- Monitor Port Type
- Description

Adding SPAN Destination

When you configure a port as an edge SPAN port and the port is connected to the API side, you can select the pod, node, and port from the ACI side and set the port as SPAN destination. SPAN destination can now be configured on the Cisco Nexus 9000 or Cisco Nexus 3000 Series production switches.

**Note**

For APIC SPAN destination, when you configure a port as an Edge SPAN port and the port is connected to the API side, you can select the pod, the node, and the port from the ACI side and set the port as SPAN destination. For production switch SPAN destination, when you configure a port as an Edge SPAN port and the port is connected to the production switch side, you can select the node and the port from the production switch side and set the port as SPAN destination.

You can add SPAN destination only after either an APIC or the production switch has been successfully added to the network.

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- Step 1** Select the switch for which you want to configure the port details on the **Port Configuration** screen.
- Step 2** Click **Configure** under **Action**.
The **Configure Ports** window is displayed.
- Step 3** In the **Configure Ports** window, configure the port type from the **Select a port type** drop-down list by selecting one of the following options:
- **Add Monitoring Device**
 - **Edge Port-SPAN**
 - **Edge Port-TAP**
 - **Production Port**
- Monitoring Device**—Creates a monitoring device for capturing traffic and configures the corresponding delivery port.
- Edge Port-SPAN**—Creates an edge port for incoming traffic connected to an upstream switch that is configured as a SPAN destination.
- Edge Port-TAP**—Creates an edge port for incoming traffic connected to a physical TAP port.
- Production Port**—Creates a production port for the ingress and egress traffic.
- When you select the port type, the title of the window changes to **Manage Configure Ports**.
- Step 4** In **Manage Configure Ports** window, the details of the selected node are displayed.
- Step 5** In the **Destination** panel, if the APIC device is added, it is listed in the drop-down list. Select the **Node Type** as **APIC** from the drop-down list.
The **SPAN Destination** and **Copy Device** tabs are displayed.
- Step 6** When you click the **SPAN Destination** tab, the **Select SPAN Destination** window is displayed. It contains the following fields: **Select Pod**, **Select Node**, **Select Port**, and **SPAN Destination**.
- Step 7** Select the values for the fields and click **Apply**.
The port is now configured as SPAN destination part and it is displayed on the Port Definition screen.
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Creating Copy Devices Using Copy Sessions (BETA)

When you configure a port as an edge-SPAN port, you can create copy devices using Copy Sessions (BETA) functionality.



Note You can add SPAN destination and copy devices only after an APIC device has been successfully added to the network.

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- Step 1** Select the switch for which you want to configure the port details using the **Port Configuration** screen.
- Step 2** Click **Configure** under **Action**.
The **Configure Ports** window is displayed.
- Step 3** In the **Configure Ports** window, configure the port type from the **Select a port type** drop-down list by selecting one of the following options:
- **Add Monitoring Device**
 - **Edge Port-SPAN**
 - **Edge Port-TAP**
 - **Production Port**
- Monitoring Device**—Creates a monitoring device for capturing traffic and configures the corresponding delivery port.
- Edge Port-SPAN**—Creates an edge port for incoming traffic connected to an upstream switch that is configured as a SPAN destination.
- Edge Port-TAP**—Creates an edge port for incoming traffic connected to a physical TAP port.
- Production Port**—Creates a production port for the ingress and egress traffic.
- When you select the port type, the title of the window changes to **Manage Configure Ports**.
- Step 4** In **Manage Configure Ports** window, the details of the selected node are displayed.
- Step 5** In the **Destination** panel, if the APIC device is added, it is listed in the drop-down list. Select the **Node Type** as **APIC** from the drop-down list.
The **SPAN Destination** and **Copy Device** tabs are displayed. See *Adding SPAN Destination* section for adding SPAN destination.
- Step 6** When you click the **Copy Device** tab in the same window, the **Create Copy Device (BETA)** window is displayed.
- Step 7** In the General panel, enter the name of the device in the **Name** field. The values for the fields, **Device Type** and **Physical Domain** are hard-coded.
- Step 8** In the Device Interface panel, enter the details in the following fields: **Name**, **Pod**, **Node**, and **Port**. The value for the field, **Path Type** is hard-coded.
- Step 9** In the Cluster panel, enter the details in the following fields, **Name** and **VLAN Encap**. The value for the field, **Interface** is hard-coded.
- Step 10** Click **Submit** to save the settings.
The name and the path of the copy device is displayed in the destination panel.

- Step 11** When you click **Submit** in **Manage Configure Ports** window, the device is displayed in the **Destination** column in the **Port Configuration** screen. When you hover over the device name in the GUI, the name of the **Copy Device** is displayed.
- Step 12** Once the **Copy Device** is added, it is displayed in the **APIC Copy Session (BETA)** screen under the **Copy Device** tab. The following fields are displayed under the **Copy Device** tab: **Cluster Name**, **Managed**, **Device Type**, and **Service Type**.
- Step 13** In the **APIC Copy Session (BETA)** screen, the **Service Graph** tab is displayed. When you click **+Add Service Graph**, the **Add Service Graph (BETA)** window is displayed.
- Step 14** Add name for the service graph in the **Name** field.
- Step 15** Select the copy device for the service graph in the **Copy Device** field.
The copy devices that are created by Cisco Nexus Data Broker are listed in the **Copy Device** field.
- Step 16** Click **Submit** to save the settings.
Once the service graph is added, it is displayed in the **APIC Copy Session (BETA)** screen under the **Service Graph** tab. The fields that are displayed on the tab are **Name**, **Copy Device**, **Function Nodes**, and **Action**. The parameters that can be edited for the service graph are **Name** and **Copy Device** only. You can click **Remove** under **Action** column in the **APIC Copy Session (BETA)** screen to remove the service graph.
- Note** By default, the copy device and the service graph get created under the common tenant.
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Adding SPAN Sessions

On the SPAN Sessions tab, the following fields are displayed:

- SPAN Session
- Filter
- Devices
- SPAN Source
- SPAN Destination

You can add a SPAN session in ACI.

- Step 1** Click **+ SPAN Session** to add a SPAN session. The **Add SPAN Session** window is displayed.
- Step 2** In the **Add SPAN Session** window, add a session name in the **SPAN Session Name** field.
- Step 3** (Optional) Select a connection in the **Select Connections** field.
- Step 4** In the **Action** pane, select a priority for the SPAN session.
- Step 5** Select a rule using the drop-down list in the **Rule Filter** field. You can select the default filter rule, **Default-Match-IP** or select another filter from the drop-down list.
The available filter rules are **Default-Match-IP**, **Match-HTTP**, **Match-vlan**, and **Default-Match-all**.

- Step 6** Select a destination device to which the traffic is sent.
- Step 7** In the **SPAN SOURCES** pane, click + **Add SPAN Source**. In the pane, click + **Add Leaf Ports** to add a leaf port to capture the traffic from multiple leaf ports. OR optionally, you can click +**Add EPG** to add an EPG source. Enter the values in the following fields:
- In the **Add Leaf Ports** window, select a pod using the drop-down list in the **POD** field.
 - Select a node using the drop-down list in the **Node** field.
 - Select a port using the drop-down list in the **Port** field.
 - Click **Add Leaf Ports**.
 - In the **SPAN SOURCES** pane, select a direction from the **Incoming**, **Outgoing**, or **Both** options. The selected Span source is displayed in the **Span Source** field.
 - If you select +**Add EPG** to add EPG source, select a tenant using the drop-down list in the **Tenant** field in the **Add EPG** window.

Note

 - All EPG interfaces work only when all the ports are within the same leaf switch.
 - If same EPG is across multiple switches, you have to select the leaf switch and the associated ports. One SPAN session needs to be setup for each leaf switch.
 - Select a profile using the drop-down list in the **Profile** field.
 - Select EPG associated with the tenant using the drop-down list in the **EPG** field. The selected **SPAN Source** is displayed.
 - Select **Include All EPG Interfaces** option. When you enable this option, the statically configured interfaces are added to the EPG.

Note This option can be used only when all EPG sources are within the same leaf switch.

If the EPG is selected, by default, Cisco Nexus Data Broker listens for the changes in the statically configured interfaces of the selected EPG. If there is any change, it is applied to the SPAN session. The web socket connection is not secured with the certificates. To disable the event listening, add `enableWebSocketHandle=false` in the `config.ini` file under `xnc/configuration` folder.
 - Click **Add EPG**.
- Step 8** In the **SPAN Destination** field, select SPAN destination. If you install ACI SPAN session, it lists the SPAN destination that is created in ACI. If you install NXOS SPAN session, it lists the SPAN destination that is created in NXOS.
- Note** The SPAN destination should be the same leaf where the SPAN sources are being selected.
- Step 9** Click **Add SPAN Session**. A message box is displayed asking you to confirm, **Are you sure you want to add SPAN session?**, if you want to add the SPAN session.
- Step 10** Click **OK**. As a result, a SPAN session is set up in ACI. It also sets up a connection automatically on the Cisco Nexus Data Broker with the same SPAN session name and this connection redirects the traffic from that source port to the monitoring device.
- Note** Each leaf can have a maximum of 4 SPAN sessions. You can set up additional SPAN sessions. You can append a new SPAN session to the existing connection. In that case, you can select the new SPAN session in the Add SPAN Session window, use the same connection that is previously created, select new SPAN sources from different leaf ports, select the SPAN destination, and add the SPAN session.

It creates a new session in ACI, but it appends an existing connection to include the new traffic on the Cisco Nexus Data Broker side.

You can edit or clone the existing SPAN sessions. If you want to remove a SPAN session, click the session and click **Remove SPAN Session(s)**. A message box is displayed asking you to confirm, **Remove the following sessions?**, if you want to remove the displayed SPAN session. Click **Remove SPAN Sessions** to confirm. If the SPAN session is using an existing connection, the connection is updated automatically with the changes. If it is the last connection associated with the SPAN session, the connection is deleted.
