Port-to-Port Forwarding

This chapter contains the following sections:

About Port-to-Port Forwarding

The Cisco XNC 1.5 Virtual Patch Panel (Port-to-Port Forwarding) application allows you to manage port-to-port (P2P) traffic within a switch or across the network without any need for physical connection changes or rewiring. Port-to-port forwarding reduces the time-consuming, manual process of interconnecting two ports, either within a switch or between switches, across the network to forward traffic. With the Cisco XNC Port-to-Port Forwarding application, you can use programmability to create a virtual patch panel. The main benefits include:

- Capability to automate a port-to-port path

- Automatic VLAN assignment and tagging for traffic originating in the port

- No need to take the device offline

- Capability to scale the process across the data center network

Configuring EtherTypes for Ports

The `config.ini` file for Cisco XNC is pre-provisioned with some parameters for the P2P feature to work properly on Cisco supported switches. There are two parameters:

- p2p.nonConventionalNodes—This parameter should not be modified without first contacting Cisco support.

- p2p.nonConventionalNodesEthertypes—This parameter specifies the comma-separated list of frames on which the P2P paths will be in force. The default frame type is IPv4, which means that each P2P path will only be in force for IPv4 packets.

To modify p2p.nonConventionalNodesEthertypes:

Step 1   Open the config.ini file for editing and locate the `p2p.nonConventionalNodesEthertypes` parameter.

Step 2   Modify the `p2p.nonConventionalNodesEthertypes` parameter to suit your needs. An example of valid configuration follows:
`p2p.nonConventionalNodesEthertypes=IPv4,IPv6,ARP`

Step 3   Save your work and close the file.

Step 4   Restart Cisco XNC.

Logging in to the Cisco XNC Port-to-Port Forwarding GUI

You can log into the Cisco XNC Port-to-Port Forwarding GUI using HTTP or HTTPS:

- The default HTTP web link for the Cisco XNC Port-to-Port Forwarding GUI is *http://Controller_IP:8080/p2p*

- The default HTTPS web link for the Cisco XNC Port-to-Port Forwarding GUI is *https://Controller_IP:8443/p2p*

Note   Before you can use HTTPS, you must manually specify the https:// protocol in your web browser.

Step 1   In your web browser, enter the Cisco XNC Port-to-Port Forwarding GUI web link.

Step 2   On the launch page, do the following:

a)   Enter your username and password.

The default username and password is admin/admin.

Step 3   Click **Log In**.

Adding a Port-to-Port Forwarding Path

These steps below guide you to adding P2P paths and viewing them in the topology diagram.

Step 1   On the **Paths** tab, click **Add Path**.

Step 2   In the **Add P2P Path** dialog box, complete the following fields:

Name	Description
Path Name field	The name you want to give the forwarding path. The name may contain between 1 and 256 alphanumeric characters including the following special characters: underscore (_), hyphen (-), plus (+), equals (=), open parenthesis ("("), closed parenthesis (")"), vertical bar (|), or at sign (@). The name cannot be changed once it has been saved.
Source Node drop-down list	The source node you want to use in the forwarding path.
Source Port drop-down list	The source port of the node you want to use in the forwarding path.
Destination Node drop-down list	The destination node you want to use in the forwarding path.
Destination Port drop-down list	The destination port of the node you want to use in the forwarding path.

Step 3   Click **Add Path**.
The path is installed.

Step 4   On the **Paths** tab, click any **Path Name** in the list.
The path is highlighted in the topology diagram.

Editing a Port-to-Port Forwarding Path

Follow the steps below to edit an existing port-to-port forwarding path.

Step 1   On the **Paths** tab, click **Edit** next to the path you want to update.

Step 2   In the **Edit P2P Path** dialog box, complete the following fields:

Name	Description
Path Name field	The name you want to give the forwarding path. The name may contain between 1 and 256 alphanumeric characters including the following special characters: underscore (_), hyphen (-), plus (+), equals (=), open parenthesis ("("), closed parenthesis (")"), vertical bar (|), or at sign (@). The name cannot be changed once it has been saved.

Name	Description
Source Node drop-down list	The source node you want to use in the forwarding path.
Source Port drop-down list	The source port of the node you want to use in the forwarding path.
Destination Node drop-down list	The destination node you want to use in the forwarding path.
Destination Port drop-down list	The destination port of the node you want to use in the forwarding path.

Step 3   Click **Edit Path**.

Deleting a Port-to-Port Forwarding Path

Follow the steps below to delete one or more existing port-to-port forwarding paths.

Step 1   On the **Paths** tab, click the checkbox next to the path or paths you want to delete.

Step 2   Click **Delete Path**.

Step 3   In the confirmation dialog box, click **Remove Path**.