



Troubleshooting

This chapter contains the following sections:

- [About Troubleshooting, page 1](#)
- [Viewing Flow and Port Detail Statistics, page 2](#)
- [Viewing Inconsistent Controller Flows or Inconsistent Node Flows, page 2](#)
- [Exporting Inconsistent Flow Details, page 3](#)
- [Fixing Inconsistent Controller Flows or Inconsistent Node Flows, page 3](#)
- [Policy Analyzer, page 4](#)
- [Using the Policy Analyzer, page 4](#)
- [SDN Analyzer, page 4](#)
- [Using the SDN Analyzer, page 5](#)
- [Changing the Default Values for the SDN Analyzer, page 5](#)

About Troubleshooting

Cisco XNC includes a variety of tools that you can use to troubleshoot your network connections. From the **Troubleshoot** tab, you can do the following:

- View all of the nodes in the network.
- View detailed information about the ports for each node in the network.
- View detailed information about the flows for each node in the network.
- View when the nodes were discovered by Cisco XNC in the **Uptime** tab.
- View detailed information about TIF policies in the **Policy Analyzer** tab.
- Run analytics on selected flows and TIF policies.

Viewing Flow and Port Detail Statistics

- Step 1** On the Cisco XNC menu bar, click **Troubleshoot**.
- Step 2** In the **Existing Nodes** tab, locate the node for which you want to view statistics. Enter a value in the **Search** combo box and click the search icon to limit the number of entries that appear.
- Step 3** Perform one of the following tasks:
- Click **Flows** to view detailed information on all flows programmed on the node.
 - Click **Ports** to view detailed information on all ports of the node.

Note The statistics are updated every 160 seconds.

Viewing Inconsistent Controller Flows or Inconsistent Node Flows

- Step 1** In the **Cisco XNC** menu bar, click the **Troubleshoot** tab.
- Step 2** Click the **Flow Check** tab and select a node from the **Select a node** drop-down list. The node is displayed, with the number **Inconsistent Controller Flows** and **Inconsistent Node Flows**, if any, next to each type.
- Step 3** Click either the **Inconsistent Controller Flows** or **Inconsistent Node Flows** to view details for any inconsistent flows. Details are displayed in the **Statistics** tab.
-

What to Do Next

Fix inconsistent controller flows or inconsistent node flows.

Exporting Inconsistent Flow Details

In order to view and save inconsistent controller or inconsistent node flow details for reference, you can export them to a comma-delimited file.

-
- Step 1** In the **Cisco XNC** menu bar, click the **Troubleshoot** tab.
 - Step 2** Click the **Flow Check** tab, and select a node from the **Select a node** drop-down list.
The node is displayed, with the number **Inconsistent Controller Flows** and **Inconsistent Node Flows** next to each type.
 - Step 3** Click either **Inconsistent Controller Flows** or **Inconsistent Node Flows**.
The list of **Inconsistent Controller Flows** or **Inconsistent Node Flows** is displayed in the **Statistics** tab.
 - Step 4** Click the checkbox next to one or more inconsistent flows, or click the checkbox at the top of the list to choose all flows in the list.
 - Step 5** Click **Export All**.
 - Step 6** In the confirmation dialog box, click **Export Flow Details**.
 - Step 7** Save the inconsistent flow detail information as a .csv file.
-

Fixing Inconsistent Controller Flows or Inconsistent Node Flows

**Note**

When you fix an inconsistent controller flow, the flow is installed on the switch. When you fix an inconsistent node flow, the flow is removed from the switch, because the controller is the authoritative source of flow information.

-
- Step 1** In the **Cisco XNC** menu bar, click the **Troubleshoot** tab.
 - Step 2** Click the **Flow Check** tab, and select a node from the **Select a node** drop-down list.
The node is displayed, with the number **Inconsistent Controller Flows** and **Inconsistent Node Flows** next to each type.
 - Step 3** Click either **Inconsistent Controller Flows** or **Inconsistent Node Flows**.
The list of **Inconsistent Controller Flows** or **Inconsistent Node Flows** is displayed in the **Statistics** tab.
 - Step 4** Click the checkbox next to one or more inconsistent flows, or click the checkbox at the top of the list to choose all flows in the list.
 - Step 5** Click **Fix Inconsistent Flows**.
 - Step 6** In the confirmation dialog box, click **Fix Inconsistent Flows**.
The Flow Check tab redisplay **Inconsistent Controller Flows** and **Inconsistent Node Flows** with the updated number of each type. If you select all inconsistent flows in Step 4, the number displayed is 0.
-

Policy Analyzer

The Policy Analyzer allows you to view detailed information about TIF policies. You can use the Policy Analyzer to perform the following tasks:

- Monitor selected flows.
- Run SDN trace against a flow.
- View the status of the last SDN trace.
- View aggregated statistics for the TIF policy.

Using the Policy Analyzer

-
- Step 1** On the Cisco XNC menu bar, click **Troubleshoot**.
- Step 2** In the **Policies** tab, choose the TIF policy that you want to analyze.
Enter a value in the **Search** combo box and click the search icon to limit the number of entries that appear.
- Step 3** To monitor the TIF policy flows, perform the following tasks:
- a) Check the check box for one or more flows.
 - b) Click **Start Monitor**.
 - c) When you have finished collecting flow data, click **Stop Monitor**.
- Step 4** To run an SDN trace on a TIF policy flow, perform the following tasks:
- a) Check the check box for the flow that you want to trace.
 - b) Click **SDN Trace**.
- Step 5** Click **SDN Trace Status** to view the information from the last SDN trace that was run.
- Step 6** Click **Policy Statistics** to view statistics for the selected TIF policy.
-

SDN Analyzer

The SDN Analyzer downloads packet capture (pcap) files for the interface that you select. The individual pcap files are consolidated into one zip file.

By default, the SDN Analyzer captures 5 pcap files with 100 MB of network data each. If more than the set amount of data is captured, the earlier data is overwritten. You can change the amount of data collected in the config.ini file.

Using the SDN Analyzer

The SDN Analyzer captures packets that come to Cisco XNC and outputs the results to a zip file. The location of the zip file depends upon your browser settings.

Before You Begin

You must have root privileges on the server that is running Cisco XNC to run the SDN Analyzer.

-
- Step 1** On the Cisco XNC menu bar, click **Troubleshoot**.
- Step 2** In the **SDN Analyzer** tab, click the interface that you want to view.
- Step 3** Click **Start Analyzer**.
- Step 4** When you have finished collecting data, click **Stop Analyzer**.
-

Changing the Default Values for the SDN Analyzer

-
- Step 1** Navigate to the `xnc/configuration` directory that was created when you installed the software.
- Step 2** Use any text editor to open the `config.ini` file.
- Step 3** Locate the following parameters:
- `troubleshoot.fileSize = 100`
 - `troubleshoot.number = 5`
- Step 4** Change the files as appropriate. We recommend using a file size of no more than 100 MG, and increasing the number of pcap files.
- Step 5** Save the file and exit the editor.
- Step 6** Restart Cisco XNC.
-

