



CHAPTER 26

Performing Network Diagnosis

Prime CM allows to perform network diagnosis using the Cisco Prime Network Analysis Module (NAM) and Cisco Prime LAN Management Solutions (LMS) applications. While performing the troubleshooting for a session, you can cross-launch these applications to further analyze the issue on the network devices that are connected between the endpoints.

Prerequisites

To cross-launch Cisco Prime NAM:

The following NAM products with the Cisco Prime NAM 5.x software releases are supported in Prime CM:

- Cisco Prime Network Analysis Module (NAM) for ISR G2 SRE
- Cisco Branch Routers Series NAM (NME-NAM)
- Cisco Catalyst 6500 Series NAM (NAM-3)
- Cisco Catalyst 6500 Series and Cisco 7600 Series NAM (NAM-1, NAM-2)

If you want to launch the Cisco Prime NAM features for a particular device while troubleshooting, you must ensure that the device is managed in both Cisco Prime NAM and Prime CM applications.

Prime CM requires host IP address, management IP address, and user credentials to launch the Cisco Prime NAM that is installed on the network devices. These details are added in the System Configuration page (**Administration > System Configuration**). See [Setting Up Cross-launch, page 26-2](#) for details on setting up the cross-launch.

Based on the Cisco Prime NAM user privilege, you can launch the following features of the Cisco Prime NAM application:

- Device Interface View—Displays the total packet distribution on all interfaces.
- NAM Host View—Displays the input and output traffic for the host over time, Top N application activity of the host over the selected interval, and total application usage distribution for the host.
- NAM Home page—Displays the Top N Applications, Top N Application Groups, Top N Hosts (In and Out), IP Distribution by Bits (or Bytes), Top N DSCP, and Top N VLAN being monitored on your network.

The network devices that contain the NAM software must be accessible from Prime CM. You must ensure that all the required credentials for routers and switches are added in Prime CM (**Inventory > Device Inventory > Manage Credentials**).

The Prime CM client and the network devices that contain the NAM must be in the same side of the network firewall. If these are on different sides, the user authentication may fail and you may be prompted to enter the Cisco Prime NAM credentials again.

To cross-launch Cisco Prime LMS:

The Cisco Prime LMS 4.1 and 4.2 versions are supported in Prime CM. If you want to launch the Cisco Prime LMS features for a particular device while troubleshooting, you must ensure that the device is managed in both Cisco Prime LMS and Prime CM applications.

For device to be accessible from Prime CM, you must ensure that all the required credentials for the device are added into Prime CM (**Inventory > Device Inventory > Manage Credentials**).

Prime CM requires the Cisco Prime LMS hostname and user credentials to launch the following Cisco Prime LMS features:

- **Device View**—A graphical device management tool that provides real-time views of network devices. These views deliver a continuously updated physical picture of device configuration and performance conditions.
- **Connected Hosts**—Displays details on all hosts that are connected to the access switch.
- **Change Audit Report (24 hours)**—Displays a summary of all changes on the device for the last 24 hours. The changes can be on the software image, configuration file, and hardware.
- **View/Edit Configuration**—Displays the archived device configuration file in the raw and processed format. If you have the required privilege you can also, edit the configuration file.
- **Faults (24 hours)**—Displays details on the alerts and events that were triggered on the device in the last 24 hours.
- **Syslog Messages**—Displays details on the syslog messages that were triggered on the device.
- **System Performance**—Displays all performance parameters of the device, such as memory utilization, CPU utilization, interface utilization, environmental temperature and Poller Failures.

Setting Up Cross-launch

You must review the [Prerequisites](#) section before setting up cross-launch for NMS applications.

To Setup Cross-launch for Cisco Prime NAM:

Step 1 Choose **Administration > System Configuration**.

The System Configuration page appears.

Step 2 Either:

Add a single NAM device in the Cisco Prime NAM Setup pane:

a. Click **Add**.

The Add NAM window appears.

b. Enter the following details:

- **NAM Host Device IP**—IP address of the network device that contains NAM software.

Prime CM manages NAM Host IP address only. A device may be accessible through multiple IP addresses. However, the Host IP address that you enter must be the same IP address that is used by Prime CM to manage the device. That is, the IP address that you enter must be the same as listed in the Inventory page.

We recommend that you configure the NAM Host IP address only after managing the device in Prime CM.

- NAM Management IP—IP address assigned in the network device to launch the NAM user interface. You must ensure that the NAM management IP address is unique.
- Username and password—Credentials to access the Cisco Prime NAM user interface. The user must have the required privilege to launch the Cisco Prime NAM Device Interface view, NAM Host view, and NAM home page.

When you launch the Cisco Prime NAM application during the troubleshooting workflow, you may be prompted to enter the Cisco Prime NAM UI credentials again if the credentials verification fails.

c. Click **Save**.

Or

Import a set of NAM devices in the Cisco Prime NAM Setup pane:

a. Click **Import NAM**.

The Import NAM Servers window appears.

b. Import the NAM configuration file in the CSV file format.

The NAM CSV file should be in the following format:

host IP address,management IP address,username,password

c. Check the **Replace existing entries with imported data** check box to avoid duplicate entries of the Cisco NAM server in the Prime CM database.

d. Click **OK**.

The NAM servers are listed in the Cisco Prime NAM table.

You can either edit or delete the NAM server entries, using the **Edit** or **Delete** buttons, respectively.

To Setup Cross-launch for Cisco Prime LMS:

You must review the [Prerequisites](#) section before setting up cross-launch for NMS applications.

Step 1 Choose **Administration > System Configuration**.

The System Configuration page appears.

Step 2 Enter the following details in the Cisco Prime LMS Setup pane.

- Cisco Prime LMS Server—Hostname or the IP address of the LMS server.

If you have deployed the Cisco Prime LMS in a multiserver setup. You must enter the Cisco Prime LMS master server details.

- LMS User and Password—A dummy user, configured on the Cisco Prime LMS server. The Cisco Prime CM server uses these credentials to interact with the Cisco Prime LMS server internally. This user should not have any administrative-related privileges on the Cisco LMS server.

When you launch the Cisco Prime LMS application from the device, you are prompted to enter the Cisco Prime LMS user credentials again. At this time, the Cisco Prime LMS user must have the required privilege to launch these features Device View, Connected Hosts, Change Audit Report (24 hours), View/Edit Configuration, Faults (24 hours), Syslog Messages, and System Performance.

Step 3 Click **Save**.

The Cisco Prime LMS server details are displayed in the Cisco Prime LMS pane.

You can use the **Reset to Default** button to reenter the Cisco Prime LMS server details.

Cross-Launching NMS Applications

Cisco Prime NAM and Cisco Prime LMS applications help you in performing the network diagnosis for a device, while troubleshooting an in-progress session or the network.

To cross-launch the NMS applications:

- Step 1** Start the troubleshooting workflow.
- See [Starting a Troubleshooting Workflow, page 23-8](#) to understand how to start troubleshooting a session manually and automatically.
 - See [Proactively Troubleshooting the Network, page 24-1](#) to understand how to start troubleshooting your network proactively.

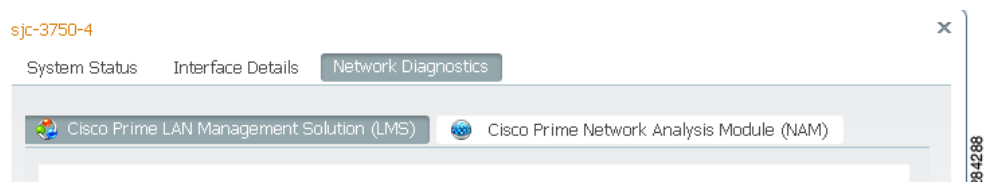
- Step 2** Select a device, which is managed in Cisco Prime NAM and/or Cisco Prime LMS in the Troubleshooting Topology tab.

The devices that contains the NAM application are displayed with an additional badge on the device (see [Figure 26-1](#)).

If the devices are accessible, hover the mouse over the device and click to view the **Network Diagnostics** tab (along with system, interface, and mediatrace flow details).

[Figure 26-1](#) show the **Network Diagnostics** tab, which contains the sub-tabs for Cisco Prime LMS and Cisco Prime NAM.

Figure 26-1 Network Diagnostics



- Step 3** To launch Cisco Prime LMS:
- a. Click on the Cisco Prime LMS features.
 - b. Enter the user credentials.

The Cisco Prime LMS application launches in a separate window if you have the required privileges.

The Cisco Prime LMS application is not launched if the requested device data is not available in the Cisco Prime LMS. For example, if there are no alarms and events for the last 24 hours for the device, the Fault page is not launched.

To launch Cisco Prime NAM:

- a. Select the NAM Management IP address.
- b. Click on the Cisco Prime NAM features.

The Cisco Prime NAM application launches in a separate window if you have the required privileges.

You may be prompted to enter the user credentials if the credentials verification has failed.
