



Configuring the Catalyst 6000 Network Analysis Module with the TrafficDirector Application

This document describes how to use the TrafficDirector Configuration Manager application to install the basic functionality and configure the Catalyst 6000 Network Analysis Module (NAM) so it can be recognized and managed by the TrafficDirector application.

The instructions in this document assume that you have already installed and configured the NAM with an IP address, subnet mask, broadcast address, and default gateway, and that ping requests from the system on which the TrafficDirector application is running are successful.



Note

If you have not already configured the NAM, follow the instructions in *Catalyst 6000 Network Analysis Module Installation and Configuration Note*.

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The primary TrafficDirector application function is to manage the RMON and RMON2 agents embedded in certain devices. You can add the Catalyst 6000 NAM as an agent or switch in the TrafficDirector Configuration Manager application. However, if you add the NAM as a switch, the application cannot communicate with the switch in which the NAM is installed until you add specific information about it using the TrafficDirector Configuration Manager application.

Adding a Switch to the TrafficDirector Configuration Manager Application

Before the TrafficDirector console can communicate with a switch in which the NAM is installed, you must enter (in Configuration Manager) the switch IP address, type of switch, read and write community strings established on the switch, and, if applicable, the names of the agents attached to the switch.

After you add a switch definition in Configuration Manager, the TrafficDirector application automatically learns and displays the ports associated with that switch and learns the VLANs and FECs configured on the switch.

To add a new switch definition:

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- Step 1** Start the TrafficDirector application.
- Step 2** Click the Admin radio button in the upper-right corner of the TrafficDirector main window.
- Step 3** Click the Config Manager icon in the Admin level window.
- Step 4** In the Configuration Manager window, click the Switch radio button.
- Step 5** Click **Add**.
The Add Switch dialog box is displayed.
- Step 6** In the Switch Name text box, enter a name for the switch you are defining.
The name can be up to 15 alphanumeric characters and is case-sensitive. You can use hyphens and underscores, but no spaces, in the name. The name must be unique; that is, you cannot assign this name to another switch.
- Step 7** In the IP Address text box, enter a valid switch IP address.
This is the IP address of the *switch* in which the NAM is installed and consists of numbers separated by decimal points (*nnn.nnn.nnn.nnn*).
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-  **Note** If you are using the NAM installed in a Catalyst 6000 switch, all other functions of the Configuration Manager application will use the IP address of the NAM.
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- Step 8** In the Switch Type text box, select the type of switch you are adding.
- If you have the NAM installed in a Catalyst 6000 switch, select **Cat_6000_v5.5+**.
 - If you have the NAM installed in a Catalyst 6509 switch, select **Cat_6509_v5.5+**.
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-  **Tips** On a Microsoft Windows NT platform, click the drop-down list box to select a switch type.
On a Solaris platform, click the window button (...) next to the Switch Type text box.
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- Step 9** In the community names text boxes, do the following.
- a. Read Community—Enter the read community name established on the *switch*.
 - b. Write Community—Enter the write community name established on the *switch*.



Note The read and write community strings installed on the switch must match the read and write community strings on the NAM. For more information, see the “Identifying Community Strings on the NAM” section on page 6.

Step 10 In the Retries and Timeout text boxes, do the following:

- a. Retries—Enter the number of times (between 1 and 1000) that the TrafficDirector console should try to reach the switch if there is no response.
- b. Timeout—Enter the length of time in seconds (between 1 and 1000) that the TrafficDirector console should wait between each retry.

If you are using the NAM installed in a Catalyst 6000 switch to support internal roving, skip to Step 15. The remaining text boxes are automatically populated by Configuration Manager.

Step 11 Identify a roving SwitchProbe device that is physically connected to the switch:

- a. To display the Agent List dialog box, click the window button (...) to the right of the Roving text box.
- b. Select the agent name (assigned to the roving SwitchProbe device) from the Agent List dialog box.
- c. Click **OK**.
- d. In the Analyzer Port text box, identify the switch port physically connected to the roving SwitchProbe device.



Note The TrafficDirector application identifies the port names on a switch (in the Interface list box in the lower left pane of the window) after you add the switch definition to Configuration Manager.

Step 12 Specify one or more dedicated agents (SwitchProbe devices) attached to a trunk or server link:

- a. To display the Agent List dialog box, click the window button (...) to the right of the Agent1 text box.
- b. Select the agent name (assigned to the SwitchProbe device) from the Agent List dialog box.
- c. Click **OK**.
- d. If the dedicated SwitchProbe device is monitoring a *trunk link* (traffic between two switches), select **Trunk** from the Server drop-down list box.

If the dedicated SwitchProbe device is monitoring a *server link* (traffic seen for the server connected to a switch port), select **Server** from the Server drop-down list box.

- e. Repeat Step a. through Step d. for each dedicated SwitchProbe device attached to the switch.



Note You can define up to four dedicated agents (SwitchProbe devices) for each switch definition.

Step 13 Identify the RMON level supported in a switch with the properties file. You can also use the properties file to define logging and trap information for individual switch interfaces.

In the Properties File text box, do one of the following:

- Leave this text box blank. The TrafficDirector application automatically queries the switch (after you define the switch in Configuration Manager) and creates a properties file. The newly created properties file inherits the name of the switch.
For example, if you named the switch Joe (in Step 1) the name Joe is assigned to the properties file.
- Enter the name of an existing switch properties file applicable to the switch you are defining.

Step 14 In the SQL Server text box, specify the SQL Server system name configured to log report information for this TrafficDirector console.




Note When both the SQL Server and the TrafficDirector software exist on the same system, the default name local is displayed.

Step 15 To add the switch to Configuration Manager, do one of the following:

- To add the switch and return to the Configuration Manager window, click **OK**.
The TrafficDirector application queries the switch and displays the interfaces associated with a switch in the Interface list box in the lower Configuration Manager window.
Click the appropriate interface radio buttons (port, VLAN, or FEC) to view the list of interfaces associated with a switch or the network traffic associated with a switch interface.
 - To add the switch to Configuration Manager without closing the Add Switch dialog box, click **Apply**.
The TrafficDirector application queries the switch and displays the interfaces associated with a switch in the Interface list box in the lower left Configuration Manager window.
Click the appropriate interface radio buttons (port, VLAN, or FEC) to view the list of interfaces associated with a switch or the network traffic associated with a switch interface.
 - To discard the information and close the Add Switch dialog box, click **Cancel**.
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Adding an Agent to the TrafficDirector Configuration Manager Application

When using the NAM installed in a Catalyst 6000 switch you must add a new agent in Configuration Manager for every slot/port, VLAN, or FEC from which you wish to gather RMON/RMON2 statistical information.

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- Step 1** Start the TrafficDirector application.
- Step 2** Click the Admin radio button in the upper-right corner of the TrafficDirector main window.
- Step 3** Click the Config Manager icon in the Admin level window.
- Step 4** In the Configuration Manager window, click the Agent radio button.
- Step 5** Click **Add**.
The Add Agent dialog box is displayed.
- Step 6** In the Agent Name text box, enter a name for the agent you are defining.
The name you select can be up to 15 alphanumeric characters and is case-sensitive. You can use hyphens and underscores, but no spaces, in the name. The name must be unique; that is, you cannot assign this name to another agent.
- Step 7** In the IP Address text box, enter a valid agent IP address.
This is the IP address of the *NAM* and consists of numbers separated by decimal points (*nnn.nnn.nnn.nnn*).
- Step 8** In the Interface text box, enter the interface number for every for every VLAN or FEC that is configured on the agent to manage the activity on a network segment.
For example, if VLAN2 is interface number 5, and you wish to gather statistics for this VLAN, you would enter 5 in the Interface text box.
For each slot/port that is configured on the agent to manage the activity on the network segment, enter 1.
- Step 9** In the Network drop-down box, select the network topology supported on this agent.
- Step 10** *Optional.* In the Description text box, enter a description (up to 30 characters) about this agent configuration.
- Step 11** In the community names text boxes, do the following.
- a. Read Community—Enter the read community name established on the agent.
 - b. Write Community—Enter the write community name established on the agent.
-  **Note** The read and write community strings installed on the switch should match the read and write community strings on the agent (NAM). For more information, see the “Identifying Community Strings on the NAM” section on page 6.
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- Step 12** In the Retries and Timeout text boxes, do the following:
- a. Retries—Enter the number of times (between 1 and 1000) that the TrafficDirector console should try to reach the switch if there is no response.
 - b. Timeout—Enter the length of time in seconds, (between 1 and 1000) that the TrafficDirector console should wait between each retry.
- Step 13** In the Startup File text box, the name of the default startup script is displayed.

Step 14 A properties file identifies the RMON level supported in an agent. You can also use the properties file to define logging and trap information for individual agent interfaces.

In the Properties File text box, do the following:

- a. To display the Properties File List dialog box, click the window button (...) to the right of the Properties File text box.
- b. Select the properties file for the agent you are adding. If you are using the NAM as an agent, select **Nam6kprop**.



Note If the properties file Nam6kprop does not exist, select the properties file name containing the text 6k.

Step 15 If the SQL Server text box is enabled, enter the SQL Server system name that is configured to log report information for this TrafficDirector console.



Note When both the SQL Server and the TrafficDirector software exist on the same system, the default name of “local” is displayed.

Step 16 To add the agent to Configuration Manager, do one of the following:

- To add the agent and return to the Configuration Manager window, click **OK**.
The agent name you assigned to this configuration is displayed in the Configuration Manager Agent list box.
- To add the agent to Configuration Manager without closing the Add Agent dialog box, click **Apply**.
The Apply button is a convenient way to consecutively add more agent definitions.
- To discard the information and close the Add Agent dialog box, click **Cancel**.



Note If you are using the NAM installed in the Catalyst 6000 switch, you must still configure a SPAN through the NAM command-line interface even though you added the NAM as an agent. You must configure a SPAN to direct traffic from a port, trunk, VLAN, or FEC to the slot/port on the NAM. After the SPAN is enabled, RMON/RMON2 statistical data is gathered. For more information on configuring a SPAN, see *Catalyst 6000 Network Analysis Module Installation and Configuration Note*.

Identifying Community Strings on the NAM

The read and write community strings in the switch must match the read and write community strings in the NAM.

Use the **show snmp** command to display basic information about the SNMP agent configuration. The output from this command can help you debug communication problems.

The following is an example of the displayed information:

```
root@localhost# show snmp
SNMP Agent: nam1.cisco.com 172.20.52.29
SNMPv1: Enabled
SNMPv2C: Enabled
SNMPv3: Disabled
community public write
community private read
sysDescr "Catalyst 6000 Network Management Module (WS-X6380-NAM) "
sysObjectID 1.3.6.1.4.1.9.5.1.3.1.1.2.223
sysContact "Jane Doe, Cisco Systems, (408) 111-1111"
sysName "6k-NAM - Slot 2"
sysLocation "Cisco Lab, Building X, Floor 1"
```

Roving Switch Interfaces

Roving is a mechanism in Configuration Manager used for monitoring individual interfaces supported by a switch. These interfaces can include physical switch ports (including trunks), VLANs, and FECs.



Note

Roving with Configuration Manager is done primarily in the switch mode. It is not available in agent mode.

Step 1 Start Configuration Manager if you have not already done so.

Step 2 Click the switch name.

A list of ports associated with the switch is displayed in the bottom left pane of the window.

To use the NAM, you must rove a port, VLAN, or FEC to it. During roving, data is sent to the NAM for analysis.

Step 3 In the bottom left pane of the window, select the port, VLAN, or FEC to rove.



Note

A port list is displayed by default. However, you can view VLANs or FECs by clicking the appropriate radio button.

Step 4 After you select the object to rove, click **Rove On**.

The Internal Agent property window is displayed from which you can select a properties file to install.

Step 5 Select the **Nam6kprop** properties file.

Step 6 Click **OK**.

Step 7 After the NAM6kprop file is installed on the NAM, close the Configuration Manager window.

Step 8 Click the Protocol radio button at the top of the main TrafficDirector window.

You can now analyze TopN Talkers, All Talkers, Protocol Monitor, and Protocol Zoom by default for each port, VLAN, or FEC that you roved in Configuration Manager.

Testing the Operational Status of a Switch with a NAM Installed

You might need to determine if a switch is operational, or if the TrafficDirector application can read and write to the MIB content on the switch with an installed NAM.

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- Step 1** Start the TrafficDirector application.
 - Step 2** Click the Admin radio button in upper-right corner of the TrafficDirector main window.
 - Step 3** Click the Config Manager icon in the Admin level window.
 - Step 4** Click the **Switch** radio button.
 - Step 5** Select the name of the switch to test from the Agent list box.
 - Step 6** Click **Test**.

The TrafficDirector application queries the switch and displays the results:

- If the switch is operational, the message identifies general, system, and roving information about the switch.
 - If the switch is not operational, the message identifies whether ping is supported, including whether the read and write community strings passed or failed.
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Viewing RMON/RMON2 Data on the NAM

After you install properties on the NAM, you can review which protocols are installed. You can do this in either switch mode or agent mode.

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- Step 1** To view RMON/RMON2 data on a switch, click the Switch radio button.
To view RMON/RMON2 data on an agent, click the Agent radio button.
 - Step 2** Select the name of the switch or agent from which to view RMON/RMON2 data.
 - Step 3** Click the Protocol radio button.
The protocol-level applications are displayed.
 - Step 4** Click **All Conv** to retrieve data for all IP-level conversations between two IP addresses.
The Domain Discovery window is displayed.



Note

The protocol properties file includes IP protocol and the C (conversations), which is enabled. If conversations is not enabled, an error message shows that the feature is not enabled.

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