Managing Traffic Metrics

Prime Infrastructure supports tracing Real-Time Transport Protocol (RTP) and TCP application traffic paths across endpoints and sites. Tracing data paths depends on Cisco medianet and Web Services Management Agent (WSMA). Both are built-in features of Cisco IOS and Catalyst IOS software images that help isolate and troubleshoot problems with RTP and TCP data streams. Prime Infrastructure supports all versions of medianet and WSMA and makes it easy to enable them on any router.

Where Cisco Network Analysis Module (NAM) traffic monitoring data is not available, Prime Infrastructure supports RTP service path tracing (mediatrace) using Medianet Performance Monitor and Cisco IOS NetFlow. When properly configured, mediatrace can be your most valuable tool when troubleshooting RTP and TCP application problems.

Before you can use Prime Infrastructure's mediatrace feature, you must complete the following prerequisite setup tasks. These prerequisite tasks are required to enable Cisco Routers (ISRs, ISR G2, ASRs) and NAM devices to act as data (metrics collection) sources to monitor network traffic (RTP and TCP) performance metrics.

Configuring Prime Infrastructure to Use NAM Devices as Data Sources

If your network uses NAMs to monitor network traffic, complete the following steps to trace service paths for both RTP and TCP traffic:

Step 1 Add NAMs to the system. You can do this either automatically using Discovery, or manually using bulk import or the Device Work Center (see Adding Devices Using Discovery in the *Cisco Prime Infrastructure 2.0 User Guide*).

Step 2 Enable NAM Data collection. To do this:

a. Choose **Administration > System Settings > Data Sources.**

b. Scroll down to the NAM Data Collector section, then enable data collection on each NAM. For more information, see Enabling NAM Data Collection in the *Cisco Prime Infrastructure 2.0 User Guide*.

Step 3 Create a site structure for your organization and use the Device Work Center to assign your principal routers to the appropriate sites. To do this:

a. Choose **Design > Management Tools > Site Map Design**.

b. Add one or more campuses. For more information, see Creating Locations or Sites in the *Cisco Prime Infrastructure 2.0 User Guide*.

Step 4 Associate your sites with authorized data sources. To do this:

a. Choose **Administration > System Settings**, then select **Data Deduplication**.

b. Click **Enable Data Deduplication**, then assign authoritative data sources for Voice/Video (for RTP data) and Application Response Time (for TCP data). For more information, see Controlling Background Data Collection Tasks, page 6-7.

Step 5 Associate your sites with endpoint subnets. To do this:

a. Choose **Design > Management Tools > Endpoint-Site Association**.

b. Associate subnets with your sites. For more information, see Associating Endpoints with a Location in the *Cisco Prime Infrastructure 2.0 User Guide*.

Note If you fail to do this, by default the data collected by the NAMs for these endpoints will have their sites set to "Unassigned."

Step 6 Configure your routers for mediatrace and WSMA (see Troubleshooting with Mediatrace in the *Cisco Prime Infrastructure 2.0 User Guide*).

Configuring Prime Infrastructure to Use Routers and Switches as Data Sources

If your network uses cisco routers and switches to monitor network traffic, complete the following steps to enable path tracing for both RTP and TCP flows. See Enabling NetFlow Data Collection in the the *Cisco Prime Infrastructure 2.0 User Guide* to get a list of all the supported routers and switches for mediatrace.

Step 1 Create a site structure for your organization and use the Device Work Center to assign your principal routers to the appropriate sites. To do this:

a. Choose **Design > Management Tools > Site Map Design**.

b. Add one or more campuses. For more information, see Creating Locations or Sites in the *Cisco Prime Infrastructure 2.0 User Guide*.

Step 2 Associate your sites with authorized data sources. To do this:

a. Choose **Administration > System Settings**, then select **Data Deduplication**.

b. Click **Enable Data Deduplication**, then assign authoritative data sources for Voice/Video (for RTP data) and Application Response Time (for TCP data). For more information, see Controlling Background Data Collection Tasks, page 6-7.

Step 3 Associate your sites with endpoint subnets. To do this:

a. Choose **Design > Management Tools > Endpoint-Site Association.**

b. Associate subnets with your sites. For more information, see Associating Endpoints with a Location in the *Cisco Prime Infrastructure 2.0 User Guide*.

Note If you fail to do this, by default the data collected for these endpoints will have their sites set to "Unassigned."

Step 4 Configure your compatible routers for Medianet Performance Monitor. For more information, see Configuring Mediatrace on Routers and Switches, page 12-3.

Step 5 Configure your routers for mediatrace and WSMA (see Troubleshooting with Mediatrace in the *Cisco Prime Infrastructure 2.0 User Guide*).

Configuring Mediatrace on Routers and Switches

Prime Infrastructure supplies an out-of-the-box template that configures mediatrace on routers and switches. You must apply this configuration to every router and switch you want to use when tracing service paths.

See Enabling NetFlow Data Collection in the *Cisco Prime Infrastructure 2.0 User Guide* to get a list of all the supported routers and switches for mediatrace.

Before You Begin

You must complete the following tasks:

- Configuring Prime Infrastructure to Use NAM Devices as Data Sources, page 12-1
- Configuring Prime Infrastructure to Use Routers and Switches as Data Sources, page 12-2

To configure the mediatrace-Responder-Configuration template:

Step 1 Choose **Design > Configuration > Feature Design > CLI Templates > System Templates - CLI > mediatrace-Responder-Configuration**.

Step 2 Enter the required information. See the *Cisco Prime Infrastructure 2.0 Reference Guide* for field descriptions.

Step 3 Click **Save as New Template**. After you save the template, deploy it to your routers using the procedures in Deploying and Monitoring Configuration Tasks in the *Cisco Prime Infrastructure 2.0 User Guide*.

Configuring WSMA and HTTP(S) Features on Routers and Switches

To trace service path details, the Web Services Management Agent (WSMA) over HTTP protocol must run mediatrace commands on your routers and switches. Configure this feature on the same set of routers and switches as in the section Configuring Mediatrace on Routers and Switches.

To configure the HTTP-HTTPS Server and WSMA Configuration-IOS template:

Step 1 Choose **Design > Configuration > Feature Design > CLI Templates > System Templates - CLI > HTTP-HTTPS Server and WSMA Configuration-IOS**.

Step 2 Enter the required information. See the *Cisco Prime Infrastructure 2.0 Reference Guide* for field descriptions.

Note Enable the HTTP protocol. WSMA over HTTPS is *not supported* in the current version of Prime Infrastructure.

Step 3 Click **Save as New Template**. After you save the template, deploy it to your routers using the procedures in Deploying and Monitoring Configuration Tasks in the *Cisco Prime Infrastructure 2.0 User Guide*.

Note When adding a device to the Device Work Center, you must provide the HTTP user and password for the device (see Device Work Center in the *Cisco Prime Infrastructure 2.0 User Guide*).