

HP Network Node Manager iSPI Performance for Traffic Software

For the Windows® and Linux operating systems

Software Version: 9.10

Deployment Reference

Document Release Date: March 2011

Software Release Date: March 2011



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Acknowledgements

This product includes software developed by the Apache Software Foundation (<http://www.apache.org/>).

This product includes software developed by the Indiana University Extreme! Lab. (<http://www.extreme.indiana.edu>)

Documentation Updates

The title page of this document contains the following identifying information:

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Configuring the NNM iSPI Performance for Traffic

The NNM iSPI Performance for Traffic Configuration form enables you to configure different elements required for creating the network traffic monitoring environment. You can configure the [Leaf Collectors](#)¹ and [Master Collector](#)² to receive the traffic data from different devices. You can create filters to filter out the unnecessary information and retain only the data that you are interested in.

Note: To use the Configuration form, you must log on to the NNMi console as an administrator.

To log on to the NNM iSPI Performance for Traffic Configuration form:

1. Log on to the NNMi console with the administrator privileges.
2. Go to the Configuration workspace.
3. Double-click NNM iSPI Performance for Traffic **Configuration**. The NNM iSPI Performance for Traffic Configuration form opens.
4. Log on to the NNM iSPI Performance for Traffic Configuration form with the `system` user account created during the installation of the Master Collector.

The following table lists the configuration tasks.

Configure the iSPI Performance for Traffic

What You Can Configure	Description
Leaf Collectors	Using the Leaf Collector Systems view, you can add the details of Leaf Collector systems.
Master Collectors	Using the Master Collector Systems view, you can add the details of Master Collector systems.
Flow Forwarders	Using the Flow Forwarder view, you can add the details of Flow Forwarders associated with Leaf Collectors.
Filters	Using the Filters view, you can create filters to filter out unwanted data and retain only the information that is relevant to you.
Application Mapping	Using the Application Mapping view, you can associate different flow attributes with different applications running on your network.
Sites	Using the Sites view, you can define sites in your environment. With this configuration, you can generate traffic reports with the data obtained from specific sites.
Type of Service Groups	Using the Type of Service Groups view, you can group flow packets based on the Type of Service (ToS) values.

After installing the NNM iSPI Performance for Traffic, follow these steps:

¹The Leaf Collector receives flow packets from different flow-enabled devices and summarizes the data into flow records.

²The Master Collector receives the processed IP flow from the Leaf Collectors and exports the data to the NPS to generate performance reports.

1. Configure Leaf Collector systems.
2. Configure Leaf Collector instances.
3. Configure the Master Collector.
4. Configure additional properties:
 - a. Configure sites.
 - b. Configure filters.
 - c. Define a new application.
 - d. Configure Classes of Service.
5. Associate all the additional properties with the Leaf Collector instance.

Configuring Leaf Collector Systems




The NNM iSPI Performance for Traffic Configuration form enables you to configure multiple Leaf Collector instances that you want to deploy on the network. You can start and configure multiple Leaf Collector instances on a single system. Therefore, before configuring individual leaf Collector instances, it is important to add the Leaf Collector systems first in the NNM iSPI Performance for Traffic Configuration form.

The Leaf Collector Systems view displays all the configured Leaf Collector systems on the network (systems where you installed the Leaf Collector). You can open an existing Leaf Collector System to view the details of the configuration. You can modify the properties of the Leaf Collector system with the help of this view.

To display the Leaf Collector Systems view, go to the NNM iSPI Performance for Traffic Configuration form, and then click **Leaf Collector Systems**. The Leaf Collector Systems view opens.

The following table lists different uses of the view.

Uses of the Leaf Collector Systems View

Use	Description
Add a new Leaf Collector system	Open a new form to add a new Leaf Collector system by clicking the Add  button.
View the details of existing Leaf Collector systems	The view presents the details of all the Leaf Collector systems that are already added.
Edit the properties of existing Leaf Collector systems	Open a new form by clicking the Open  button to edit the properties (like hostname, password, or port) of a system that was already added.
Delete a Leaf Collector system that was configured with the monitoring solution	Open a new form to delete an existing Leaf Collector from the list of configured Leaf Collector systems by clicking the Open  button.


The basic attributes of the Leaf Collector System view are the following:

Attribute	Description
Hostname	The fully qualified domain name of the Leaf Collector system.
HTTP Port	The HTTP port number of the Leaf Collector system.
JNDI Port	The JNDI port number of the Leaf Collector system.
Leaf Count	Number of Leaf Collector instances running on the system.

Add Leaf Collector Systems

You must configure the NNM iSPI Performance for Traffic by adding Leaf Collector instances in the Leaf Collector view. You cannot use the data provided by Leaf Collectors unless you add the Leaf Collector instances and Leaf Collector systems to the NNM iSPI Performance for Traffic views.

To add a Leaf Collector system:

1. Go to the Leaf Collector Systems view.
2. Click the  Add icon. A new form opens.
3. In the form, specify necessary details in the following fields:
 - Container Hostname: Type the fully-qualified domain name of the Leaf Collector system.
 - Password: Type the password of the `system` account on the Leaf Collector system (this is the password that you specified during the installation of the Leaf Collector).
 - JNDI Port: Type 11099; this is the JNDI port number of the Leaf Collector system (you cannot change this value).
 - HTTP Port: Type 11080; this is the HTTP port number of the Leaf Collector system (you cannot change this value).
4. Click **Save & Close**.

Configuring Leaf Collector Instances

The NNM iSPI Performance for Traffic Configuration form enables you to configure individual Leaf Collector instances that you want to deploy on the network. You can create and configure multiple Leaf Collector instances on a single system.




Before configuring multiple Leaf Collector instances to run on a single system, make sure that you have sufficient resources on the system.

The Leaf Collectors view provides you with an interface to add and modify collector instances to the view. You can delete an existing collector instance from the Leaf Collectors view. The view also displays all the configured Leaf Collector instances on the network and helps you start or stop the collector instances of your choice.

To display the Leaf Collectors view, go to the NNM iSPI Performance for Traffic Configuration form, click **Leaf Collectors**. The Leaf Collectors view opens.

The following table lists different uses of the view.

Uses of the Leaf Collectors View

Use	Description
Add a new Leaf Collector instance	Open a new form to add a new Leaf Collector instance by clicking the Add  button.
View the details of existing Leaf Collector instances	The view presents the details of all the Leaf Collector instances that are already added.
Edit the properties of existing Leaf Collector instances	Open a new form by clicking the Open () button to edit the properties of a collector instance that was already added.
Delete a Leaf Collector instance that was configured with the monitoring solution	Open a new form to delete an existing Leaf Collector instance from the list of configured Leaf Collector instances by clicking the Open () button.


The basic attributes of the Leaf Collectors view are the following:

Attribute	Description
Collector Name	The fully qualified domain name of the Leaf Collector system.
Status	The status of the Leaf Collector system.
IP	The IP address of the Leaf Collector system.
Collector Type	The type of Leaf Collector instance running on the system. Possible values are: <ul style="list-style-type: none"> • Netflow • Sflow • JFlow • IPFIX
Container Hostname	Fully qualified domain name of the system that hosts the collector instance.
Listen Port	Port where the collector instance listens for incoming traffic packets.

Add a Leaf Collector Instance

You must configure the NNM iSPI Performance for Traffic by adding Leaf Collector instances in the Leaf Collector view.

To add a leaf collector instance:

1. Go to the Leaf Collectors view.
2. Click the  Add icon. A new form opens. The form presents the following two different sections:

- Leaf Collector Details: You must specify necessary details of the collector here.
 - The other section presents multiple tabs to display additional properties associated with the collector.
3. In the Leaf Collector Details section, specify the values in the following fields:
- Collector Type: Select the type of the collector.
 - Listen Port: Specify the port where the collector listens for incoming flow packets (must be in the range of 1024-65535).
 - IP: Type the IP address of the Leaf Collector system.
 - Store Flow in File: Select **true** if you want to store the incoming flow packets in a file on the Leaf Collector system.
Note: Use this feature only for troubleshooting. This option has a significant impact the performance of the Leaf Collector.

If you select true, the flow packet files are created in the following directory on the Leaf Collector system:

On Windows:

```
<Data_Dir>\shared\traffic-leaf\data\<Leaf_Collector_Instance>\<IP_Address_of_Source>
```

On Linux:

```
/var/opt/OV/shared/traffic-leaf/data/<Leaf_Collector_Instance>/<IP_Address_of_Source>
```

In this instance:

<Data_Dir>: Data directory that you chose during the installation of the Leaf Collector.


<Leaf_Collector_Instance>: Name of the Leaf Collector instance

<IP_Address_of_Source>: IP address of the device where the flow packet originated.


- Source IP DNS Lookup: Set this to **true** if you want to enable DNS lookup of the source of the flow packet.
 - Destination IP DNS Lookup: Set this to **true** if you want to enable DNS lookup of the destination of the flow packet.
4. *Optional.* Add secondary properties of the collector in the other section:
- In the Filter Groups tab, associate a filter group with the Leaf Collector.
 - In the All TOS Groups, tab, associate a TOS group with the Leaf Collector.
5. In the All Application Mapping Groups tab, associate an application mapping group with the Leaf Collector. If you have not created any application mapping groups, you *must* select the `DefaultAppMapGroup` to be able to sort and rank metrics by applications on reports.
6. In the All Leaf Collector Systems tab, select the hostname of the system where you installed the Leaf Collector.
7. Click **Save & Close**.

Starting and Stopping a Leaf Collector Instance

To start a Leaf Collector instance:

1. Go to the Leaf Collectors view.
2. Select the Leaf Collector instance that you want to start.
3. Click the  Start icon.

To stop a Leaf Collector instance:

1. Go to the Leaf Collectors view.
2. Select the Leaf Collector instance that you want to stop.
3. Click the  Stop icon.

Configure Sites

The NNM iSPI Performance for TrafficConfiguration form enables you to define sites in your networking environment. You can view traffic reports for specific sites to identify site-specific performance bottlenecks in your organization's network infrastructure.

When a flow collector sends a flow packet to the Leaf Collector, the source and destination sites of the flow packet are computed by the Leaf Collector based on the sites that you configure with the help of the NNM iSPI Performance for TrafficConfiguration form.

You can define a site by a specific IP address or a range of IP addresses. The NNM iSPI Performance for Traffic associates the flow with a site if the origin or destination of the flow is a system whose IP address that defines the site. You can also use the wildcard character (*) in the IP address while defining a site. Before you use the NNM iSPI Performance for TrafficConfiguration form to define sites, see ["Guidelines for Defining a Site" \(on page 12\)](#).

Site Priority

By defining the site priority, you configure the Leaf Collector to process site information of received flow packets in a specific order. The Leaf Collector prioritizes processing of flow packets associated with high priority sites.

Guidelines for Defining a Site


Follow these guidelines when you define sites in the NNM iSPI Performance for TrafficConfiguration form by specifying IP address:

- You can use an IP address, an IP address range, or an IP address with the wildcard character (*) to define a site.
- You can use the wildcard character in one or more (or all) octets of the IP address while defining the site.
Note: When you use wildcards for all four octets while defining the site, the NNM iSPI Performance for Traffic associates the site to all flow packets collected from the network. If the IP address pattern matches the SrcIP of the flow it will map it to a Source Site Name field.
- You can use an IP address range instead of a single IP address for defining a site. You can use ranges in one or more (or all) octets of the IP address while defining the site. For example, 179.16.2-20.1-100.

Add Sites

Although it is optional to add site definitions in the NNM iSPI Performance for Traffic Configuration form, you can enrich traffic reports with the option to group data by sites.

To add a new site:

1. In the NNM iSPI Performance for Traffic Configuration form, click **Sites**.
2. In the Sites view, click the  Add icon. A new form opens with the following sections:
 - Site Details: In this section, you must specify the primary details of the site you want to add.
 - The other section lists similar sites that exist in the environment.
 - 3. In the Site Details section, specify the following details:
 - Site Name: Type the name of the Site. Do not use any special characters other than the hyphen (-) and underscore (_).
 - *Optional.* Site Description: Type a description of the site.
 - *Optional.* Site Priority: Type the priority of the site (an integer between 0 and 65535). The NNM iSPI Performance for Traffic considers that the value 0 is of the highest priority and the value 65535 is of the lowest priority.
 - To view the sites of higher priority, click **Show Higher Priority Sites**. The Higher Priority Sites tab displays existing sites that have a higher priority assigned to them.
 - To view the sites of lower priority, click **Show Lower Priority Sites**. The Lower Priority Sites tab displays existing sites that have a lower priority assigned to them.
 - To view the sites with the equal priority value, click **Show Same Priority Sites**. The Same Priority Sites tab displays existing sites that have the same priority assigned to them.
 - Site IP Configuration: In this section, type the following detail:
 - New IP/Range: Type the IP address or range of IP addresses to define the site. You can use the wildcard character (*) while specifying the IP address. For guidelines on specifying this parameter, see ["Guidelines for Defining a Site" \(on page 12\)](#).
 - If the `SrcIP` or `DstIP` attribute (or both) of a packet matches the IP address (or the IP address range) specified in this field, the NNM iSPI Performance for Traffic associates the packet to the site.
 - For example, if you specify `172.16.*.*`, flow packets with `172.16.2.1` as the `SrcIP` or `DstIP` attribute are associated to the site.
 - After typing the value, click **Add**.
 - To include more IP address (or IP address ranges) in the site definition, type the address or range in the New/IP Range box, and then click **Add**.
4. Click **Save & Close**.

Configure Filters

Filters enable to filter out flow packets that are not of your interest. The NNM iSPI Performance for Traffic Configuration form enables you to define filters to utilize only the relevant flow packets for traffic flow monitoring. The filtering mechanism of the NNM iSPI Performance for Traffic enables you to either **drop** or **keep** flow packets based on the filter definitions that you create.

You can create filtering conditions using the following attributes of a flow packet:


- ProducerIP: IP address of the system where the flow collector is located.
- SrcIP: IP address of the system where the traffic flow originated.
- DstIP: IP address of the system where the traffic flow terminated.
- IPProtocol: Protocol used by the traffic flow.
- NFSNMPInputIndex: SNMP index of the egress interface
- NFSNMPOutputIndex: SNMP index of the ingress interface
- DstPort: Ingress port
- TCPFlags: TCP flag of the traffic flow
- IPToS: Type of Service property of the traffic flow

The NNM iSPI Performance for Traffic enables you to define a filter with multiple conditions by assigning the AND operator on the conditions.

Add Filters

The NNM iSPI Performance for Traffic Configuration form enables you to add filter conditions to filter out unnecessary flow packets. Although optional, creating filters simplifies the process of analyzing the traffic flow packets by discarding irrelevant and unnecessary flow packets.

To add a new filter:

1. In the NNM iSPI Performance for Traffic Configuration form, click **Filters**.
2. In the Filters view, click the  Add icon. A new form opens with the following sections:
 - Filter Details: In this section, you must specify the primary details of the filter you want to add.
 - The other section lists related details.
3. In the Filter Details section, select the filter operation.

If you select **keep**, the NNM iSPI Performance for Traffic retains only the packets that satisfy the condition of the filter and discards all other packets.

If you select **drop**, the NNM iSPI Performance for Traffic discards only the packets that satisfy the condition of the filter and retains all other packets.
4. You can create new conditions and delete or modify the existing conditions.

To create a new condition:

 - a. Select an attribute.
 - b. Select an operator. For the ProducerIP, SrcIP, and DstIP attributes, you can choose the like, equals, or not-equals operator. For the other attributes, you can choose the =, !=, <=, or >= operator.

The Filter Text Configuration tab in the right pane shows the condition that you define in the Filter Details section. The All Filter Groups tab shows the list of all defined filter groups.
 - c. Specify the value to be compared.
 - d. Click **Add**. Another row of attributes and operators appears.

- e. To add another condition, repeat the above steps. If you define multiple conditions, the NNM iSPI Performance for Traffic assigns the AND operator on them while performing the filtering action.
 - f. *Optional.* If filter groups are already defined, you can associate the filter with a filter group from the All Filter Groups tab. By default, the NNM iSPI Performance for Traffic places the new filter in DefaultFilterGroup.
5. Click **Save & Close**.

Filter Groups

You can define filter groups to group a set of defined filters. The NNM iSPI Performance for Traffic provides you with a default filter group—DefaultFilterGroup.

You can use the Filter Mapping Groups view in the NNM iSPI Performance for Traffic Configuration form to define new filter groups, associate filters with existing filter groups, view and modify the existing filter groups, and delete filter groups.

To view the Filter Groups view, click **Filter Groups** in the NNM iSPI Performance for Traffic Configuration form.


The basic attributes of the Filter Groups view are the following:

Attributes	Description
Filter Group Name	The name of the group.
Number of Filters	The number of filters associated with the group.

Add a New Filter Group

The NNM iSPI Performance for Traffic provides you with a the default application mapping group—DefaultAppMapGroup. You can also define new application mapping groups by using the NNM iSPI Performance for Traffic Configuration form.

To add a new filter group:

1. In the NNM iSPI Performance for Traffic Configuration form, click **Filter Groups**.
2. In the Filter Groups view, click the  Add icon. A new form opens.
3. In the Filter Group Details section, specify the name of the filter group. You can use alphanumeric characters, hyphens (-), and underscores (_).
4. The All Filters tab shows the list of all filters and their association with the filter groups. To associate a filter with the new filter group, select the select checkbox () next to the filter.
5. Click **Save & Close**.

Application Mapping

The application mapping feature enables you to associate flow packets with specific applications in your organization. This helps you correlate the flow packets with applications. The NNM iSPI

Performance for Traffic provides you with a set of default application mapping definitions and a default [application mapping group](#)—DefaultAppMapGroup.

You can use the Application Mappings view in the NNM iSPI Performance for Traffic Configuration form to define new applications, map flow packets to existing applications, view and modify the current application mapping setting, and delete application definitions.

To view the Application Mappings view, click **Application Mappings** in the NNM iSPI Performance for Traffic Configuration form.


The basic attributes of the Application Mappings view are the following:

Attributes	Description
Application Name	The name of the application.
Condition Configuration	The expression that defines association of flow packets with an application.
Application Groups	Application mapping groups where the application belongs. An application can belong to multiple application groups.

Define a New Application

The NNM iSPI Performance for Traffic provides you with a set of default application mapping definitions and a default [application mapping group](#)—DefaultAppMapGroup. You can also define new applications by using the NNM iSPI Performance for Traffic Configuration form.

To define a new application:

1. In the NNM iSPI Performance for Traffic Configuration form, click **Application Mappings**.
2. In the Application Mappings view, click the  Add icon. A new form opens with the following sections:
 - Application Mapping Details: In this section, you must specify the primary details of the application you want to add.
 - The other section lists related details.
3. In the Application Mapping Details section, specify the following details:
 - Application Name: Type the name of the application. You can use alphanumeric characters, hyphens (-), and underscores (_).
 - Define the mapping rule: The NNM iSPI Performance for Traffic enables you to map a flow packet to an application with the help of expressions created with different attributes of the flow packet. The attributes are:
 - ProducerIP: IP address of the system where the flow collector is located.
 - SrcIP: IP address of the system where the traffic flow originated.
 - DstIP: IP address of the system where the traffic flow terminated.
 - IPProtocol: Protocol used by the traffic flow.

- NFSNMPInputIndex: SNMP index of the egress interface
- NFSNMPOutputIndex: SNMP index of the ingress interface
- DstPort: Ingress port
- TCPFlags: TCP flag of the traffic flow
- IPToS: Type of Service property of the traffic flow

To create an expression:

- Select an attribute.
 - Select an operator. For the ProducerIP, SrcIP, and DstIP attributes, you can choose the [like](#), [equals](#), or [not-equals](#) operator.
For the other attributes, you can choose the [=](#), [!=](#), [<=](#), or [>=](#) operator.
The Application Mapping Text Configuration tab in the right pane shows the condition that you define in the Filter Details section. The All Application Mapping Groups tab shows the list of all defined filter groups.
 - Specify the value to be compared.
 - Click **Add**. Another row of attributes and operators appears.
 - To add another expression, repeat the above steps. If you define multiple expressions, the NNM iSPI Performance for Traffic assigns the AND operator on them while performing the mapping action.
- Click **Save & Close**.

Application Mapping Groups

You can define application mapping groups to group a set of defined applications. Grouping applications into a group helps you analyze the data better as you can use the application groups as the Group By parameter on reports. The NNM iSPI Performance for Traffic provides you with a default application mapping group—DefaultAppMapGroup.

You can use the Application Mapping Groups view in the NNM iSPI Performance for Traffic Configuration form to define new application mapping groups, associate applications with existing application mapping groups, view and modify the current application mapping groups, and delete application mapping groups.

To view the Application Mapping Groups view, click **Application Mapping Groups** in the NNM iSPI Performance for Traffic Configuration form.


The basic attributes of the Application Mapping Groups view are the following:

Attributes	Description
Application Group	The name of the group.
Number of Application Mappings	The number of applications associated with the group.

Add a New Application Mapping Group

The NNM iSPI Performance for Traffic provides you with a the default application mapping group—DefaultAppMapGroup. You can also define new application mapping groups by using the NNM iSPI Performance for Traffic Configuration form.

To define a new application mapping group:

1. In the NNM iSPI Performance for Traffic Configuration form, click **Application Mapping Groups**.
2. In the Application Mapping Groups view, click the  Add icon. A new form opens.
3. In the Application Mapping Groups Details section, specify the name of the application mapping group. You can use alphanumeric characters, hyphens (-), and underscores (_).
4. The All Application Mappings tab shows the list of all applications and their association with the application mapping groups. To associate an application with the new application mapping group, select the select checkbox () next to the application.
5. Click **Save & Close**.

Top N Application Inclusion List

The Top N Application Inclusion List view enables you to configure the NNM iSPI Performance for Traffic to always include select applications on the Top N reports in Interface_1_min and Interface_15_min report folders. Typically in leaf collector only top contributors to traffic are retained for a time interval and the rest are grouped into a single 'Anonymous' bucket. In the case of applications, you can configure a set of applications such that traffic data for them will always be retained irrespective of their contribution to the traffic volume.

To open the Top N Application Inclusion List view, open the NNM iSPI Performance for Traffic Configuration form, and then click **Top N Application Inclusion List**.

To add an application to the list of applications that always appear on Top N reports:

1. Select an application mapping group.
2. From the left pane, select the applications that you want to add to the list.
3. Click **Add**. The selected applications appear on every Top N report.

To remove an application from the list, select the application from the right pane, and then click **Remove**.

Note: If you define multiple applications with the same name, the NNM iSPI Performance for Traffic Configuration form lets you add only one application from among the applications with the same name.


Configure Classes of Service

The NNM iSPI Performance for Traffic enables you to enrich every traffic flow by adding the Class or Service attribute to the flow. You can define this attribute by using the NNM iSPI Performance for Traffic Configuration form. If defined, you can sort or group different values of traffic metrics on reports by this attribute.

Add Class of Service Definitions

To use the Class of Service property to rank traffic metric values, you must define Classes of Service first by using the NNM iSPI Performance for Traffic Configuration form.

To define a class of service:

1. In the NNM iSPI Performance for Traffic Configuration form, click **Type Of Service Groups**.
2. In the Type Of Service Groups view, click the  Add icon. A new form opens.
3. In the new form, follow these steps:
 - a. In the TOS Group Name box, type a name. While configuring a Leaf Collector instance (see ["Add a Leaf Collector Instance" \(on page 10\)](#)), you can associate this TOS group name with the Leaf Collector.
 - b. In the Type Of Service Group Details section, select a Type of Service (ToS) value, select an operation (= or *between*), and then select a ToS value (select two values if you choose the *between* operation).
 - c. In the Operand box, type the name of the class of service. This class of service name appears in the 'Grouping By' metric list on reports if you associate the TOS group with a Leaf Collector instance.
 - d. If you want to add another class of service, click **Add**, and then repeat [step c](#).
4. Click **Save & Close**. The newly defined TOS group appears in the Type Of Service Groups view.

Configuring Master Collectors

After adding all the details of Leaf Collectors in the NNM iSPI Performance for Traffic Configuration form, you must set up the Master Collector in your environment, which includes adding details like the hostname of the Master Collector system and the flush record limit of collector in the NNM iSPI Performance for Traffic Configuration form.

Note: You must set up only one Master Collector in your environment. However, in a GNM setup, you can add a Master Collector that belongs to a different regional manager to your region.

To set up the Master Collector:

1. In the NNM iSPI Performance for Traffic Configuration form, click **Master Collectors**.
2. In the Master Hostname field, type the FQDN of the Master Collector system.
3. In the Flush Record Limit field, specify the number of records you want to send to the NPS from the Master Collector system.
4. In the DNS section, specify the following details:

Note: Do not set these fields to true if you already configured DNS lookup for sources and destinations for Leaf Collectors.

 - Source IP DNS Lookup: Set this to **true** if you want to enable DNS lookup of the source of a flow packet.

- Destination IP DNS Lookup: Set this to **true** if you want to enable DNS lookup of the destination of a flow packet.
- DNS Lookup Type:

5. Click **Save**.

Global Network Management Environment

You can deploy the NNM iSPI Performance for Traffic in the Global Network Management (GNM) setup, which consists of regional NNMi management servers and a global NNMi management server.

In a GNM setup, you can add Master and Leaf Collectors that belong to a different regional manager to your local configuration as remote collectors.

The NNM iSPI Performance for Traffic offers full support for deployment in a Global Network Management environment. Each instance has the following components:

- NNMi
- Network Performance Server
- The NNM iSPI Performance for Traffic Master collector
- The NNM iSPI Performance for Traffic Leaf Collectors

The NNMi in the Global Manager receives data from the regional managers. The Master Collector in the global manager can be configured to receive data from the regional Master Collectors in the following ways:

- The Master Collector in the global manager can receive data from the Master Collector in the regional manager. In this case, you must add the regional Master Collector as a remote Master source in the global Master Collector. This ensures that the complete set of data received by the regional Master Collector is forwarded to the global Master Collector. In the above scenario, the global Master Collector receives data processed by both Traffic Leaf 1 and Traffic Leaf 2.
- The Master Collector in the global manager can receive data directly from a regional Leaf Collector system, bypassing the regional Master Collector. In this case the regional Leaf Collector (Traffic Leaf 3 in the above scenario) can be added as a leaf remote source to the global Master Collector. This will ensure that the data received by all the Leaf Collectors on the remote Leaf Collector system is sent to the regional Master Collector as well as the global Master Collector. The regional Master Collector or the regional Leaf Collector can only be configured to send data to the global Traffic Master Collector. The global Master Collector cannot administer and manage these components.


Best Practice

Add all the regional Master Collectors as remote Master sources to the global Master Collector.

Add Remote Leaf Collectors

The NNM iSPI Performance for Traffic Configuration form enables you to add Leaf Collectors that belong to a different regional NNMi to your local configuration.


To add a remote Leaf Collector:

1. In the .NNM iSPI Performance for Traffic Configuration form, click **Leaf Remote Sources**.
2. In the Leaf Remote Sources view, click the  Add icon. A new form opens.
3. In the new form, specify the following details:
 - Remote Leaf Hostname: Hostname of the remote Leaf Collector system.
 - Leaf Password: Password of the Leaf Collector configured during the installation of the collector.
 - JNDI Port: JNDI port of the collector.
 - HTTP Port: HTTP port of the collector.
4. Click **Save & Close**.

Add Remote Master Collectors

The .NNM iSPI Performance for Traffic Configuration form enables you to add Master Collectors that belong to a different regional NNMi to your local configuration. You can use this procedure to associate all regional managers with the global manager.

To add a remote Master Collector:

1. In the .NNM iSPI Performance for Traffic Configuration form, click **Master Remote Sources**.
2. In the Master Remote Sources view, click the  Add icon. A new form opens.
3. In the new form, specify the following details:
 - Remote Master Hostname: Hostname of the remote Master Collector system.
 - Master Password: Password of the Master Collector configured during the installation of the collector.
 - JNDI Port: JNDI port of the collector.
 - HTTP Port: HTTP port of the collector.
4. Click **Save & Close**.

Troubleshooting

Problem Statement

Leaf Collector status shows as NOT_RUNNING on the Master Configuration form.

Resolution

1. Check the password entered while creating the Leaf Container. It should match the password entered while installing the Leaf component on the system where the container is configured.
2. Check if the Leaf Collector process is running on the system hosting it.
3. Check if the Leaf Container system is reachable from the Master Collector system.

Problem Statement

Leaf collector is not processing any packets.

Resolution

1. Check the Leaf Collector to log for any exceptions or errors related to binding to an IP address and port.
2. Ensure that you have the Windows firewall settings to accept traffic and check Windows website to get the correct settings. Antivirus protection needs to be disabled on the Leaf Collector system.
3. Check if packets are coming to the designated port and bind IP address on the Leaf Collector system.
4. The Leaf Collector log shows the error in getting objects from pool. Increase the flowrecord.pool.size to double its current value in the following file:
Windows:
<Leaf_Data_Dir>/log/traffic-leaf/jbossServer.log
Linux:
/var/opt/OV/log/traffic-leaf/jbossServer.log

Problem Statement

Master Collector is receiving data from the Leaf Collectors but no output is sent to the Network Performance Server.

Resolution

1. Check if there is a message indicating that it could not lookup an IP address. If present this indicates that the router exporting flow is not seeded in NNMi. A message in the following file in the Master Collector indicates the IP address of the router or switch for which it could not lookup the NNMi node instance:
Windows: <Master_Data_Dir>\log\traffic-master\jbossServer.log
Linux: /var/opt/OV/log/traffic-master/jbossServer.log
2. Check if the files are getting written to the <NNMDataDir>/shared/perfSpi/ datafiles directory or the shared drive if the Master Collector is on a different system than the NNMi management server. The following log file stores the messages indicating that topology and metric data files for traffic are created:
Windows:<Master_Data_Dir>\log\traffic-master\traffic_master_spi_<n>.log.<m>
Linux: /var/opt/OV/log/traffic-master/traffic_master_spi_<n>.log.<m>
3. The global Master collector is unable to add the regional Master Collectors and Leaf Collectors as remote sources. The status is displayed as Down and no data is received.
4. On the Traffic Master Collector system, add an entry for both the FQDN as well as the hostname of the regional Master Collector and Leaf Collector system for IP address resolution.
5. Check if the remote Master Collector and Leaf collector is running correctly and the system is reachable from the global Master Collector system.

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