

# HP Network Node Manager i Software Smart Plug-in Performance for Traffic

For the Windows<sup>®</sup> and Linux operating systems

Software Version: 9.00

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[Online Help](#)

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## HP Network Node Manager

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## HP Network Node Manager i Software Smart Plug-in Performance for Traffic

The HP Network Node Manager (NNMi) iSPI Performance for Traffic Software extends the capability of NNMi to monitor the performance of the network. The HP NNM iSPI Performance for Traffic (NNM iSPI for Traffic) facilitates enrichment of the obtained data from the IP flow records that are exported by the routers.

The iSPI Performance for Traffic performs the following tasks:

- Aggregates the IP flow records.
- Enriches the IP flow records by providing the ability to add or update the available fields in the flow records.
- Correlates the obtained IP flow records with NNMi for context based analysis.
- Generates performance reports by exporting data to the Network Performance Server (NPS).
- Generates maps to view the traffic flow information on your network.

After you install the product on the NNMi management server, you can monitor and obtain finer resolution of traffic flow in a specified network. NNMi enables the framework to monitor the state of the computing environment and network in your organization. NNM iSPI Performance for Traffic analyzes the collected data and generates performance reports.

### NNM iSPI Performance for Traffic - Configuration form

The NNM iSPI Performance for Traffic - Configuration form enables you to configure the various entities required to enrich data received from IP Flow Records. [Master Collector](#)<sup>1</sup> and [Leaf Collectors](#)<sup>2</sup> can be configured for receiving IP Flow records from routers. You can create filters to filter the data in the IP flow records and aggregate it with the help of Master and Leaf Collectors. The individual filters can be grouped to form filter groups which enables advanced filtering capabilities.

NNM iSPI Performance for Traffic Configuration form enables you to add contextual fields to the IP flow records by performing application mapping. Application mapping is achieved by

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<sup>1</sup>The Master Collector receives the processed IP flow from the Leaf Collectors. It performs lookup with NNMi for additional processing of the flow records and exports data to the NNM iSPI Performance for Metrics components to generate performance reports.

<sup>2</sup>The Leaf Collector contains Leaf Collector instances, Leaf Collector instances summarize flow records.



creating an expression and condition. Multiple application mappings can be consolidated to form application groups.

## **NNM iSPI Performance for Traffic - Maps**

The NNM iSPI Performance for Traffic - Maps enables you to view the traffic flow information on your network in a graphical form. You can identify the top contributors of traffic flow to your network. The required information can be obtained by using the filters available in the Traffic Map form.

## **The HP Network Node Manager i Software Smart Plug-in Performance for Traffic - Configuration form**

NNM iSPI Performance for Traffic - Configuration form enables you to configure the various entities required for enrichment of data received from IP Flow Records. [Master Collector](#)<sup>1</sup> and [Leaf Collectors](#)<sup>2</sup> can be configured for receiving IP Flow records from routers. You can create filters for filtering the data in the IP flow records and aggregate it with the help of Master and Leaf Collectors. The individual filters can be grouped to form filter groups which enables advanced filtering capabilities.

NNM iSPI Performance for Traffic Configuration form provide the following workspaces:

- [Subsystem Configuration Workspace](#)
- [Filters and Application Mapping Workspace](#)

The workspace enables you to configure the required forms for IP flow data records enrichment.

### **Subsystem Configuration Workspace**

The Subsystem Configuration workspace in the NNM iSPI Performance for Traffic Configuration form enables the user to configure the following:

- [Leaf Collectors](#)
- [Leaf Containers](#)
- [Flow Forwarders](#)

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<sup>1</sup> The Master Collector receives the processed IP flow from the Leaf Collectors. It performs lookup with NNMi for additional processing of the flow records and exports data to the NNM iSPI Performance for Metrics components to generate performance reports.

<sup>2</sup> The Leaf Collector contains Leaf Collector instances, Leaf Collector instances summarize flow records.

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- [Master Collector](#)
- [Master Remote Sources](#)
- [Leaf Remote Sources](#)
- [All Flow Producers](#)

## Leaf Collectors

The iSPI Performance for Traffic Configuration form enables you to configure multiple Leaf Collector instances that are deployed on the NNMi network. A Leaf Collector reduces the network traffic by summarizing the IP flow records at smaller time resolution. The required IP flow attributes can be selected to aggregate the IP flow records.

The Leaf Collector performs [DNS](#)<sup>1</sup> lookup for source and destination IP addresses, and flushes the IP flow records to the Master Collector. The flushing period for each leaf collector instance can be predefined. You can start and stop a Leaf Collector instance as required.

The Leaf Collector form in the view mode displays all the configured Leaf Collectors on the network. You can open an existing leaf collector to view the details of the configuration. You can modify the properties of the leaf collector by opening the required leaf collector in the edit mode and making the necessary changes.

The basic attributes of the Leaf Collector form are the following:

Attribute	Description
Collector Name	The name of the leaf collector.
Status	The status of the leaf collector. Possible values are; <ul style="list-style-type: none"><li>• Running</li><li>• Not Running</li></ul>
IP Address	The IP address of the leaf collector.
Collector Type	The type of the leaf collector. Possible values are: <ul style="list-style-type: none"><li>• Netflow</li><li>• Sflow</li></ul>
Container Host Name	The name of the leaf container.
Listen Port	The port that receives the IP flow records from the router.

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<sup>1</sup>Domain Name System (DNS) is a hierarchical naming system for computers, services, or any resource connected to the Internet or a private network.


Attribute	Description
Flush Period	Time period during which the IP flow records are flushed to the master collector after
Last Start Time	Time on which the leaf collector instance was last started.
Last Stop Time	Time on which the leaf collector instance was last stopped.
Last Flush Time	Time on which the IP flow records were last flushed to the master collector.
Number of Flows	Number of IP flow records received by the leaf collector from the router.
Number of Flushed	Number of IP flow records flushed after filtering and aggregation.
Number of Packets	Number of data packets flushed after filtering and aggregation.



Using the Leaf Collector form, you can:

- [Add a Leaf Collector](#)
- [Edit a Leaf Collector](#)
- [Delete a Leaf Collector](#)
- [Start and Stop a Leaf Collector](#)

### Adding a Leaf Collector Instance


To add a leaf collector instance,



1. Launch the NNM iSPI Performance for Traffic.
2. From the iSPI Performance for Traffic Configuration form, select **Leaf Collector** from the Subsystem Configuration workspace.
3. Click  **Add**. The Leaf Collector form opens in the create mode.
4. Type the collector name in the Collector Name field.
5. Select the type of collector from the drop-down list available in the Collector Type field. The values in the list are Netflow and Sflow.
6. Type the port number of the leaf collector which listens to the router in the Listen Port field.

7. Type the IP address in the IP field.
8. Type the flush period in the Flush Period field.
9. Select the required value from the drop-down list available in the Source IP DNS Lookup field. The values in the list are True or False. The value you select determines whether source IP DNS lookup should be done at the leaf or not.
10. Select the required value from the drop-down list available in the Destination IP DNS Lookup field. The values in the list are: True or False. The value you select determines whether destination IP DNS lookup should be done at the leaf or not.
11. Select the required IP flow attribute from the **All Aggregation Key** tab on the right panel of the console. You can select multiple IP flow attributes..
12. Select the required filter group from the available list in the **All Filter Group** tab. The selected filter group is assigned to the leaf collector instance. You can add new filter groups and edit existing ones from the same tab. For more information about adding and editing Filter Groups see, [Filter Groups](#).
13. Select the required Application Mapping group from the list of application mapping groups available in the **All Application Mapping Group** tab.
14. Select the required Leaf Container from the list of containers available in the **All Leaf Container** tab.
15. Click  **Save**.
16. Click  **Close**.

### Editing a Leaf Collector Instance


To edit a leaf collector instance:

1. From the iSPI Performance for Traffic Configuration form, select **Leaf Collector** from the Subsystem Configuration Workspace.
2. Select the required leaf collector from the **Leaf Collectors** form.
3. Click  **Edit**. The Leaf Collector form opens in the edit mode.
4. Make the required changes in the Leaf Collector Details panel on the left side.
5. Make the required changes in the **Applied Aggregation Key** tab on the right panel to modify the aggregation key attribute applied on the selected leaf collector.
6. Make the required changes in the **Applied Filter Group** tab on the right panel to modify the filter group assigned to the selected leaf collector.  
You can also add new filter group and edit existing ones from the same tab. For more information about Adding and Editing see, [Filter Groups](#).

7. Make the required changes in the **Applied Application Mapping Group** tab on the right panel to modify the application mapping group applied to the selected leaf collector. You can also add new application mapping group and edit existing ones from the same tab. For more information about Adding and Editing see, [Application Mapping Group](#).
8. Click  **Save**.
9. Click  **Close**.


### **Deleting a Leaf Collector Instance**

To delete a Leaf Collector instance:


1. From the iSPI Performance for Traffic Configuration form, select **Leaf Collector** from the Subsystem Configuration Workspace.
2. Select the required Leaf Collector from those listed in the Leaf Collector form.
3. Click  **Delete**.

### **Starting and Stopping a Leaf Collector Instance**

To start a Leaf Collector instance in the NNMi network:

1. From the iSPI Performance for Traffic Configuration form, select **Leaf Collector** from the Subsystem Configuration Workspace.
2. Select the required Leaf Collector from the displayed list.
3. Click  **Start**.

To stop a Leaf Collector instance in the NNMi network:

1. From the iSPI Performance for Traffic Configuration form, select **Leaf Collector** from the Subsystem Configuration Workspace.
2. Select the required Leaf Collector.
3. Click  **Stop**.

### **Leaf Containers**

Individual leaf collector instances are consolidated and are configured into one Leaf Container. One leaf container can host multiple leaf collector instances which performs the summarization of IP flow records.

The basic attributes of the Leaf Container form are the following:




Attribute	Description
Container Host Name	The name of the leaf container.
Username	The user name of the leaf container.
JNDI Port	The Java Naming and Directory Interface (JNDI) port associated with the leaf container.
HTTP Port	The Hypertext Transmission Protocol (HTTP) associated with the leaf container.
Leaf Count	The number of leaf collector instances in the leaf container.

Using the Leaf Container form, you can:

- [Add a Leaf Container](#)
- [Edit a Leaf Container](#)
- [Delete a Leaf Container](#)


### Adding a Leaf Container

To add a Leaf Container:

1. From the iSPI Performance for Traffic Configuration form, select **Leaf Container** from the Subsystem Configuration workspace.
2. Click  **Add**. The Leaf Container form opens in the create mode.
3. Type the container host name in the Container Hostname field.
4. Type the Java Naming and Directory Interface (JNDI) port number, in the JNDI Port field. The default value is 11099.
5. Type the Hypertext Transmission Protocol (HTTP) port number in the HTTP Port field. The default value is 11080.
6. Type the user name in the Username field.
7. Type the password in the Password field.
8. Click  **Save**.
9. Click  **Close**.

## Editing a Leaf Container


To edit a leaf container:

1. From the iSPI Performance for Traffic Configuration form, select **Leaf Container** from the Subsystem Configuration Workspace.
2. Select the required leaf container from the **Leaf Container** form.
3. Click  **Edit**. The Leaf Container form opens in the edit mode.
4. Make the required changes in the Leaf Container Details panel on the left side.
5. Modify the selected leaf collector instance from the list available on the right panel, as required.  
You can also add new leaf container and edit existing ones from the same tab. For more information about Adding and Editing see, [Leaf Container](#).

6. Click  **Save**.
7. Click  **Close**.

## Deleting a Leaf Container

To delete a Leaf Container:

1. From the iSPI Performance for Traffic Configuration form, select **Leaf Container** from the Subsystem Configuration Workspace.
2. Select the required leaf container from the Leaf Container form.
3. Click  **Delete**.

## Master Collector

The leaf collector filters and aggregates the IP flow records obtained from the routers and passes them to the master collector. To enrich the data fields present in the flow records, the master collector adds contextual fields to the flow records. This gives clarity to the obtained data. The master collector performs lookup with Network Node Manager (NNMi) to provide enrichment of topology fields and also delivers metric and topology files.

The basic attributes of the Master Collector form are the following::

Attribute	Description
Master Hostname	The hostname of the master collector.
Source IP DNS Lookup	Indicates whether the IP DNS lookup should be performed at the source IP: <ul style="list-style-type: none"><li>• True</li></ul>

---

Attribute	Description
	<ul style="list-style-type: none"><li>• False.</li></ul>
Destination IP DNS Lookup	Indicates whether the IP DNS lookup should be performed. The possible values are : <ul style="list-style-type: none"><li>• True</li><li>• False.</li></ul>
Flush Period	Indicates the time period at which the IP flow data records are flushed.

## Master Collector Configuration

You can configure the Master Collector to perform the following tasks:

### Domain Name Service Lookup

The DNS resolves the hostname and performs lookup of source and destination IP addresses.

Note:

- The DNS lookup is obtained by querying the DNS servers.
- The local system cache is not used to perform DNS Lookup.
- The possibility of increase in traffic flow to the DNS servers is high.
- The time resolution of performing DNS lookup is high as the iSPI Performance for Traffic configuration does not depend on local system cache lookup.
- The DNS lookup can be performed by the Leaf Collector, but it is cost-effective when it is performed by the Master Collector.
- The source and destination IP address lookup must not be performed at Master Collector and Leaf Collector.



### Flushing IP Flow Records

The Master Collector flushes the IP flow records to iSPI Performance for Metrics components. You can configure the number of IP flow records that can be flushed to the iSPI Performance for Metrics components.

### To configure Master Collector,

1. From the iSPI Performance for Traffic Configuration form, select **Master Configuration** from the Subsystem Configuration Workspace.



2. Select the required value to enable the DNS lookup for source and destination IP addresses. Possible values are:
  - True
  - False
3. Select **false** to disable the DNS lookup for source and destination IP addresses.
4. Enter the value for the number of IP flow records to be flushed.
5. Click  **Save**.
6. Click  **Close**.

## Flow Forwarders

Flow forwarders are configured as threads in a leaf collector which enables it to send the IP flow records to the specified location. The destination to which the flow data is to be sent is identified with the IP address and port number combination. It is possible to configure multiple flow forwarding destinations for each leaf collector instance.

The basic attributes of the Flow Forwarder form are the following:




Attributes	Description
Flow Forwarder Name	The name of the flow forwarder.
Collector Name	The name of the leaf collector associated with the flow forwarder.
Status	The status of the forwarder. Possible values are: <ul style="list-style-type: none"><li>● Forwarding</li><li>● Not Forwarding</li></ul>
Forwarding IP	The IP address to which the flow data is forwarded.
Forwarding Port	The port to which the IP flow data records are forwarded.

Using the Flow Forwarder form, you can:

- [Add a Flow Forwarder](#)
- [Edit a Flow Forwarder](#)
- [Delete a Flow Forwarder](#)
- [Enabling and Disabling a Flow Forwarder](#)




## Adding a Flow Forwarder

To add a flow forwarder:

1. From the iSPI Performance for Traffic Configuration form, select **Flow Forwarders** from the Subsystem Configuration Workspace.
2. Click  **Add**. The Flow Forwarder form opens in the create mode.
3. Type the flow forwarder name in the Flow Forwarder Name field.
4. Type the forwarding port number in the Forwarding Port field. You must enter the port number of the leaf collector to which the flow records are forwarded.
5. Type the IP address in the Forwarding IP field. You must enter the IP address to which the flow records are forwarded.
6. Select the required Leaf Collector from the list of collectors available in the All Leaf Collectors tab.
7. Click  **Save**.
8. Click  **Close**.

## Editing a Flow Forwarder


To edit a flow forwarder:

1. From the iSPI Performance for Traffic Configuration form, select **Flow Forwarder** from the Subsystem Configuration Workspace.
2. Select the required flow forwarder from the **Flow Forwarder** form.
3. Click  **Edit**. The Flow Forwarder form opens in the edit mode.
4. Make the required changes in the Forwarding IP and Forwarding port fields in the Leaf Collector Details panel.
5. Click  **Save**.
6. Click  **Close**.

## Deleting a Flow Forwarder


To delete a Flow Forwarder:

1. From the iSPI Performance for Traffic Configuration form, select **Flow Forwarder** from the Subsystem Configuration Workspace.


2. Select the required flow forwarder from the Flow Forwarder form.
3. Click  **Delete**.

### Starting and Stopping a Flow Forwarder

To start a Flow Forwarder:

1. From the iSPI Performance for Traffic Configuration form, select **Flow Forwarder** from the Subsystem Configuration Workspace.
2. Select the required flow forwarder from the displayed list.
3. Click  **Start**.

To stop a Flow Forwarder in the NNMi network:

1. From the iSPI Performance for Traffic Configuration form, select **Flow Forwarder** from the Subsystem Configuration Workspace.
2. Select the required flow forwarder.
3. Click  **Stop**.

### Master Remote Sources

In an enterprise network, there are multiple data centers from which IP flow data is received for enrichment. To make the IP flow data filtering and aggregation seamless, a remote master collector is configured. There are multiple master remote sources that receives IP flow records from leaf collectors. They forward the IP flow records to the main master collector located in a different geographical area.

The basic attributes of the Master Remote Sources form are the following:

Attributes	Description
Remote Hostname	The hostname of the remote master collector.
Status	The status of the master remote source. Possible values are: <ul style="list-style-type: none"><li>• Running</li><li>• Not Running</li></ul>
HTTP Port	The Hypertext Transmission Protocol (HTTP) port associated with
JNDI Port	The Java Naming and Directory Interface (JNDI) port associated with
Launch Traffic UI	The Uniform Resource Locator (URL) used to access the traffic UI
Username	The user name assigned for accessing the master remote source.




Using the Master Remote Source form, you can:

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- [Add a Master Remote Source](#)
- [Edit a Master Remote Source](#)
- [Delete a Master Remote Source](#)




### Adding a Master Remote Source

To add a master remote source:

1. From the iSPI Performance for Traffic Configuration form, select **Master Remote Sources** from the Subsystem Configuration workspace.
2. Click  **Add**. The Master Remote Source form opens in the create mode.
3. Type the remote hostname in the Remote Hostname field.
4. Type the Java Naming and Directory Interface (JNDI) port number, in the JNDI Port field. The default value is 11099.
5. Type the Hypertext Transmission Protocol (HTTP) port number in the HTTP Port field. The default value is 11080.
6. Type the user name in the Username field.
7. Type the password in the Password field.
8. Click  **Save**.
9. Click  **Close**.

### Editing a Master Remote Source


To edit a master remote source:

1. From the iSPI Performance for Traffic Configuration form, select **Master Remote Sources** from the Subsystem Configuration Workspace.
2. Select the required leaf collector from the **Master Remote Sources** form.
3. Click  **Edit**. The Master Remote Source form opens in the edit mode.
4. Make the required changes in the Remote Master Details panel.
5. Click  **Save**.
6. Click  **Close**.

### Deleting a Master Remote Source

To delete a master remote source:

1. From the iSPI Performance for Traffic Configuration form, select **Master Remote Sources** from the Subsystem Configuration Workspace.

2. Select the required master remote source from the list available in the Master Remote Source form.
3. Click  **Delete**.

## Leaf Remote Sources

Leaf remote sources are leaf collectors configured in an enterprise network that is geographically distributed. The leaf remote source enables the IP flow data record enrichment seamless.

The basic attributes of the Leaf Remote Sources form are the following:


Attributes	Description
Remote Hostname	The hostname of the remote leaf collector.
Status	The status of the leaf remote source. Possible values are: <ul style="list-style-type: none"><li>• Running</li><li>• Not Running</li></ul>
HTTP Port	The Hypertext Transmission Protocol (HTTP) port associated with
JNDI Port	The Java Naming and Directory Interface (JNDI) port associated with
Username	The user name assigned for accessing the leaf remote source.



Using the Leaf Remote Source form, you can:

- [Add a Leaf Remote Source](#)
- [Edit a Leaf Remote Source](#)
- [Delete a Leaf Remote Source](#)

## Adding a Leaf Remote Source




To add a leaf remote source:

1. From the iSPI Performance for Traffic Configuration form, select **Leaf Remote Source** from the Subsystem Configuration workspace.
2. Click  **Add**. The Leaf Remote Source form opens in the create mode.
3. Type the remote hostname in the Remote Hostname field.
4. Type the Java Naming and Directory Interface (JNDI) port number, in the JNDI Port field. The default value is 11099.

5. Type the Hypertext Transmission Protocol (HTTP) port number in the HTTP Port field. The default value is 11080.
6. Type the user name in the Username field.
7. Type the password in the Password field.
8. Click  **Save**.
9. Click  **Close**.


### Editing a Leaf Remote Source

To edit a leaf remote source:

1. From the iSPI Performance for Traffic Configuration form, select **Leaf Remote Sources** from the Subsystem Configuration Workspace.
2. Select the required leaf collector from the **Leaf Remote Source** form.
3. Click  **Edit**. The Leaf Remote Source form opens in the edit mode.
4. Make the required changes in the Remote Leaf Details panel.
5. Click  **Save**.
6. Click  **Close**.

### Deleting a Leaf Remote Source

To delete a leaf remote source,

1. From the iSPI Performance for Traffic Configuration form, select **Leaf Remote Source** from the Subsystem Configuration Workspace.
2. Select the required leaf remote source from the Leaf Remote Source form.
3. Click  **Delete**.

### All Flow Exporters

The routers that send the IP flow data records to the leaf containers are called flow exporters. The flow exporters send the IP flow data records to the leaf container for filtering and aggregation.

The basic attributes of the All Flow exporter form are the following:

Attributes	Description
Container Name	The name of the leaf container to which the router sends the
Flow Exporter IP	The IP address associated with the flow exporter.

---

Attributes	Description
Number of Flows	The number of IP flows from the router.

---

## Filter and Application Mapping Workspace

The Filter and Application Mapping workspace in the NNM iSPI Performance for Traffic Configuration form enables the user to configure the following:

- [Conditions](#)
- [Expressions](#)
- [Filters](#)
- [Filter Groups](#)
- [Application Mapping](#)
- [Application Mapping Groups](#)

### Conditions

The iSPI Performance for Traffic Configuration form enables you to create conditions on the available IP flow attributes. Flow attributes are of three types:

- Integer
- String
- IP Address.

The administrator can select the appropriate operation set for the flow attribute type. A condition is configured by applying an operation set to an IP flow attribute.

Creating conditions enables you to customize and refine the IP flow records to perform network data analysis.

The available operation sets for each flow attribute are the following:

IP flow Attributes	Operation Set
Integer	'=', '!=', '>', '<', '>=', '<='
String	'equals', 'not-equals', 'like'
IP	'equals', 'not-equals', 'like'

Use the "like" operation set to indicate that the flow record is similar to the given condition. Use the "equal" operation set to indicate that the flow record exactly matches the selected condition.

To create a valid condition, you must provide the appropriate operand values corresponding to the IP flow attribute types while configuring a condition.

Examples of Conditions:

- For an integer type flow attribute, the administrator must enter the appropriate integer value in the Operand field. For example, 78.
- For a string type flow attribute, the administrator must enter the appropriate string value in the Operand field. For example, HP \* BTO Soft\*.
- For an IP address type flow attribute, the administrator must enter the appropriate string value in the Operand field. For example, 10-12.\*.20-25.\*. A hyphen (-) is used for the IP flow attribute only.

The basic attributes of the Conditions form are the following:

Attributes	Description
Condition Name	The name of the condition. The name must be alphanumeric, with
Flow Attribute	The flow attribute for which the condition is created.
Flow Attribute Type	The type of the flow attribute. Possible values are: <ul style="list-style-type: none"><li>• Integer</li><li>• String</li><li>• IP Address.</li></ul>
Operation	The operation selected for the condition.
Operand	The operand for the operation.

Using the Conditions form, you can:




- [Create a Condition](#)
- [Edit a Condition](#)
- [Delete a Condition](#)

## Creating a Condition

To create a condition:




1. From the iSPI Performance for Traffic Configuration form, click **Conditions** from the Filter and Application Mapping workspace. The Conditions form opens.



2. Click  **Add**. The Condition form opens in the create mode.
3. Type the condition name in the Condition Name field. The condition name must be alphanumeric, and must not contain special characters or empty spaces.
4. Select the required flow attribute from the drop-down list available in the Flow Attribute field.
5. Select the required operation from the drop-down list available in the Operation field.
6. Type the required value in the Operation field.
7. Click  **Save**.
8. Click  **Close**.


### Editing a condition

To edit a condition:

1. From the iSPI Performance for Traffic Configuration form, click **Conditions** from the Filter and Application Mapping workspace. The Conditions form opens.
2. Select the Condition to be edited from the list of conditions displayed.
3. Click  **Edit**. The Condition form opens in the edit mode.
4. Make the required changes in the Flow Attribute field.
5. Make the required changes in the Operation field.
6. Make the required changes in the Operand field.
7. Click  **Save**.
8. Click  **Close**.

### Deleting a Condition

To delete a condition:

1. From the iSPI Performance for Traffic Configuration form, click **Conditions** from the Filter and Application Mapping workspace. The Conditions form opens.
2. Select the required condition from the available list of conditions displayed.
3. Click  **Delete**.

## Expressions

The NNM iSPI Performance for Traffic Configuration enables you to create an expression from the available conditions. An expression can be defined as logical AND of multiple conditions. Expressions are used to perform application mapping. For example, the expression 'SrcPortAndDstIP' can contain two conditions 'SrcPortCondition' and 'DstIPCondition'. The expression 'SrcPortAndDstIP' works only when both the conditions are satisfied.

The basic attributes of the Expressions form are the following:




Attributes	Description
Expression Name	The name of the expression. The name should be alphanumeric characters.
Number of Conditions	The number of conditions associated with the expression.

Using the Expression form, you can:

- [Create an Expression](#)
- [Edit an Expression](#)
- [Delete an Expression](#)


## Creating an Expression

To create an expression:


1. From the iSPI Performance for Traffic Configuration form, click **Expressions** from the Filter and Application Mapping workspace. The Expression form opens.
2. Click  **Add**. The Expression form opens in the create mode. The right panel of the form displays the **All Conditions** tab, which lists all the conditions created.
3. Type the expression name in the Expression Name field.
4. Select the required condition from the Conditions listed on the right panel. You can include multiple conditions to create an expression.
5. Click  **Save**.
6. Click  **Close**.

## Editing an Expression

To edit an expression:


1. From the iSPI Performance for Traffic Configuration form, click **Expressions** from the Filter and Application Mapping workspace. The Expression form opens.
2. Select the required expression to be edited .
3. Click . The Expression Details form opens in the edit mode. The right panel displays the Conditions, Filters, and Application Mapping associated with the selected expression.
4. Make the required changes in the **Conditions of this Expression** tab on the right panel to modify the conditions associated with the selected expression.

You can also add new conditions and edit existing ones from the same tab. For more information about adding and editing conditions see, [Conditions](#).

5. Click  **Save**.
6. Click  **Close**.

### Deleting an Expression

To delete an expression:

1. From the iSPI Performance for Traffic Configuration form, click **Expressions** from the Filter and Application Mapping workspace. The Expression form opens.
2. Select the required expression from the available list of expressions.
3. Click  **Delete**.

### Application Mapping

Application mapping is a process where an expression is mapped with an application name. Multiple application mappings can be created to form an application group.

Example:

The product contains in-built mapping for the SNMP protocol which involves two conditions, 'SrcSNMPCondition' and 'DstSNMPcondition.' Both conditions are satisfied when SrcPort is equal to 161. The expression 'SrcSNMPExpression' is mapped by these conditions. The application mapping 'SrcSNMPMapper' maps to 'SrcSNMPExpression'. When 'SrcSNMPMapper' is satisfied, the protocol name given is 'SNMP'.

The basic attributes of the Application Mapping form are the following:

Attributes	Description
Application Mapping Name	The name of the application mapping. The name must be alphanumeric characters.

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Attributes	Description
Application Name	The name of the application that is mapped to the expression
Expression Name	The name of the expression that is mapped to the application

Using the Application Mapping form, you can:

- [Create an Application Mapping](#)
- [Edit an Application Mapping](#)
- [Delete an Application Mapping](#)

## Creating an Application Mapping




To create an application mapping:

1. From the iSPI Performance for Traffic Configuration form, click **Application Mapping** from the Filter and Application Mapping workspace. The Application Mapping form opens.
2. Click  **Add**. The Application Mapping form opens in the create mode. The right panel of the form displays the **All Expressions** tab, which lists all the expressions created.
3. Type the application mapping name in the Application Mapping Name field.
4. Type the application name in the Application Name field.
5. Select the required expression from the Expressions listed on the right panel. You can include multiple expressions to create an Application Mapping.
6. Click  **Save**.
7. Click  **Close**.

## Editing an Application Mapping


To edit an application mapping:

1. From the iSPI Performance for Traffic Configuration form, click **Application Mapping** from the Filter and Application Mapping workspace. The Application Mapping form opens.
2. Select the required application mapping to be edited .

3. Click  **Edit**. The Application Mapping form opens in the edit mode. The right panel displays the Expressions, and Application Mapping Groups associated with the selected application mapping.
4. Make the required changes in the **Expression of this Application Map** tab on the right panel to modify the expressions associated with the selected application map. You can also add new expressions and edit existing ones from the same tab. For more information about adding and editing expressions see, [Expressions](#).
5. Click  **Save**.
6. Click  **Close**.

### Deleting an Application Mapping

To delete an application mapping:

1. From the iSPI Performance for Traffic Configuration form, click **Application Mapping** from the Filter and Application Mapping workspace. The Application Mapping form opens
2. Select the required application mapping from the available list of application mappings.
3. Click  **Delete**.

### Filters

The iSPI Performance for Traffic Configuration application enables you to create a filter using the existing expressions. A single expression is used to create a filter. Multiple filters are grouped to form a filter group.

The basic attributes of the Filters form are the following:

Attributes	Description
Filter Name	The name of the filter.
Expression Name	The name of the expression associated with the filter.
Operation	The operation to be performed by the filter. Values in the list are dro

The iSPI Performance for Traffic Configuration application keeps or drops a IP flow record. For example, you could configure Filter A, with a condition to **drop** the IP flow record when SrcIP=IP 1, and to **keep** the Filter B, when IPToS=5. You could also create a filter group combining Filter A and Filter B.

The following scenarios describes the behavior of the iSPI Performance for Traffic Configuration application when different types of IP Flow records are filtered:




1. The IP Flow record with SrcIP=IP1 and IPToS=5 is dropped. The evaluation is True for Filter A, and the Filter B is not evaluated. The product evaluates the drop expression before validating the keep expression, and the IP flow record is dropped.
2. The IP Flow record with SrcIP=IP2 and IPToS=5 is kept. The evaluation is False for Filter A, and True for Filter B. The product evaluates the keep expression after the evaluation of Filter A. If the filter contains multiple keep expression, the product does not perform evaluation for further Keep expressions if one of the keep expression is satisfied, and the IP flow record is kept.
3. The IP Flow record with SrcIP=IP2 and IPToS=6 is dropped. The evaluation is False for Filter A and the Filter B is not evaluated. The product evaluates the keep expression and the IP flow record is dropped.

Using the Filters form, you can:

- [Create a Filter](#)
- [Edit a Filter](#)
- [Delete a Filter](#)


## Creating a Filter

To create a filter:



1. From the iSPI Performance for Traffic Configuration form, click **Filters** from the Filter and Application Mapping workspace. The Filter form opens.
2. Click  **Add**. The Filter form opens in the create mode. The right panel of the form displays the **All Expressions** tab, which lists all the expressions created.
3. Type the filter name in the Filter Name field.
4. Select the required value from the drop-down list available in the Operation field. Values in the list are Keep and Drop. The value you select determines the operation to be performed by the filter.
5. Click  **Save**.
6. Click  **Close**.

## Editing a Filter

To edit a filter:


1. From the iSPI Performance for Traffic Configuration form, click **Filters** from the Filter and Application Mapping workspace. The Filters form opens.
2. Select the required filter to be edited .
3. Click  **Edit**. The Filters form opens in the edit mode. The right panel displays the Expressions associated with the selected filter.
4. Make the required changes in the Operation field.
5. Make the required changes in the **Expression of this Filter** tab on the right panel to modify the expressions associated with the selected filter.

You can also add new expressions and edit existing ones from the same tab. For more information about adding and editing expressions see, [Expressions](#).

6. Click  **Save**.
7. Click  **Close**.

### Deleting a Filter

To delete a filter,

1. From the iSPI Performance for Traffic Configuration form, click **Filters** from the Filter and Application Mapping workspace. The Filters form opens
2. Select the required filter from the available list of filters.
3. Click  **Delete**.

### Application Mapping Group

Multiple application mappings are grouped to form an application mapping group.

The basic attributes of the Application Mapping Group form are the following:




Attributes	Description
Application Mapping Group Name	The name of the application mapping group.
Number of Application Mappings	The number of application mappings included in the group.

Using the Application Mapping Group form, you can:

- [Create an Application Mapping Group](#)
- [Edit an Application Mapping Group](#)
- [Delete an Application Mapping Group](#)


## Creating an Application Mapping Group

To create an application mapping group:


1. From the iSPI Performance for Traffic Configuration form, click **Application Mapping Group** from the Filter and Application Mapping workspace. The Application Mapping Groups form opens.
2. Click  **Add**. The Application Mapping Group form opens in the edit mode. The right panel of the form displays the **Application Mapping Group Members** tab, which lists all the application mappings created.
3. Type the application mapping group name in the Application Mapping Group field.
4. Click  **Save**.
5. Click  **Close**.

## Editing an Application Mapping Group

To edit an application group:

1. From the iSPI Performance for Traffic Configuration form, click **Application Mapping Group** from the Filter and Application Mapping workspace. The Application Mapping Groups form opens.
2. Select the required application mapping group.
3. Click  **Edit**. The Application Mapping Group form opens in the edit mode. The right panel displays the application mapping associated with the selected application mapping group.
4. Make the required changes in the **Application Mapping Group Members** tab on the right panel to modify the application mappings associated with the selected application mapping group.


You can also add new application mapping and edit existing ones from the same tab. For more information about adding and editing application mapping see, [Application Mapping](#).

5. Click  **Save**.
6. Click  **Close**.

## Deleting an Application Mapping Group

To delete an application group:



1. From the iSPI Performance for Traffic Configuration form, click **Application Mapping Group** from the Filter and Application Mapping workspace. The Application Mapping Groups form opens.
2. Select the required application mapping group.
3. Click  **Delete**.

## Filter Group

Multiple Filters are grouped to form a filter group.

The basic attributes of the Filter Group form are the following:




Attributes	Description
Filter Group Name	The name of the filter group.
Number of Filters	The number of filters included in the group.

Using the Filter Group form, you can:

- [Create a Filter Group](#)
- [Edit a Filter Group](#)
- [Delete a Filter Group](#)


## Creating a Filter Group

To create a filter group:


1. From the iSPI Performance for Traffic Configuration form, click **Filter Group** from the Filter and Application Mapping workspace. The Filter Groups form opens.
2. Click  **Add**. The Filter Group form opens in the edit mode. The right panel of the form displays the **All Filters** tab, which lists all the filters created.
3. Type the Filter Group name in the Filter Group name field.
4. Select the required filter from the available list of filters.
5. Click  **Save**. to save the changes made.
6. Click  **Close**.

## Editing a Filter Group

To edit a filter group:


1. From the iSPI Performance for Traffic Configuration form, click **Filter Group** from the Filter and Application Mapping workspace. The Filter Groups form opens.
2. Select the required filter group.
3. Click  **Edit**. The Filter Group form opens in the edit mode. The right panel displays the filters associated with the selected filter group.
4. Make the required changes in the **Filter Group Memberstab** on the right panel to modify the filters associated with the selected filter group.

You can also add new filters and edit existing ones from the same tab. For more information about adding and editing filters see, [Filter](#).

5. Click  **Save**.
6. Click  **Close**.

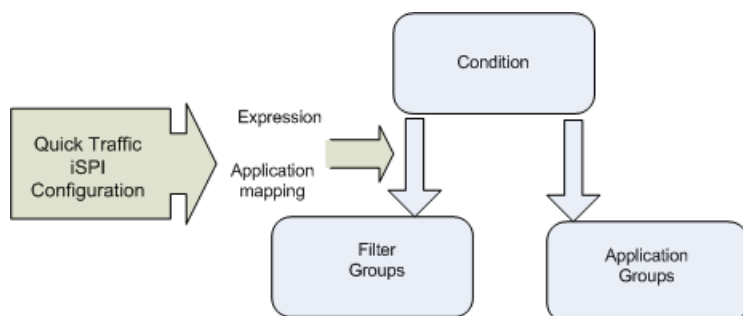
## Deleting a Filter Group

To delete a filter group:

1. From the iSPI Performance for Traffic Configuration form, click **Filter Group** from the Filter and Application Mapping workspace. The Filter Group form opens.
2. Select the required filter group.
3. Click  **Delete**.

## Quick Launch iSPI Performance for Traffic Configuration

The Quick Launch iSPI Performance for Traffic Configuration extends the usability of iSPI Performance for Traffic Configuration. The application works as follows:



You can create a condition and map it to the application group or filter group in a single step. You can also use the existing application group or create an application group for new conditions.



The Quick Launch iSPI Performance for Traffic Configuration application appends expression name and application name to the newly created condition, after saving the condition. This process is auto-generated.

You can use the Quick Launch iSPI Performance for Traffic Configuration to quickly create a condition and add it to a group. You cannot add expressions with multiple conditions through quick configuration. You can map Filter and Application mapping condition to a new or existing group. With quick configuration, the expression name, application mapping name, filter name are auto-generated.

For example, if a condition called Oracle is created and mapped to the application group named 'Protocolmap', and the expression name - Oracleexp and application mapper - Oracleexpmap are appended to the condition by the application. the mapper 'Oracleexpmap' becomes the component of Protocolmap group.

### Quick Filter Configuration



To configure a filter using Quick Launch iSPI Configuration:

1. From the iSPI Performance for Traffic Configuration form, click **Quick Filter**. The condition details form opens. The right panel displays all the filter groups configured.
2. Type the condition name in the Condition Name field. The condition name must be alphanumeric, and must not contain special characters or empty spaces.
3. Select the available flow attribute from the drop-down list available in the Flow Attribute field. Select the required operation from the drop-down list.
4. Select the required value from drop-down list available in the Filter Operation field.
5. Type the required value in the Operand field.
6. Select the required filter group displayed in the **All Filter Group** tab on the right panel.
7. Click  **Save**.
8. Click  **Close**.

### Quick Application Mapping Configuration

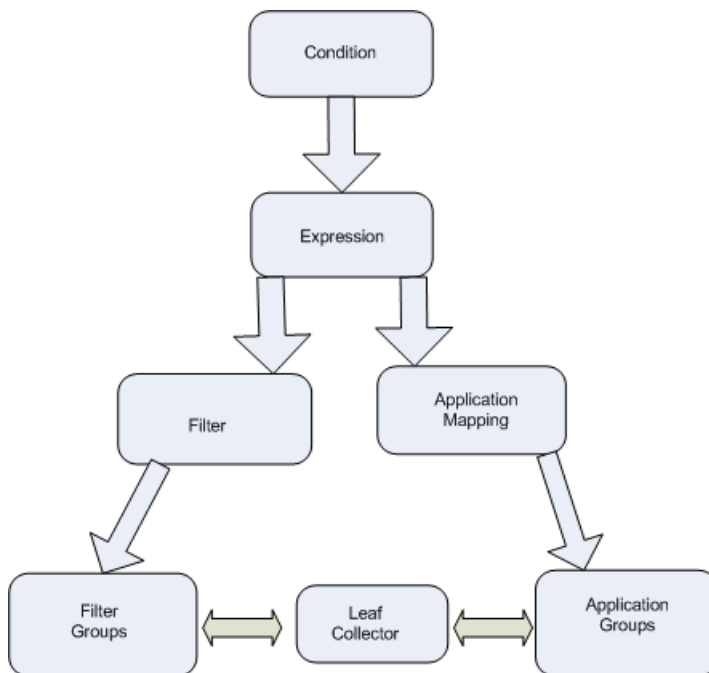
To configure an Application Mapping using Quick Launch iSPI Configuration:

1. From the iSPI Performance for Traffic Configuration form, click **Quick Application Mapping**. The Quick Application Mapper form opens. The right panel displays all the application mapping groups configured.

2. Type the condition name in the Condition Name field. The condition name must be alphanumeric, and must not contain special characters or empty spaces.
3. Select the available flow attribute from the drop-down list available in the Flow Attribute field. Select the required operation from the drop-down list.
4. Select the required value from drop-down list available in the Filter Operation field.
5. Type the required value in the Operand field.
6. Select the required application mapping group displayed in the **All Application Mapping Groups** tab on the right panel.
7. Click  **Save**.
8. Click  **Close**.

## How iSPI Performance for Traffic Configuration

The iSPI Performance for Traffic Configuration application works as follows:



1. The initial step in the iSPI Performance for Traffic Configuration application includes creating a condition on the available IP Flow attributes.
2. The next step involves creating an expression. An expression can be defined as logical AND of the multiple conditions. An expression works if all the conditions existing in it meets the requirement. An Expression is utilized to perform both:

- Application Mapping of IP flow attribute
  - Filtering of IP flow attribute
3. The Application mapping process is initiated after creating a valid expression. A single expression is used to create an application mapping. Further, these application mappings are combined to form an Application group.
  4. The redundant data from the IP flow records can be removed using the Filter Configuration option in the iSPI Performance for Traffic Configuration. The Filter Configuration option utilizes an expression to create a filter, and provides an option to drop or keep a filter. Further, these filters can be combined to form Filter groups.
  5. The Application group and the Filter groups are mapped to the Leaf Collectors available in the iSPI Performance for Traffic Configuration application, to perform refining and aggregation of the IP flow records.

## The HP Network Node Manager i Software Smart Plug-in Performance for Traffic (NNM iSPI for Traffic) Maps

The HP Network Node Manager i Software Smart Plug-in Performance for Traffic Maps feature enables you to view the traffic flow information of NNM iSPI for Traffic enabled nodes in the network.

The iSPI Performance for Traffic Maps display the traffic flow information in a graphical form. NNM iSPI for Traffic maps obtains information about any nodes that sends traffic flow to your network. You can view all the top destinations and applications that contributes to the traffic flow in your network at a given point of time.

The following NNM iSPI for Traffic maps are available in the NNMi console:

### **Top Sources by Destination Map**

This flow topology map displays the top source nodes which contribute to the traffic flow to a destination. You can get the information about the top contributors of traffic on your network. The map is displayed based on the IP flow router selected from the NNMi console. This selected router is considered as the source node. The map is neither a network topology

map nor a device centric map. The colors of destination nodes displayed in the NNM iSPI for Traffic map is not associated with the status colors in NNM.

### Destination and Application Map

This map displays the top destinations and applications that contribute to the traffic flow to your network. If the applications are directly connected to the router, the router is considered a destination.

Top N means top N application plus top N destinations grouped together.


### Traffic Path View

This map displays the flow of network traffic. Path View calculates the route that data flows between two selected nodes where NNM iSPI for Traffic is enabled, and provides a map of that information. The two nodes can be any combination of end nodes or routers.

While accessing the Traffic Path view map, besides applying the common filters, in the **Source** and **Destination** fields, you must designate the nodes at both ends of the path using either the node name or IPv4 address.



### Accessing the NNM iSPI for Traffic Maps

To access the maps:

1. Select the table view you want from the **Workspaces** navigation panel. (For example, select the **Inventory** workspace, **Nodes** view.)
2. In the table view, click the  selection box corresponding to the required router.
3. Select the **Actions** menu in the main toolbar and select **Traffic maps**.
4. Select the required map from the list.
5. Filter the information as required.
6. Click  **Get Data** in the selected map form.

### NNM iSPI for Traffic Maps specific Icons

The following table describes the icons that represents a node, interface, or IP address that appear on a map:

Icon	Description
	Indicates a node that is not discovered by NNMi, but contributes to the traffic flow in your network.
	Indicates an application that contributes to the traffic flow in your network.

### Common Filters for Viewing the Maps

You can use the following filters to view the map as required:

Filter	Description
Metric	<p>This filter enables you to filter the map information according to the selected metric. Possible values are:</p> <ul style="list-style-type: none"><li>• Volume - In Bytes</li><li>• Volume - Out Bytes</li><li>• Number of Packets - Incoming</li><li>• Number of Packets - Outgoing</li><li>• Number of Flows - Incoming</li><li>• Number of Flows - Outgoing</li></ul>
Time	<p>This filter enables you to filter your map view by time period. Filtering using the time period filter lets you focus on the most recent traffic flow information. Possible values are:</p> <ul style="list-style-type: none"><li>• Last 15 Minutes</li><li>• Last 30 Minutes</li><li>• Last 1 Hour</li><li>• Last 12 Hours</li></ul>
Top N	<p>This filter enables you to view the top contributors of traffic flow to your network. Possible values are:</p> <ul style="list-style-type: none"><li>• Top 5</li><li>• Top 10</li><li>• Top 20</li></ul>