

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

For the Windows[®] and Linux operating systems

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[Online Help](#)

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

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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](#)¹ and [Leaf Collectors](#)² 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 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

¹The 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.

²The Leaf Collector contains Leaf Collector instances, Leaf Collector instances summarize flow records.

flow to your network. The required information can be obtained by using the filters available in the Traffic Map form.

Terminology

Flow Record

IP flow is the unidirectional sequence of packets with common attributes. A flow record consists of the following data attributes:

- Source IP address
- Destination IP address
- Source Port
- Destination Port
- Types of Service
- IP Protocol

The iSPI Performance for Traffic collects data exported from the routers according to IP flow attributes. The iSPI Performance for Traffic supports the following data formats :

- Netflow (versions: v5, v9)
- Sflow (version: v5)

Leaf Collector Instance

A Leaf Collector instance receives Netflow or Sflow packets from the router. Multiple leaf collector instances can be created within a single Leaf Collector. Each Leaf Collector instance runs its own rule chain with packet filtering, application mapping, and aggregation and forwards the processed flow to the Master Collector.

Leaf Collector

The Leaf Collector contains Leaf Collector instances, Leaf Collector instances summarize flow records.

Master Collector

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 iSPI Performance for Metrics components to generate performance reports.

Background

The iSPI Performance for Traffic provides finer resolution of the data obtained from the routers by:

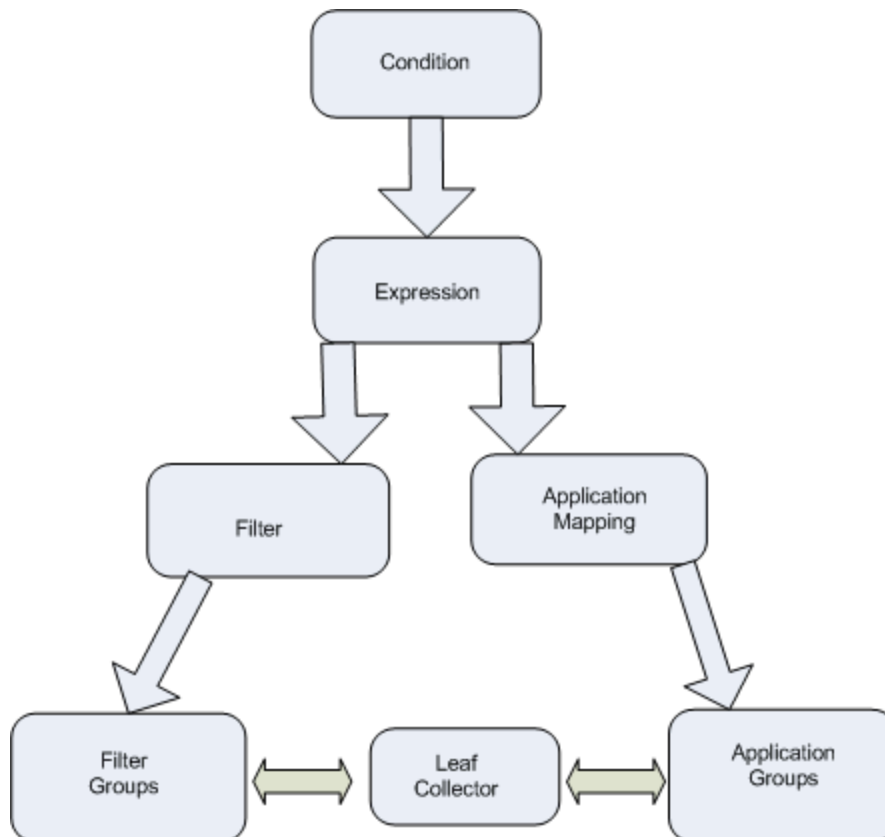
- Enrichment of the IP fields in flow records
- Filtering the redundant data from flow records

The enrichment of the IP field process, which is called Application Mapping, involves adding the IP fields to the obtained flow records. The iSPI Performance for Traffic facilitates the Application Mapping process with the following basic configurations:

- ["Conditions"](#)
- ["Expressions"](#)
- ["Application Mapping"](#)

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.

Conditions

The NNM iSPI Performance for Traffic enables you to creating conditions to define an operation to be performed on an [IP flow attribute](#). IP flow attributes are of the following types:

- Integer
- String
- IP Address

You can create a condition to:

- Select the appropriate operation set for the flow attribute type. A condition applies an operation set to an IP flow attribute.
- Customize and refine the IP flow records to perform network data analysis.

Available Operation Sets for Each Flow Attribute

IP flow Attributes	Operation Set
Integer	<ul style="list-style-type: none"> • $=$¹ • \neq¹ • $>$¹ • $<$¹ • \geq¹ • \leq¹ • in¹

¹Equal to

¹Not equal to

¹Greater than

¹Less than

¹Greater than or equal to

¹Less than or equal to

¹Enables you to specify multiple values for the condition. For example: SrcPort in 80-120 considers source ports between 80 and 120.

¹Enables you to specify those flow attributes that exactly match the defined condition

¹Enables you to specify those flow attributes that do not match the defined condition

¹Enables you to specify those flow attributes that matches the defined condition's pattern, However, the attributes may or may not match the condition exactly

¹Enables you to specify those flow attributes that exactly match the defined condition

¹Enables you to specify those flow attributes that do not match the defined condition

¹Enables you to specify those flow attributes that matches the defined condition's pattern, However, the attributes may or may not match the condition exactly

¹Enables you to specify multiple values for the condition. For example: 16.181.*.* in 17.181.*.* considers IP addresses between 16.181.*.* and 17.181.*.*

IP flow Attributes	Operation Set
String	<ul style="list-style-type: none"> • equals¹ • not-equals¹ • like¹
IP	<ul style="list-style-type: none"> • equals¹ • not-equals¹ • like¹ • in¹


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, Company1 * Dept*.
- 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.*.

For IP flow attributes, you can use "-" (Hyphen).

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.

¹ Enables you to specify those flow attributes that exactly match the defined condition

¹ Enables you to specify those flow attributes that do not match the defined condition



¹ Enables you to specify those flow attributes that matches the defined condition's pattern, However, the attributes may or may not match the condition exactly

¹ Enables you to specify those flow attributes that exactly match the defined condition

¹ Enables you to specify those flow attributes that do not match the defined condition




¹ Enables you to specify those flow attributes that matches the defined condition's pattern, However, the attributes may or may not match the condition exactly

¹ Enables you to specify multiple values for the condition. For example: 16.181.*.* in 17.181.*.* considers IP addresses between 16.181.*.* and 17.181.*.*

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 'DstIP-Condition'. 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.
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 unique.
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**.


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**.

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 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=IP1, 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**.

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 Member**stab 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.**

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 [DNS¹](#) 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"> • Running • Not Running
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"> • Netflow • Sflow
Container Host Name	The name of the leaf container.
Listen Port	The port that receives the IP flow records from the router.
Flush Period	Time period during which the IP flow records are flushed to the master collector.
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.

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


Attribute	Description
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 HP Network Node Manager i Software Smart Plug-in Performance for Traffic (NNM iSPI Performance for Traffic).
The Network Node Manager iSPI Performance for Traffic form opens.
2. In the Subsystem Configuration Workspace panel, select **Leaf Collectors**.
3. Click  **Add**.
The Leaf Collector Details form opens.
4. Type the leaf collector name in the Collector Name field.

5. In the Collector Type field, select any of the following type for the leaf collector:
 - **netflow**¹
 - **sflow**²
6. In the Listen Port field, type the port number of the leaf collector that listens to the router .
7. In the IP field type the IP address for the leaf collector.
8. In the Flush Period field, type the **flush period**³ for the leaf collector.
9. In the Source IP DNS Lookup field, select any of the following values:
 - TrueEnsures that the leaf collector resolves the DNS for the source device's IP address. The source device in this case is the source device for the flow records.
 - FalseEnsures that the leaf collector does not resolve the DNS for the source device's IP address. The source device in this case is the source device for the flow records.
10. In the Destination IP DNS Lookup field, select any of the following values:
 - TrueEnsures that the leaf collector resolves the DNS for the destination device's IP address. The destination device in this case is the destination device for the flow records.
 - FalseEnsures that the leaf collector does not resolve the DNS for the destination device's IP address. The destination device in this case is the destination device for the flow records.
11. In the Store Flow in File field, select any of the following values:
 - TrueEnsures that the leaf collector stores the incoming packets into files before aggregation the data.

¹This option enables the leaf collector to collect Cisco Netflow records. The basic output of NetFlow is a flow record. A flow record can be defined by seven unique keys; namely, Source IP address, Destination IP address, Source port, Destination port, Layer 3 protocol, TOS byte (DSCP), and Input interface (ifIndex). However, in NetFlow Version 9, a flow record can be created using the sequence of fields as specified in a customizable template definition. The device (for example, a router) builds an export packet containing several flow records, also called data flowsets and exports it to the leaf collector. Each export packet contains approximately 1500 bytes of data. Each export packet typically contain 20-50 flow records. The number of export packets that a device sends depends on the amount of traffic on the NetFlow-enabled interfaces.

²This option enables the leaf collector to collect sFlow data. The sFlow standard describes a mechanism to capture traffic data in switched or routed networks. It uses a sampling technology to collect statistics from the device and is used in high speed networks (at gigabit speeds or higher). An sFlow agent implements the sampling mechanism on the device (for example a switch). The sFlow collector is a central server which collects the sFlow datagrams from all agents to store or analyze them. It combines interface counters and flow samples into sFlow datagrams and sends them across the network to the leaf collector immediately.

³Every leaf collector transfers the aggregated traffic information to the master collector after a specific time period. You can define this time period as the Flush Period while creating the leaf collector.

- False Ensures that the leaf collector does not store the incoming packets before aggregating the data.

For more information on storing the flow records into files, see [NNM iSPI Performance for Traffic Packet Dump Utility](#).

12. In the All Aggregation Key tab, select the aggregation keys based on which the leaf collector should process the collected flow records.

You can select multiple aggregation keys..The leaf collector considers the selected attributes while aggregating multiple flow records.

13. In the All Filter Groups tab, select the filter groups for the leaf collector. The selected filter groups are 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](#).

14. In the All Application Mapping Group tab, select the application ,mapping groups for the leaf collector.


15. In the All Leaf Containers tab, select the Leaf Containers for the leaf collector.


16. Click  **Save**.

17. 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.**

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.**

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

The NNM iSPI Performance for Traffic Maps feature enables you to view the traffic flow information of NNM iSPI Performance for Traffic enabled nodes in the network in a graphical form.



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

- [Top Sources by Destination Map](#)
- [Destination and Application Map](#)
- [Traffic Path View](#)


NNM iSPI Performance for Traffic Map Specific Icons

The following table describes the icons that represents an IP address that appear on a map:

Icon	Description
	Indicates an IP address 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.

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 node.
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.

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"> • Volume - In Bytes • Volume - Out Bytes • Number of Packets - Incoming • Number of Packets - Outgoing • Number of Flows - Incoming • Number of Flows - Outgoing
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"> • Last 15 Minutes • Last 30 Minutes • Last 1 Hour • Last 12 Hours
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"> • Top 5 • Top 10 • Top 20

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 an IP address, the IP address is considered a destination. Some destination IP addresses may be connected to multiple applications.

The map is neither a network topology map nor a device centric map. It represents the logical views of traffic flows in a network.

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 IP addresses where NNM iSPI Performance for Traffic is enabled, and provides a map of that information. The two IP addresses can be assigned to any combination of end nodes or routers.

This map enables you to:

- Generate a topology map where the NNM iSPI Performance for Traffic information is overlaid on the NNMI information
- Display the direction of the traffic flow.

- Deduce the metric data on the inflow side based on the reported flows on the first flow exporter in the path.
- Deduce the destination metric data by the last flow exporter on the path.
- Query the destination host IP address in the database for IP addresses entered in the map controls and Destination Host Name for the FQDN.

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

Top Sources by Destination Map

This map displays the top source IP addresses that 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 address specified in the NNMi console. This selected IP address is considered as the source of the traffic flow.

The IP address of the node from which the map is launched, should be recognized by the respective leaf collector.

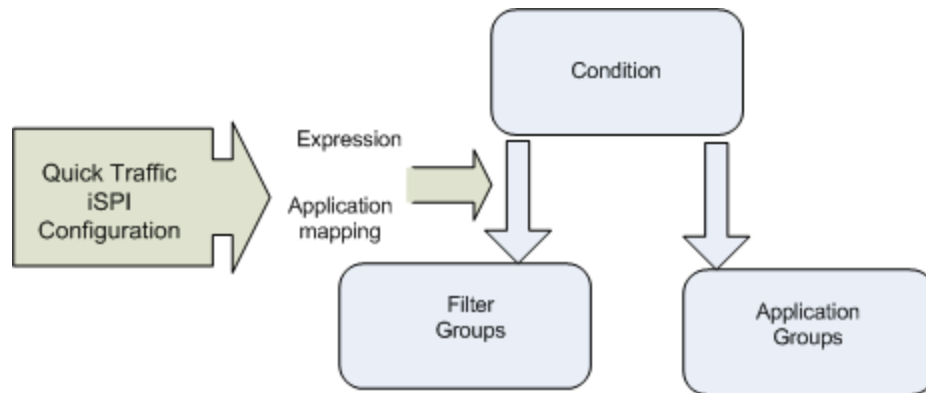
This map enables you to:

- View the traffic flow heading to any destination IP address in the network. It is not necessary for the IP address to be managed by NNMi.
- Generate the logical views of traffic flowing from the Top N sources to the specified destination in a network. This map is neither a network topology map nor a device centric map.
- Display the traffic flowing from each IP address if a flow generator (router or switch) has multiple IP addresses.

The colors of destination IP addresses displayed in the NNM iSPI Performance for Traffic map are not associated with the status colors in NNMi

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.**