HP Network Node Manager iSPI for IP Multicast Software

For the HP-UX, Linux, Solaris, and Windows ® operating systems

Software Version: 09.10

Report Online Help

Legal Notices

Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

For information about third-party license agreements, see the license-agreements directory on the product installation media.

Copyright Notice

© Copyright 2008, 2010 - 2011 Hewlett-Packard Development Company, L.P.<

Trademark Notices

DOM4J® is a registered trademark of MetaStuff, Ltd.

HP-UX Release 10.20 and later and HP-UX Release 11.00 and later (in both 32 and 64-bit configurations) on all HP 9000 computers are Open Group UNIX 95 branded products.

Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates.

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

UNIX® is a registered trademark of The Open Group.

Oracle Technology — Notice of Restricted Rights

Programs delivered subject to the DOD FAR Supplement are 'commercial computer software' and use, duplication, and disclosure of the programs, including documentation, shall be subject to the licensing restrictions set forth in the applicable Oracle license agreement. Otherwise, programs delivered subject to the Federal Acquisition Regulations are 'restricted computer software' and use, duplication, and disclosure of the programs, including documentation, shall be subject to the restrictions in FAR 52.227-19, Commercial Computer Software-Restricted Rights (June 1987). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

For the full Oracle license text, refer to the license-agreements directory on the NNMi product DVD.

Acknowledgements

This product includes software developed by the Apache Software Foundation (http://www.apache.org/). Portions Copyright © 1999-2003 The Apache Software Foundation. All rights reserved.

This product includes ASM Bytecode Manipulation Framework software developed by Institute National de Recherche en Informatique et Automatique (INRIA). Copyright © 2000-2005 INRIA, France Telecom. All Rights Reserved.

This product includes Commons Discovery software developed by the Apache Software Foundation (http://www.apache.org/). Copyright © 2002-2008 The Apache Software Foundation. All Rights Reserved.

This product includes Netscape JavaScript Browser Detection Library software, Copyright © Netscape Communications 1999-2001.

This product includes Xerces-J xml parser software developed by the Apache Software Foundation (http://www.apache.org/). Copyright © 1999-2002 The Apache Software Foundation. All rights reserved.

This product includes software developed by the Indiana University Extreme! Lab (http://www.extreme.indiana.edu/). Xpp-3 Copyright © 2002 Extreme! Lab, Indiana University. All rights reserved.

Documentation Updates

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

- Software Version number, which indicates the software version.

- Document Release Date, which changes each time the document is updated.

- Software Release Date, which indicates the release date of this version of the software.

To check for recent updates or to verify that you are using the most recent edition of a document, go to:

http://h20230.www2.hp.com/selfsolve/manuals

This site requires that you register for an HP Passport and sign in. To register for an HP Passport ID, go to:

http://h20229.www2.hp.com/passport-registration.html

Or click the **New users - please register** link on the HP Passport login page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

Support

Visit the HP Software Support Online web site at:

http://www.hp.com/go/hpsoftwaresupport

This web site provides contact information and details about the products, services, and support that HP Software offers.

HP Software online support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued support customer, you can benefit by using the support web site to:

- Search for knowledge documents of interest

- Submit and track support cases and enhancement requests

- Download software patches

- Manage support contracts

- Look up HP support contacts

- Review information about available services

- Enter into discussions with other software customers

- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract. To register for an HP Passport ID, go to:

http://h20229.www2.hp.com/passport-registration.html

To find more information about access levels, go to:

http://h20230.www2.hp.com/new_access_levels.jsp

Disclaimer for PDF Version of Online Help

This document is a PDF version of the online help. This PDF file is provided so you can easily print multiple topics from the help information or read the online help in PDF format.

Note: Some topics do not convert properly to PDF, causing format problems. Some elements of online help are completely removed from the PDF version. Those problem topics can be successfully printed from within the online help.

Contents

Overview of the iSPI for IP Multicast Reports and Reportlets

The iSPI for IP Multicast uses the basic capabilities of the HP NNMi iSPI Performance for Metrics (iSPI Performance for Metrics) and Network Performance Server (NPS) to present the reports and reportlets.

The iSPI for IP Multicast has the following extension packs:

- IP_Multicast_Interface

- IP_Multicast_Flow

The extension packs provide you user-friendly reports that help you investigate and troubleshoot the performance of the multicast traffic passing through the network. The extension packs use data collected by the iSPI for IP Multicast.

Extension Pack

Type	Purpose
IP Multicast Interface	Shows reports and reportlets for IP multicast traffic passing through the multicast nodes and Protocol Independent Multicast (PIM) interfaces on the network.
IP Multicast Flow	Shows reports and reportlets for the IP multicast flows (Source, Group) passing through the selected nodes on the network.

The iSPI for IP Multicast reports and reportlets help you to perform the following tasks:

- Identify the multicast traffic passing through a multicast-enabled node or PIM interface for a specific time period.

- Investigate and troubleshoot the multicast network congestion. You can use the drill-down reports to help you conclude the issue faster. You can launch the IP Multicast reports from NNMi reports.

- Rank the network element (node, interface, or flow) based on the metric values.

- Identify the nodes and interfaces that have the highest or lowest performances or utilization levels during the peak period.

- Monitor the important and critical multicast flows in the network.

- Find the multicast traffic patterns in the network.

- Measure the IP multicast traffic flow rates throughout the network.

- Plan the capacity for the Multicast-enabled nodes or interfaces for the traffic passing through the network.

Related Topics:

IP Multicast Interface Reports

IP Multicast Interface Reportlets

IP Multicast Flow Reports

IP Multicast Flow Reportlets

Accessing the iSPI for IP Multicast Reports

The iSPI for IP Multicast reports are available from the HP NNMi iSPI Performance for Metrics Software console. You can access and view the IP Multicast reports after you install Network Performance Server (NPS) from the NPS/iSPI Performance for Metrics DVD.

The Multicast-specific tabs appear on the Report Menu page. You can use the following tabs to access the IP Multicast reports:

iSPI IP Multicast

 - IP_Multicast_Interface

 - IP_Multicast_Flow

You can select the policies and metric definitions for the IP Multicast reports from the iSPI Performance for Metrics console. Before you view the iSPI for IP Multicast reports, make sure that the NPS software server is up and running.

To launch the iSPI for IP Multicast report by selecting a node, interface, or flow:

1. From the iSPI for IP Multicast inventory, select a node, flow, or an interface. Based on your selection, the iSPI for IP Multicast opens the appropriate extension packs.

2. From the iSPI for IP Multicast console, select **Actions -> Reporting - Report Menu.** NPS home page opens.

3. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Interface** or **IP_Multicast_Flow** in the navigation panel.

4. Select a report type (for example, Calendar or Heat Chart).

5. Modify the default Time Control, Topology Filters, and Options if required.

The IP Multicast report appears with the selected filters such as time controls, metrics, and options.

For more information, see *iSPI Performance for Metrics help, Report Settings*.

Note: You can also access the iSPI for IP Multicast reports without selecting any node, interface, or flow. If you select a node, flow, or an interface, you need not use the Topology Filters to set the filters again to launch reports.

Time Control

The time control helps you to set the time range for the report or reportlet that you want to view. The NPS database stores the data collected from different nodes, interfaces, and flows over a period of time. By using the time control parameters, you can view a report or reportlet created for the range of time of your choice. You can also select the display grain of a report or reportlet. When a report or reportlet is rendered, the time range is always shown in the Filter Summary section at the top of the report or reportlet.

You can select the time control filters from the iSPI Performance for Metrics console.

To change time control:

1. From the iSPI for IP Multicast inventory, select a node, flow, or an interface. Based on your selection, the iSPI for IP Multicast opens the appropriate extension packs.

2. From the iSPI for IP Multicast console, select **Actions -> Reporting - Report Menu.** NPS home page opens.

3. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Interface** or **IP_Multicast_Flow** in the navigation panel.

4. Select a report for which you want to change the time controls.

5. On the navigation panel, click **Time Control**. (To change Hour of Day and Day of Week, click **Hour /Day Filters** on the navigation panel)

6. You can change the following parameters:

Time Control Filters

Option	Description
Relative Start	Sets the start date and time for the reports based on the available data. The possible values are **Yes** and **No**. If you select **Yes**, you have to select a time in **Last** field. By default Relative Start is set to **Yes**. If you select **No**, you have to select **Start Date**, **Time**, **End Date**, **Time**, and **Interval**.
Last	If you select **Yes** in Relative Start field you have to select a value in this field. For example, if you want to generate a report based on last 31 days data, select 31 days in the Last field.
Start Date	If you select **No** in Relative Start field you have to select the start date using the calendar.
Time	Select or type the start time.
End Date	If you select **No** in Relative Start field you have to select the end date using the calendar.
Time	Select or type the end time.
Interval	The duration for which the report id generated. The interval appears automatically if you select the start time and the end time.
Grain	A time interval to show the multicast report. For example, if you select 5 minute as your display grain, your report appears in the interval of five minute. To get appropriate reports, select your display grain from the following values: • As Polled • 1 minute • 5 minutes • 15 minutes • 30 minutes • 1 hour • 1 day

Option	Description
Auto Refresh	If you select **Yes** in Relative Start field you can select Auto Refresh check box to get the report refreshed automatically. For example, if you have selected Last 1 Hour as the Time Range, and 1 Minute in the Grain field, the report displays the data samples collected in past one hour and refreshes this data every minute.
Time Zone	By default the reports are generated based on the NPS server's time zone. You can select a different time zone while viewing or scheduling a report in the Time Zone field.
Hour of Day	Select the hour for which you want to view your report. Access this through **Hour /Day Filters** on the navigation panel.
Day of Week	Select the day for which you want to view your report. Access this through **Hour /Day Filters** on the navigation panel.

Report Options

Select the report options from the iSPI Performance for Metrics console to customize your report.

To change the report options:

1. Launch the iSPI for IP Multicast report.

2. Click **Options**. The Report Options panel for the report opens.

3. You can change the following settings:

The Report Options are as follows:

Report Options

Option	Description
Metrics	The iSPI for IP Multicast reports are based on at least one metric. A few reports have Primary metric and Secondary Metric. You can select the metrics from the drop down lists. Some reports allow you to add more metrics by clicking the **Add new metric** icon. You can remove the newly added metrics by clicking **Delete metric** icon.
Top / Bottom N	Select number and order of data points for the report. You can select the Top / Bottom N option for the following reports: • Top N Report • Top N Chart Report • Most Changed report
Grouping By	Select the metric based on which you want to group the report data. You can select more than one metric to group the report. The **Grouping by** option is available for the following reports: • Top N Report

Option	Description
	• Top N Chart Report • Most Changed Report
Display Time Series Chart	*Available only with the Top N report*. By default, all Top N reports show the time series chart. Select **No** if you want to disable this option.

For more information about IP Multicast metric definitions, see

- IP Multicast Interface Report Metric Definitions

- IP Multicast Flow Report Metric Definitions

Topology Filters

Note: If you launched the reports after selecting a node, interface or flow, you do not have to apply topology filters.

You can generate reports using the different metrics that are polled from different multicast nodes, PIM interfaces, and multicast flows. If you want to modify the report to contain data polled from selected nodes, interfaces, or flows use the Topology Filters section.

You can see the IP Multicast report according to your interest or requirement. For example, select a node (Node1067) from the Topology Filter. After selecting the metric value and grouping by option, the IP Multicast report appears for the selected filter (Node1067).

To change topology filters:

1. From the iSPI for IP Multicast inventory, select **Actions -> Reporting - Report Menu.** NPS home page opens.

2. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Interface** or **IP_Multicast_Flow** in the navigation panel.

3. Select a report for which you want to change the topology filters.

4. On the navigation panel, click **Topology Filters** and then click **Launch Topology Selector**.

5. Do one of the following for the topology attributes that you want to filter:

   - If you want to select just one value for a topology attribute, click 🖳 **Single Value Select**, and then select a topology filter.

   - If you want to select multiple values, click 🖳 **Multi value select**, and then select the topology filters (by using **Ctrl-**click or **Ctrl+Shift**).

   - If you want to search and select a value from a list of values, click 🔍 **Search and select**

6. To apply different types of topology filters, click **Apply**.
   Clicking the Apply button suppresses the values from the other topology attributes that are irrelevant in the context of your selection.
   To discard your selection, click **Reset**.

7. Click **Confirm Selection**. The NPS generates the report with the data specified.

For more information, see *Help for iSPI Performance for Metric, Set Topology Filters.*

IP Multicast Interface Reports

The iSPI for IP Multicast Interface Reports help you perform in-depth trend analysis for the multicast traffic passing through the selected PIM interface on the network. The reports show the incoming and outgoing traffic passing through a PIM interface.

The iSPI for IP Multicast uses the following reports:

- Calendar Report

- Heat Chart Report

- Chart Detail Report

- Managed Inventory

- Most Changed Report

- Top N Report

- Top N Chart Report

Use the IP Multicast Interface reports to perform the following tasks:

- Monitor the interface utilization with the multicast traffic.

- Capacity planning to allocate the bandwidth for multicast traffic. For example, you can find out the interfaces in the network with maximum multicast traffic or more traffic rate.

- Compare the incoming and outgoing multicast traffic for a PIM interface or interfaces over a period of time. Check the Chart Detail report.

- Investigate and troubleshoot the interfaces with the high exception counts (utilization or traffic rate). For example, you can investigate if the volume of the bytes passing through the selected PIM interface is more or irregular.

- Cross launch to NNMi Interface Health report from the IP Multicast Interface report. For example, select the Top N report for the qualified interface, launch the Interface Health.

- Rank the interface or interfaces based on the selected interface utilization metric. Check the Top N report.

- Monitor the qualified interfaces by traffic volume.

Related Topics:

Accessing the iSPI for IP Multicast Reports

Calendar Report

The iSPI for IP Multicast Interface Calendar report helps you to monitor the multicast traffic passing through the selected PIM interface for a specific time range.

Use this report to perform the following tasks:

- Compare the traffic performance for an interface or interfaces over a period of time.

- Identify a specific time period to find out any unusual behavior in the multicast traffic passing through the PIM interface.

Report Options

The Calendar report shows the following options:

- Primary Metrics[1]
- Secondary metrics[2]

For information about metric definitions, see IP Multicast Interface Metric Definitions.

For more information about how to use the report, see Using the IP Multicast Calendar Report.

Using the iSPI for IP Multicast Calendar Report

You can use the calendar report:

- To observe gradual trends over time
- To verify that an abnormal condition has returned to normal
- To make comparisons

For example, you can use this report to compare the multicast data of the last 31 days, or to compare data for last month to data for the preceding month.

This report also reveals:

- Day of week patterns
- Hour of day patterns

For example, if utilization is spiking on Tuesdays, or if response time issues are occurring daily at 11:00 am, the report will highlight these events. To view the IP Multicast Calendar report, follow these steps:

To view the IP Multicast Calendar report:

1. Navigate to the HP NNMi iSPI Performance for Metrics Software console.[3]

2. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Interface -> McastInterfaceMetrics**.

3. Select **Calendar** report.

4. Modify the default Time Control and Topology Filters if required.

5. Click **Options** and select the following metrics:

   - **Flow Rate (bps) (avg)** as the primary metric.

   - **Discard Rate (avg)** as the secondary metric.

6. Select **Confirm Selection**.

---

[1]Select the metric based on which you want to generate the report. The primary metric appears on the left Y axis of the report.
[2]Select the metric to compare with the primary metric. The secondary metric appears on the right Y axis of the report.
[3]From the NNMi console, click **Actions->Reporting-Report Menu.**

The IP Multicast Calendar report opens.

Chart Detail Report

The IP Multicast Interface Chart Detail report helps you compare the sampled data for any two metrics. For example, select a weekly Chart Detail report to compare the number of octets received and sent out from the selected qualified interface.

Use this report to perform the following tasks:

- Analyze the trend of traffic passing through an interface based on one unit of time. Each unit of time is known as a **Display Grain**. Make sure to set the display grain greater than the polling interval to view the correct report. You can measure the **Display Grain** as follows:
  - Five minutes for an hourly report

  - One hour for a daily report

  - One day for a weekly report

  - One day for a monthly report

- Compare the incoming and outgoing multicast traffic for a set of interfaces or qualified interfaces over a period of time.

- Detect any persistent problem in the traffic performance.

Report Options

The Chart Detail report shows the following options:

- Primary Metrics [1]
- Secondary Metrics [2]

For information about metric definitions, see IP Multicast Interface Metric Definitions.

For more information about how to use the report, see Using the IP Multicast Chart Detail Report.

Using the iSPI for IP Multicast Interface Chart Detail Report

The following example demonstrates the use of the iSPI for IP Multicast Interface Chart Detail report:

Multicast traffic passing through the selected qualified PIM interface is slow or the number of octets outgoing from a qualified PIM interface is less than the octets received by the qualified interface.

Check the IP Multicast Interface report to find the actual bandwidth utilization for multicast traffic. Compare the number of bytes received and sent out from the selected PIM interface.

To view the report:

---

[1]Select the main metric based on which you want to view the report. The primary metric appears on the left Y axis of the report.
[2]Select the metric to compare with the primary metric. The secondary metric appears on the right Y axis of the report.

1. Navigate to the HP NNMi iSPI Performance for Metrics Software console.[1]

2. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Interface -> McastInterfaceMetrics**

3. Select **Chart Detail** report.

4. Modify the default Time Control and Topology Filters if required.

5. Click **Options** and select the following metrics:

   ▪ **Throughput In (Mbps) (max)** as the primary metric.

   ▪ **Throughput Out (Mbps) (max)** as the secondary metric.

5. From **Grouping by** option, select **Qualified Interface Name**. You can select more than one metric to group.

6. Select **Confirm Selection**.

The IP Multicast Interface Chart Detail report appears.

The IP Multicast Interface report shows the following:

- X axis: Time Interval

- Y axis: Throughput In (Mbps) (max) and Throughput Out (Mbps) (max)

View the significant drop or rise in the number of octets received by the interface for a specific time interval. In addition, compare the incoming and outgoing traffic for the selected PIM interface. Check the iSPI for IP Multicast Inventory views for the incidents and status of the interface.

This report helps you in capacity management. In addition, helps you to find if the interface utilization is more than the expected traffic, you can route the multicast traffic from a different node and PIM interface.

Heat Chart Report

The IP Multicast Interface Heat Chart report helps you to view the traffic performance based on a single metric over a time frame.

The heat chart shows different colors to display the different states of a metric. These states show traffic performance for the selected network element. For example, select a weekly Heat Chart report to find the performance of a metric **(Octets In (avg)** for the selected network element **(Interface Name)**

Use this report to perform the following tasks:

- Track the hourly performance of the multicast traffic passing through an interface.

- Quickly isolate and resolve problems affecting the selected time range by different colors.

Report Options

The Heat Chart report shows the following option:

---

[1]From the NNMi console, click **Actions**->**Reporting-Report Menu**

Metric[1]

For information about metric definitions, see IP Multicast Interface Metric Definitions.

For more information about how to use the report, see Using the IP Multicast Interface Heat Chart Report.

Using the iSPI for IP Multicast Interface Heat Chart Report

The following example demonstrates the use of the iSPI for IP Multicast Heat Chart Report:

Monitor the critical multicast traffic passing through the PIM interface.

Check the IP Multicast Interface Heat Chart report to analyze the traffic passing through the selected qualified interface for one day.

To view the IP Multicast Heat Chart report:

1. Navigate to the HP NNM iSPI Performance for Metrics Software console.[2]

2. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Interface -> McastInterfaceMetrics**.

3. Select **Heat Chart** report.

4. Modify the default Time Control and Topology Filters if required.

5. Click **Options** and select **Utilization In** as a metric.

6. Select **Confirm Selection.**

The IP Multicast Heat Chart report opens.

The sample report shows the different states of the metric (Utilization In (average)) for the selected qualified interface.

Managed Inventory Report

The IP Multicast Interface Managed Inventory report enables you to view the node and interface attributes in the multicast flows.

Use this report to perform the following tasks:

- Find the type of topology items (for example, Interface Name, Qualified Interface Name) in the multicast flow.

- Find the count of the topology items.

For information about metric definitions, see IP Multicast Interface Metric Definitions.

Most Changed Report

The iSPI for IP Multicast Interface Most Changed report helps you to compare one metric for two different (consecutive) time frames. In addition, you can find the changes and growth percentage in the metric value. For example, select a weekly report to compare a metric **(Octets In (avg))** that is grouped by a network element **(Interface Name).**

---

[1]Select the metric based on which you want to view the report.
[2]From the NNMi console, click **Actions**->**Reporting-Report Menu**

Use this report to perform the following tasks:

- Compare the multicast traffic performance based on a metric value.
- Find the growth rate of the traffic flow passing through an interface based on a single metric.

Report Options

The Most Changed report shows the following option:

- Top N[1]
- Metric[2]
- Grouping By[3]

For information about metric definitions, see IP Multicast Interface Metric Definitions.

For more information about how to use the report, see Using the IP Multicast Most Changed Report.

Using the iSPI for IP Multicast Most Changed Report

The following example demonstrates the use of a Most Changed Report:

Compare the changes in the discard rate for the current and previous time period.

Check the IP Multicast Most Changed report to analyze the discard rate.

To view the IP Multicast Most Changed report:

1. Navigate to the HP NNMi iSPI Performance for Metrics Software console.[4].

2. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Interface -> McastInterfaceMetrics**.

3. Select **Most Changed** report.

4. Modify the default Time Control and Topology Filters if required.

5. Click **Options** and select the following metrics:

   - **Discard Rate** as the primary metric.
   - **Node Name** as the Grouping by metric.

6. Select **Confirm Selection**.

The IP Multicast Most Changed report opens.

---

[1]Select the type of report from the available rank-list. The rank-list includes top or bottom 5,10, 25 ranks for the selected network element. The ranks are available either in ascending order or descending order.
[2]Select the metric based on which you want to view the report.
[3]Select the network element to group the metric. You can select more than one value to group the metric.
[4]From the NNMi console, click **Actions->Reporting-Report Menu**

Top N Report

The iSPI for IP Multicast Interface Top N report ranks the selected network element based on a single metric. The Top N report lists the network elements in the descending order; that is from the highest value of the selected metric to the lowest value of the selected metric.

For example, select a daily Top l0 report to view the top 10 interfaces with the metric value. The report is grouped by the selected interface name and the metric value (**Volume-Flow Bytes (sum)**) in the network.

The Top N list includes the following:

- Top / Bottom 5 - Shows the Top / Bottom 5 horizontal bar graphs that provide values in descending or ascending order based on the selected metric.

- Top / Bottom 10 - Shows the Top / Bottom 10 horizontal bar graphs that provide values in descending or ascending order based on the selected metric.

- Top / Bottom 25 - Shows the Top / Bottom 25 horizontal bar graphs that provide values in descending or ascending order based on the selected metric.

- Top / Bottom 50 - Shows the Top / Bottom 50 horizontal bar graphs that provide values in descending or ascending order based on the selected metric.

- Top / Bottom 100 - Shows the Top / Bottom 100 horizontal bar graphs that provide values in descending or ascending order based on the selected metric.

Use this report to perform the following tasks:

- Detect the reason to find out the network performance for the network element.

- Monitor the critical and important multicast interfaces.

- Compare the network element with the selected metric values for a quick overview of the network. You can find the cause of network performance by using the drill-down reports.

- Analyze the historical data to monitor and find the trend in network performance.

Report Options

The report shows the following options:

- Top N [1]
- Metric [2]

---

[1]Select the type of report from the available rank-list. The rank-list includes top or bottom 5,10, 25, 50, 100 ranks for the selected network element. The ranks are available either in ascending order or descending order.
[2]Select the main metric based on which you want to view the report. The primary metric appears on the left Y axis of the report.

- Display Time Series Chart[1]

- Grouping By[2]

For information about metric definitions, see IP Multicast Interface Metric Definitions.

For more information about how to use the report, see Using the IP Multicast Interface Top N Report.

Using the iSPI for IP Multicast Interface Top N Report

Use the IP Multicast Top N report by following the sample report:

Find the Top 25 Multicast traffic passing through the qualified interfaces.

Check the IP Multicast Interface report to find the Top 25 qualified interfaces in the network.

To view the Top 25 multicast traffic passing through the network:

1. Navigate to the HP NNM iSPI Performance for Metrics Software console.[3]

2. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Interface -> McastInterfaceMetrics**.

3. Select **Top N** report.

4. Modify the default Time Control and Topology Filters if required.

5. Click **Options** and select the following metrics:

    - **Throughput In (Kbps) (avg)** as the primary metric.

    - **Qualified Interface Name** as Grouping by metric.

6. Select **Confirm Selection**.

The IP Multicast Interface Top N report appears.

Top N Chart Report

Like the Top N report, this report also ranks the multicast nodes and PIM interfaces by the metric you select.

You can use this report to:

- Spot the multicast node or PIM interface that performed at the extremes.

- Analyze the historical data for nodes and interfaces that are exhibiting unusual utilization levels.

- Analyze the utilization of the nodes and interfaces based on a specific time range.

- Detect the over-utilized and under-utilized nodes and interfaces in the network.

---

[1]Select **Yes** to view the detail chart with the table. Select **No** to hide the chart and show only the graph. The Top N report shows the Time Series Chart.
[2]Select an option to group the report data. You can select more than one option.
[3]From the NNMi console, click **Actions**->**Reporting-Report Menu.**

- Detect the underlying reason of a persistent problem with a node or interface. You can compare the performance for multiple nodes and interfaces using this report.

Example

Some of the multicast routers in your network are performing poorly. Using this report, you can group the routers reporting highest average SNMP response time. The router reporting the highest response time is ranked first.

Top N Chart Options

The Top N Chart displays the following options:

Top / Bottom N: Select a rank between top or bottom five, ten, 25, 50, 100, all descending, and all ascending for the selected component.

Metric: This report tracks up to six metrics over the selected time period.

Grouping By Organize the report data based on a specific parameter.

To add another metric, click Options and then click

To remove a metric that you have already added, click **Options** and then click

To select a range of value for the metric, click and select a range of metric value that the report should consider.

To change the Time Controls defaults, see Time Controls.

To change the Topology Filters defaults, see Topology Filters.

To change the Report Options defaults, see Report Options.

IP Multicast Interface Report Metrics and Topology Filters

The following Metrics and Topology Filters are available in the IP Multicast Interface report.

Metrics

Name	Description
Volume Bytes In (sum)	Total number of bytes received by the selected PIM interface.
Volume Bytes Out (sum)	Total number of bytes sent out from the selected PIM interface.
Volume KB In (sum)	Total number of kilobytes received by the selected PIM interface.
Volume KB Out (sum)	Total number of kilobytes sent out from the selected PIM interface.
Volume MB In (sum)	Total number of megabytes received by the selected PIM interface.
Volume MB Out (sum)	Total number of megabytes sent out from the selected PIM interface.

Name	Description
Throughput In (maximum) (minimum) (average)	The number of octets received by the selected PIM interface. Possible units are bps, Kbps, and Mbps.
Throughput Out (maximum) (minimum) (average)	The number of octets sent out from the selected PIM interface. Possible units are bps, Kbps, and Mbps.
Utilization In (maximum) (minimum) (average)	The bandwidth used by the incoming multicast traffic. This metric helps to evaluate whether an interface in the network is overloaded.
Utilization Out (maximum) (minimum) (average)	The bandwidth used by the outgoing multicast traffic. This metric helps to evaluate whether an interface in the network is overloaded by the multicast traffic.

Topology Filters

Name	Description
Interface Name	The name of the selected multicast PIM interface.
Qualified Interface Name	The name of the selected multicast interface on the multicast-enabled nodes.
Node Name	The name of the multicast-enabled node.
Interface Index	Interface MIB variable for the row number in the interface table (ifTable) for the selected interface. The row number can change with each reboot.
Interface Speed	Interface MIB variable for the interface's bandwidth in bits per second. Depending on the device vendor, this value may indicate current speed or potential speed.
Interface Alias	Optional Interface MIB variable for ifAlias assigned to the interface. This value is set by the device administrator. An ifAlias could be useful if the interface vendor did not provide an ifName value.
McastInterface UUID	The Universally Unique Identifier of the selected multicast interface.
Interface UUID	The Universally Unique Identifier of the selected interface.
Node UUID	The Universally Unique Identifier of the selected node.

IP Multicast Interface Reportlets

In a large enterprise network, the NNM iSPI for IP Multicast may produce a large amount of multicast data. This means that the networks often have a very large amount of unique multicast-enabled nodes and interfaces each of them producing large amount of data. Generating reports using such large data volume may be time consuming. Reportlets enable you to generate quick impressions of the larger reports using the NNM iSPI Performance for Metrics Dashboards.

The iSPI for IP Multicast uses the following reportlets using the IP_Multicast_Interface extension pack:

- Calendar Reportlet

- Heat Chart Reportlet

- Multimetric Chart Reportlet

- Top N Chart Reportlet

- Top N Line Chart Reportlet

- Top N Stacked Chart Reportlet

- Top N Table Reportlet

- Top N Table With Bars Reportlet

Launching iSPI for IP Multicast Interface Reportlets

To launch the IP Multicast interface reportlets:

1. From the iSPI for IP Multicast console, select **Actions -> Reporting - Report Menu.** NPS home page opens.

2. On the NPS home page, select **Dashboard Reportlets -> iSPI IP Multicast -> IP_ Multicast_Interface -> McastInterfaceMetrics** in the navigation panel.

3. Select a reportlet type (for example, Calendar or Heat Chart).

You can also create custom dashboards using the reportlets. See *iSPI Performance for Metrics help, Creating Custom Dashboards Using BI Server Portal* for information on the procedure to create the custom dashboards.

Calendar Reportlet

Calendar reportlet displays a comparative study of the selected primary metric and secondary metric. The primary metric enables you to select the main metric based on which you want to generate the report. The primary metric that you select is displayed on the left Y axis of the report. The Secondary Metric enables you to select the metric that would overlay the primary metric. The secondary metric that you select is displayed on the right Y axis of the report.

Note: Every Calendar reportlet opens with the default metric set. You can click 🔧 **Options** if you want to generate the reportlet with the metrics of your choice.

The default display grain is set to one hour. You cannot change the display grain of this reportlet.

Calendar reportlet enables you to monitor the following:

- Daily interface utilization

- Volume of data passed through the interface for past 24 hours

- Performance of the interface for past 24 hours

This reportlet supports two metrics.

Heat Chart Reportlet

Heat Chart reportlet grades the performance of the selected metric for past 24 hours.

The metric performance is aggregated based on an hourly display grain.

Heat Chart reportlet enables you to:

- View how the interface performance gets affected by a varying metric.

- Compare the hourly performance of the selected metric.

- Detect the time range when the interface performance was affected adversely because of the fluctuating metric value.

This reportlet supports one metric.

Note: Every Heat Chart reportlet opens with the default metric set. You can click ⛏ **Options** if you want to generate the reportlet with the metrics of your choice.

Multimetric Chart Reportlet

Multimetric Chart reportlet analyzes the utilization trend for the selected metrics for past 24 hours. The default display grain is one hour.

Multimetric Chart reportlet enables you to:

- Perform comparative analysis of the selected metrics for each display grain.

- Analyze the reason for any ups and downs in the interface performance.

- Detect any persistent problem in the interface performance.

This reportlet supports up to six metrics.

Note: Every Multimetric Chart reportlet opens with the default metric set. You can click ⛏ **Options** if you want to generate the reportlet with the metrics of your choice.

Top N Chart Reportlet

Top N Chart reportlet ranks the individual contribution of each metric for the component performance for past one day.

The performance of the component is aggregated on hourly basis.

Top N Chart reportlet enables you to:

- Spot the components for which the performance metrics present extreme values.

- Investigate the aggregated data for the components that are exhibiting unusual utilization levels.

- Select the metric based on which you want to generate the report. The metric that you select is used to rank the components.

- Group the report data based on a specific parameter. Click ⊞ **Add Group** to add a subgroup.

This reportlet supports up to six metrics.

Note: Every Top N Chart reportlet opens with the default metric set. You can click ⊪ **Options** if you want to generate the reportlet with the metrics of your choice.

Top N Line Chart Reportlet

Top N Line Chart reportlet ranks the utilization trend for the selected metrics for past 24 hours.

The performance of the interface is aggregated on hourly basis.

Top N Line Chart reportlet enables you to:

- Spot the interfaces for which the performance metrics present extreme values.

- Investigate the aggregated data for the interfaces that are exhibiting unusual utilization levels.

- Select the metric based on which you want to generate the report. The metric that you select is used to rank the interfaces.

- Group the report data based on a specific parameter. Click ⊞ **Add Group** to add a subgroup.

This reportlet supports up to six metrics.

Note: Every Top N Line Chart reportlet opens with the default metric set. You can click ⊪ **Options** if you want to generate the reportlet with the metrics of your choice.

Top N Stacked Chart Reportlet

Top N Stacked Chart reportlet ranks the individual contribution of each component based on the selected metrics.

The performance of each component is aggregated for the default display grain of one hour.

Top N Stacked Chart reportlet enables you to:

- Spot the components for which the performance metrics present extreme values.

- Investigate the aggregated data for the components that are exhibiting unusual utilization levels.

- Detect the network path having a com m on network performance problem.

This reportlet supports up to six metrics.

Note: Every Top N Stacked Chart reportlet opens with the default metric set. You can click ⊪ **Options** if you want to generate the reportlet with the metrics of your choice.

Top N Table Reportlet

Top N Table reportlet ranks the multicast nodes and PIM interfaces based on the selected metric.

Top N Table reportlet enables you to:

- Spot the components for which the performance metrics present extreme values.

- Investigate the aggregated data for the components that are exhibiting unusual utilization levels.

- Select the metric based on which you want to generate the report. The metric that you select is used to rank the components.

- Group the report data based on a specific parameter. Click ⊞ **Add Group** to add a subgroup.

This reportlet supports up to six metrics.

Note: Every Top N Table reportlet opens with the default metric set. You can click 🛠 **Options** if you want to generate the reportlet with the metrics of your choice.

Top N Table With Bars Reportlet

Top N Table With Bars reportlet ranks the interfaces based on the selected metric and displays a horizontal bar to depict the aggregated metric value.

Top N Table With Bars reportlet enables you to:

- Spot the interfaces for which the performance metrics present extreme values.

- Investigate the aggregated data for the interfaces that are exhibiting unusual utilization levels.

- Select the metric based on which you want to generate the report. The metric that you select is used to rank the interfaces.

- Group the report data based on a specific parameter. Click Add Group to add a subgroup.

This reportlet supports up to six metrics.

Note: Every Top N Table With Bars reportlet opens with the default metric set. You can click 🛠 **Options** if you want to generate the reportlet with the metrics of your choice.

IP Multicast Flow Reports

The iSPI for IP Multicast Flow Reports help you to monitor the active IP multicast flows (Source, Group) passing through the selected nodes in the network. The reports show the multicast traffic flow (flow packets, packet discards, and flow bytes) passing through a node or nodes.

The iSPI for IP Multicast uses the iSPI Performance for Metrics and NPS report templates to show the reports. The available reports are:

- Calendar Report

- Heat Chart Report

- Chart Detail Report

- Most Changed Report

- Top N Report

- Top N Chart

- Managed Inventory

Use the IP Multicast Flow reports for the following:

- Monitor the multicast flows (S, G) by traffic volume.

- Monitor the most changed or critical flows. Check the Most Changed or Heat Chart report.

- Capacity planning for the multicast flows passing through the multicast-enabled nodes.

- Rank the multicast flows (S, G) based on the selected metrics. Check the Top N report.

- Troubleshoot and investigate the reason for the multicast flow to receive the degraded signal. Check the Top N report and Chart Detail report.

Related Topics:

Accessing the iSPI for IP Multicast Reports

Calendar Report

The IP Multicast Flow Calendar report helps you to monitor the multicast (S, G) passing through the selected node or nodes for a specific time range. In addition, the report shows a comparative study of the selected metrics for a specific time range.

Use this report to perform the following tasks:

- Monitor and compare the multicast traffic flow performance over a period of time.

- Identify a specific time period to find out any unusual behavior such as degraded flow signal in the multicast traffic flow.

Report Options

The Calendar report shows the following options:

- Primary Metrics[1]
- Secondary metrics[2]

For information about metric definitions, see IP Multicast Flow Metric Definitions.

For more information about how to use the report, see Using the IP Multicast Calendar Report.

Using the iSPI for IP Multicast Calendar Report

The following example demonstrates the use of the iSPI for IP Multicast Calendar report:

Multicast traffic flow is slow.

Check the IP Multicast Flow Calendar report to analyze the multicast flow (S, G) for a specified period of time passing through a node. If the Discard Rate (avg) is more than the Flow Rate (avg), the multicast traffic is slow.

To view the IP Multicast Calendar report:

---

[1]Select the metric based on which you want to view the report. The primary metric appears on the left Y axis of the report.
[2]Select the metric to compare with the primary metric. The secondary metric appears on the right Y axis of the report.

1. Navigate to the HP NNMi iSPI Performance for Metrics Software console.[1]

2. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Flow ->
    Group Metrics.**

3. Select **Calendar** report.

4. Modify the default Time Control and Topology Filters if required.

5. Click **Options** and select the following metrics:

    ■ **Flow Rate (bps) (avg)** as the primary metric.

    ■ **Discard Rate (avg)** as the secondary metric.

6. Select **Confirm Selection**.

The IP Multicast Calendar report opens.

Chart Detail Report

The IP Multicast Flow Chart Detail report helps you to compare the sampled data for any two
metrics. For example, select a weekly Chart Detail report to compare the flow rate and discard rate
for the selected flow passing through a source node.

Use this report to perform the following tasks:

● Analyze the trend of traffic flow for multiple interfaces based on one unit of time. Each unit of
   time is known as a **Display Grain**. Make sure to set the display grain greater than the polling
   interval to view the correct report. You can measure the **Display Grain** as follows:
   ■ Five minutes for an hourly report

   ■ One hour for a daily report

   ■ One day for a weekly report

   ■ One day for a monthly report

● Compare the incoming and outgoing multicast traffic flow over a period of time.

● Detect any persistent problem in the multicast traffic.

Report Options

The Chart Detail report shows the following options:

● Primary Metrics [2]

● Secondary Metrics [3]

For information about metric definitions, see IP Multicast Flow Metric Definitions.

For more information about how to use the report, see Using the IP Multicast Chart Detail Report .

---

[1]From the NNMi console, click **Actions->Reporting-Report Menu.**
[2]Select the main metric based on which you want to view the report. The primary metric appears on
the left Y axis of the report.
[3]Select the metric to compare with the primary metric. The secondary metric appears on the right Y
axis of the report.

Using the iSPI for IP Multicast Flow Chart Detail Report

The following example demonstrates the use of the iSPI for IP Multicast Flow Chart Detail report:

Multicast flow rate on the selected node is not accurate. Compare the incoming flow rate and flow volume bytes for the selected node.

Check the IP Multicast Flow report to find the Top 10 nodes with multicast flows in the network. After finding the node with the lowest flow rate, compare the flow rate and total number of bytes passing through a node. This is an example of the drill-down report.

To view the IP Multicast Chart Detail report:

1. Navigate to the HP NNMi iSPI Performance for Metrics Software console.[1]

2. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Flow -> Group Metrics.**

3. Select **Chart Detail** report.

4. Modify the default Time Control and Topology Filters if required.

5. Click **Options** and select the following metrics:

   ▪ **Throughput In (Mbps) (max)** as the primary metric.

   ▪ **Throughput Out (Mbps) (max)** as the secondary metric.

5. From **Grouping by** option, select **Qualified Interface Name**. You can select more than one metric to group.

6. Select **Confirm Selection**.

The IP Multicast Flow Chart Detail report appears as follows:

- X axis: Time Interval

- Y axis: Flow Rate (bps) (avg) and Volume-Flow Bytes (sum)

Heat Chart Report

The IP Multicast Flow Heat Chart report helps you to view the traffic performance based on a single metric over a time frame.

The heat chart shows different colors to show different states of a metric. These states show traffic performance for the selected network element. For example, select a weekly Heat Chart report to find the performance of a metric **(Discard Rate (avg))** for the selected flow.

Using this report you can:

- Track the hourly performance of the multicast traffic flow.

- Quickly isolate and resolve problems affecting in the selected time range by different colors.

Report Options

The Heat Chart report shows the following option:

---

[1]From the NNMi console, click **Actions**->**Reporting-Report Menu**

Metric[1]

For information about metric definitions, see IP Multicast Flow Metric Definitions.

For more information about how to use the report, see Using the IP Multicast Heat Chart Report.

Using the iSPI for IP Multicast Flow Heat Chart Report

The following example demonstrates the use of the iSPI for IP Multicast Flow Heat Chart report:

The transmission of the BBC channel (a multicast flow) is disrupted for a week from 1400 Hrs to 1800 Hrs.

Find the nodes participating in the multicast flow. Check the IP Multicast Flow Heat Chart report to analyze the traffic pattern for a week. Check the Flow Rate to find out the reason of the traffic performance.

To view the IP Multicast Heat Chart report:

1. Navigate to the HP NNM iSPI Performance for Metrics Software console.[2]

2. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Flow -> Group Metrics**.

3. Select **Heat Chart** report.

4. Modify the default Time Control and Topology Filters if required.

5. Click **Options** and select **Utilization In** as a metric.

6. Select **Confirm Selection.**

The IP Multicast Heat Chart report opens.

Managed Inventory

The IP Multicast Flow Managed Inventory report enables you to view the topology flow objects participating in the multicast flows.

Use this report to perform the following tasks:

- Find the type of topology objects (for example, Group Address, Node Name) in the multicast flow.

- Find the count of the topology objects.

For information about metric definitions, see IP Multicast Flow Metric Definitions.

Most Changed Report

The iSPI for IP Multicast Flow Most Changed report helps you to compare one metric over a time frame to find the changes in the multicast traffic performance. For example, you can find the change in the graph for the metric value (flow rate) for two consecutive days. You can evaluate and conclude the performance of the multicast flows.

---

[1]Select the metric based on which you want to view the report.
[2]From the NNMi console, click **Actions**->**Reporting-Report Menu**

Use this report to perform the following tasks:

- Compare the multicast traffic performance based on a metric value.

- Find out the trend of the multicast flow.

- Find the growth rate of the traffic flow passing through an interface based on a single metric.

Report Options

The Most Changed report shows the following option:

- Top N[1]

- Metric[2]

- Grouping By[3]

For information about metric definitions, see IP Multicast Flow Metric Definitions.

For more information about how to use the report, see Using the IP Multicast Most Changed Report.

Using the iSPI for IP Multicast Most Changed Report

The following example demonstrates the use of a Most Changed Report:

Compare the changes in the discard rate for the current and previous time period.

Check the IP Multicast Most Changed report to analyze the multicast flow on the metric value (Discard Rate) over a specified period of time. The higher discard rate results in slower traffic.

To view the IP Multicast Most Changed report:

1. Navigate to the HP NNMi iSPI Performance for Metrics Software console.[4].

2. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Flow -> Group Metrics**.

3. Select **Most Changed** report.

4. Modify the default Time Control and Topology Filters if required.

5. Click **Options** and select the following metrics:

   - **Discard Rate** as the primary metric.

   - **Node Name** as the Grouping by metric.

6. Select **Confirm Selection**.

The IP Multicast Most Changed report opens.

---

[1]Select the type of report from the available rank-list. The rank-list includes top or bottom 5,10, 25 ranks for the selected network element. The ranks are available either in ascending order or descending order.
[2]Select the metric based on which you want to view the report.
[3]Select the network element to group the metric. You can select more than one value to group the metric.
[4]From the NNMi console, click **Actions->Reporting-Report Menu**

Top N Report

The iSPI for IP Multicast Flow Top N report ranks the selected multicast flow (S, G) based on a single metric. The Top N report lists the network elements in the descending order; that is from the highest value of the selected metric to the lowest value of the selected metric.

For example, select a daily Top l0 report to view the top 10 multicast flows. The report is grouped by the selected flow and the metric value (**Volume-Flow Bytes (sum)**) in the network.

The Top N list includes the following:

- Top / Bottom 5 - Shows the Top / Bottom 5 horizontal bar graphs that provide values in descending or ascending order based on the selected metric.

- Top / Bottom 10 - Shows the Top / Bottom 10 horizontal bar graphs that provide values in descending or ascending order based on the selected metric.

- Top / Bottom 25 - Shows the Top / Bottom 25 horizontal bar graphs that provide values in descending or ascending order based on the selected metric.

- Top / Bottom 50 - Shows the Top / Bottom 50 horizontal bar graphs that provide values in descending or ascending order based on the selected metric.

- Top / Bottom 100 - Shows the Top / Bottom 100 horizontal bar graphs that provide values in descending or ascending order based on the selected metric.

Use this report to perform the following tasks:

- Compare the network element with the selected metric values for a quick overview of the network. You can find the cause of network performance by using the drill-down reports.

- Monitor the critical and important multicast flows and interfaces.

- Investigate and troubleshoot the flows with the high exception counts (packets discarded and flow rate).

- Analyze the historical data to monitor and find the trend in network performance.

Report Options

The report shows the following options:

- Top N [1]
- Metric [2]

---

[1]Select the type of report from the available rank-list. The rank-list includes top or bottom 5,10, 25, 50, 100 ranks for the selected network element. The ranks are available either in ascending order or descending order.
[2]Select the main metric based on which you want to view the report. The primary metric appears on the left Y axis of the report.

- Display Time Series Chart[1]

- Grouping By[2]

For information about metric definitions, see IP Multicast Flow Metric Definitions.

For more information about how to use the report, see Using the IP Multicast Flow Top N Report.

Using the iSPI for IP Multicast Flow Top N Report

The following example demonstrates the use of a Flow Top N Report:

The picture quality is not good for one of the IP TV channel. How do I troubleshoot this?

Compare the Top 10 IP TV channels (multicast flows) based on the flow rate. Each channel appears as a multicast flow (S, G) in the IP Multicast inventory.

To view the Top 10 multicast flows in the network:

1. Navigate to the HP NNM iSPI Performance for Metrics Software console.[3]

2. On the NPS home page, select **Reports -> iSPI IP Multicast -> IP_Multicast_Flow -> Group Metrics**.

3. Select **Top N** report.

4. Modify the default Time Control and Topology Filters if required.

5. Click **Options** and select the following metrics:

   - **Throughput In (Kbps) (avg)** as the primary metric.

   - **Qualified Interface Name** as Grouping by metric.

6. Select **Confirm Selection**.

The IP Multicast Top N report opens with ten multicast flows with the rank and flow rate.

Top N Chart Report

Like the Top N report, this report also ranks the multicast flows by the metric you select.

You can use this report to:

- Spot the multicast flows that performed at the extremes.

- Investigate and troubleshoot the flows with the high exception counts (packets discarded and flow rate).

- Analyze the historical data for multicast flows that are exhibiting unusual utilization levels.

- Analyze the utilization of the multicast flows based on a specific time range.

---

[1]Select **Yes** to view the detail chart with the table. Select **No** to hide the chart and show only the graph. The Top N Report shows the Time Series Chart.
[2]Select an option to group the report data. You can select more than one option.
[3]From the NNMi console, click **Actions**->**Reporting-Report Menu.**

- Detect the underlying reason of a persistent problem with a multicast flow. You can compare the performance for multiple multicast flows using this report.

Top N Chart Options

The Top N Chart displays the following options:

Top / Bottom N: Select a rank between top or bottom five, ten, 25, 50, 100, all descending, and all ascending for the selected component.

Metric: This report tracks up to six metrics over the selected time period.

Grouping By Organize the report data based on a specific parameter.

To add another metric, click Options and then click

To remove a metric that you have already added, click **Options** and then click

To select a range of value for the metric, click and select a range of metric value that the report should consider.

To change the Time Controls defaults, see Time Controls.

To change the Topology Filters defaults, see Topology Filters.

To change the Report Options defaults, see Report Options.

IP Multicast Flow Report Metrics and Topology Filters

The following Metrics and Topology Filters are available in the iSPI for IP Multicast Flow report.

Metrics

Name	Description
Volume - Flow Bytes (sum)	Total number of bytes in a selected multicast flow (S, G) in the network. The available units are Bytes, KBytes, and MBytes.
Volume - Flow Packets (sum)	Total number of packets in a selected multicast flow (S, G) in the network.
Discards - Packets (sum)	Total number of packets that reach late to the destination or get dropped for the selected flow (S, G) in the network.
Flow Rate (maximum)(minimum)(average)	Total number of bytes per second for the selected flow (S, G) passing through the nodes in the network. The available units are bps, Kbps, and Mbps.
Flow Packets Rate (maximum)(minimum)(average)	Total number of packets per second for the selected flow (S, G) passing through the nodes in the network.
Discard Rate (maximum)(minimum)(average)	Total number of packets per second that reach late to the destination or get dropped for the selected flow (S, G) in the network.

Topology Filters

Filters	Description
Source Address	An IP Address of the source node.
Flow (S on G)	The multicast flow passing through the selected flow group (source and group) in the network.
Node Name	The name of the multicast-enabled node.
Group Address	A multicast group address is an Internet Protocol (IP) address in the range 224.0.0.0 to 239.255.255.255 that identifies the members of an IP multicast group.

IP Multicast Flow Reportlets

You can use IP Multicast flows specific reports to generate reportlets. The reportlets are quick impressions of the larger reports. You can generate the reportlets using the iSPI Performance for Metrics Dashboards.

The iSPI for IP Multicast uses the following reportlets using the IP_Multicast_Flow extension pack:

- Calendar Reportlet

- Heat Chart Reportlet

- Multimetric Chart Reportlet

- Top N Chart Reportlet

- Top N Line Chart Reportlet

- Top N Stacked Chart Reportlet

- Top N Table Reportlet

- Top N Table With Bars Reportlet

Launching iSPI for IP Multicast Flow Reportlets

To launch the IP Multicast Flow reportlets:

1. From the iSPI for IP Multicast console, select **Actions -> Reporting - Report Menu.** NPS home page opens.

2. On the NPS home page, select **Dashboard Reportlets -> iSPI IP Multicast -> IP_ Multicast_Flow -> GroupMetrics** in the navigation panel.

3. Select a reportlet type (for example, Calendar or Heat Chart).

You can also create custom dashboards using the reportlets. See *iSPI Performance for Metrics help, Creating Custom Dashboards Using BI Server Portal* for information on the procedure to create the custom dashboards.

Accessing the iSPI for IP Multicast Reports

Calendar Reportlet

Calendar reportlet displays a comparative study of the selected primary metric and secondary metric. The primary metric enables you to select the main metric based on which you want to generate the report.The primary metric that you select is displayed on the left Y axis of the report.The Secondary Metric enables you to select the metric that would overlay the primary metric. The secondary metric that you select is displayed on the right Y axis of the report.

The default display grain is set to one hour. You cannot change the display grain of this reportlet.

Calendar reportlet enables you to monitor the following:

- Daily interface utilization

- Volume of data passed through the interface for past 24 hours

- Performance of the interface for past 24 hours

This reportlet supports two metrics.

Note: Every Calendar reportlet opens with the default metric set. You can click **Options** if you want to generate the reportlet with the metrics of your choice.

Heat Chart Reportlet

Heat Chart grades the performance of the selected metric for past 24 hours.

The metric performance is aggregated based on an hourly display grain.

Heat Chart reportlet enables you to:

- View how the interface performance gets affected by a varying metric.

- Compare the hourly performance of the selected metric.

- Detect the time range when the interface performance was affected adversely because of the fluctuating metric value.

This reportlet supports one metric.

Note: Every Heat Chart reportlet opens with the default metric set. You can click **Options** if you want to generate the reportlet with the metrics of your choice.

Multimetric Chart Reportlet

Multimetric Chart reportlet analyzes the utilization trend for the selected metrics for past 24 hours. The default display grain is one hour.

Multimetric Chart reportlet enables you to:

- Perform comparative analysis of the selected metrics for each display grain.

- Analyze the reason for any ups and downs in the interface performance.

- Detect any persistent problem in the interface performance.

This reportlet supports up to six metrics.

Note: Every Multimetric Chart reportlet opens with the default metric set. You can click **Options** if you want to generate the reportlet with the metrics of your choice.

Top N Chart Reportlet

Top N Chart reportlet ranks the individual contribution of each metric for the component performance for past one day.

The performance of the component is aggregated on hourly basis.

Top N Chart reportlet enables you to:

- Spot the components for which the performance metrics present extreme values.

- Investigate the aggregated data for the components that are exhibiting unusual utilization levels.

- Select the metric based on which you want to generate the report. The metric that you select is used to rank the components.

- Group the report data based on a specific parameter. Click ⊞ **Add Group** to add a subgroup.

This reportlet supports up to six metrics.

Note: Every Top N Chart reportlet opens with the default metric set. You can click 🔧 **Options** if you want to generate the reportlet with the metrics of your choice.

Top N Line Chart Reportlet

Top N Line Chart reportlet ranks the utilization trend for the selected metrics for past 24 hours.

The performance of the interface is aggregated on hourly basis.

Top N Line Chart reportlet enables you to:

- Spot the interfaces for which the performance metrics present extreme values.

- Investigate the aggregated data for the interfaces that are exhibiting unusual utilization levels.

- Select the metric based on which you want to generate the report. The metric that you select is used to rank the interfaces.

- Group the report data based on a specific parameter. Click ⊞ Add Group to add a subgroup.

This reportlet supports up to six metrics.

Note: Every Top N Line Chart reportlet opens with the default metric set. You can click 🔧 **Options** if you want to generate the reportlet with the metrics of your choice.

Top N Stacked Chart Reportlet

Top N Stacked Chart reportlet ranks the individual contribution of each component based on the selected metrics.

The performance of each component is aggregated for the default display grain of one hour.

Top N Stacked Chart reportlet enables you to:

- Spot the components for which the performance metrics present extreme values.

- Investigate the aggregated data for the components that are exhibiting unusual utilization levels.

- Detect the network path having a com m on network performance problem.

This reportlet supports up to six metrics.

Note: Every Top N Stacked Chart reportlet opens with the default metric set. You can click 🔧
Options if you want to generate the reportlet with the metrics of your choice.

Top N Table Reportlet

Top N Table reportlet ranks the multicast flows based on the selected metric.

Top N Table reportlet enables you to:

- Spot the components for which the performance metrics present extreme values.

- Investigate the aggregated data for the components that are exhibiting unusual utilization levels.

- Select the metric based on which you want to generate the report. The metric that you select is used to rank the components.

- Group the report data based on a specific parameter. Click ➕ **Add Group** to add a subgroup.

This reportlet supports up to six metrics.

Note: Every Top N Table reportlet opens with the default metric set. You can click 🔧 **Options** if you want to generate the reportlet with the metrics of your choice.

Top N Table With Bars Reportlet

Top N Table With Bars reportlet ranks the flows based on the selected metric and displays a horizontal bar to depict the aggregated metric value.

Top N Table With Bars reportlet enables you to:

- Spot the interfaces for which the performance metrics present extreme values.

- Investigate the aggregated data for the interfaces that are exhibiting unusual utilization levels.

- Select the metric based on which you want to generate the report. The metric that you select is used to rank the interfaces.

- Group the report data based on a specific parameter. Click ➕ **Add Group** to add a subgroup.

This reportlet supports up to six metrics.

Note: Every Top N Table With Bars reportlet opens with the default metric set. You can click 🔧
Options if you want to generate the reportlet with the metrics of your choice.

We appreciate your feedback!

If an email client is configured on this system, by default an email window opens when you click on the bookmark "Comments".

In case you do not have the email client configured, copy the information below to a web mail client, and send this email to **docfeedback@hp.com**

Product name:

Document title:

Version number:

Feedback: