HP Network Node Manager iSPI Performance for Metrics Software

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Windows® and Linux® operating systems

Online Help for the ATM Reports

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About ATM Reports

ATM reports show performance data for the ATM PVC Health data collected by NNMi. Graphs and charts on these reports help you identify the following:

- Volume of data passed through the selected ATM virtual circuits
- Average, minimum, and maximum utilization of the selected ATM virtual circuits
- Number of discarded AAL5 CPCS PDUs in the selected ATM virtual circuits
- Number of AAL5 CPCS PDUs marked for discard for the selected ATM virtual circuits

Use these reports to determine the status of the ATM PVC Health virtual circuits on your network.

Opening Reports from NNMi

From the NNMi Console, you have the following options:

- Move from NNMi to the iSPI and launch reports from the Report tab in the navigation panel.
- Launch a pre-filtered report directly from NNMi if you are interested in a particular node group, node, interface, or virtual circuit. Otherwise, open a workspace view from NNM, move to the iSPI, and begin your investigation from the NPS home page.

  To move from NNM to the iSPI:

  a. Log in to the NNMi console.
  b. Select a workspace.
  c. Open a view of nodes, interfaces, or incidents.
  d. Select **Actions** > **HP NNM iSPI Performance** > **Reporting - Report Menu**

ATM Calendar Report

The Calendar report uses a traditional, calendar-style layout to show hourly statistics for two metrics in a single, extended graph spanning over multiple days.

Features and Defaults

The report defaults to:

- ATM PVC Name = All
- Dates/Times = Last 31 days
- Metric(s) Shown on Y1 Axis (Primary Metric) = Volume Bytes (sum)
- Metric(s) Shown on Y2 Axis (Secondary Metric) = CIR Utilization (avg)

The default view shows data for the current month. Depending on how long the iSPI has been collecting data from NNMi, you may have the option of looking at data for the previous 70 days if you use the option Until Now.

If you set the Time Range to less than 24 hours, the following message appears:

```
This report is not designed to operate with a time range of less than 24 hours.
Please modify your time selections.
```

How to Use this Report

Use this report to:

- Observe gradual trends over time
- Observe isolated spikes
- Verify that an abnormal condition has returned to normal
- Make comparisons

This report 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 a.m., the report highlights these events.

ATM Chart Detail Report

The Chart Detail report enables you to perform a trend analysis for network health and performance based on historical virtual circuit health data.

The report displays a comparative analysis of the selected metrics for each time unit.

For example, to compare how the volume of AAL5 CPCS PDUs received and sent was affected by variance in the AAL5 CPCS PDU discards per millisecond for the past one week, you could generate the Weekly ATM PVC Health report for the selected node group.

You can also select two or more nodes, node groups, virtual circuits, or interface types to generate this report.

The report enables you to:

- Analyze the trend of network health and performance for multiple nodes, node groups, virtual circuits, or virtual circuit groups based on one unit of time. Each unit of time is called as a Display Grain. Each Display Grain is measured as follows:
  - 5 minutes for Hourly report
  - 1 hour for daily report

  - One day for weekly report
  - One day for monthly report
- Identify the virtual circuit that is causing ups and downs in network health and performance.
- Detect any persistent problem in virtual circuit health and performance.
- Compare the network health and performance of more than two nodes, node groups, virtual circuits, or virtual circuit groups based on historical virtual circuit health data.

The following filters are available in the Time Controls pane:

- Start Date/Time
- Time Range
- Display Grain
- Hour of day
- Day of Week

Features and Defaults

The graph on this report tracks up to six metrics per axis over the selected time period. The default metrics are the following:

- ATM PVC Name = All
- Metric(s) Shown on Y1 Axis = Volume Bytes (sum)
- Metric(s) Shown on Y2 Axis = CIR Utilization (avg)

The Chart Detail report displays the selected metrics using two Y axes.

- The left Y axis (also known as the Y1 axis) displays the performance of the main metric based on the one you want to generate the report with.
- The right Y axis (also known as the Y2 axis) displays the performance of the metric that should overlay the main (primary) metric.

The Chart Detail report enables you to view the data in the tabular format as well. To view the table, click **Options**, and select Table. The table appears instead of the chart. To view both the chart and the table, click **Options**, and select Chart and Table.

ATM Heat Chart Report

Th Heat Chart report tracks the hourly performance of a single metric. The default metric is Volume - Bytes (sum). The default time period is the last 31 days. Performance is color-coded, making it easy to see whether performance has been satisfactory or unsatisfactory.

Features and Defaults

The legend at the top of the report maps a range of normalized performance values to a particular color.

Beneath the legend, a table represents the normalized values of a performance metric (rows of the table represent hours of the day; columns of the table represent days).

Each cell inside the table is color-coded and indicates a specific value of the metric. You can also hover the mouse over the cell to see the absolute metric value of each hour.

The default topology filters for the report are as follows:

- ATM PVC Name = All
- Time Period = Last 31 days
- Hour of Day = All
- Day of Week = All
- Metric = Volume - Bytes (sum)

Time range options are any period that is not less than 24 hours.

How to Use this Report

Use the Heat Chart report to identify gradual shifts from one range of performance to another range, to spot an isolated instance of poor performance that affected the results for past 24 hours, to spot day-of-week patterns, and to verify that an abnormal condition returned to normal after a problem was corrected.

ATM Managed Inventory Report

The Managed Inventory report enables you to view the number of instances of each topology attribute seen in the collected data within the selected time range. For example, if the report is run for "Last 1 Hour," you would see the number of unique values for each attribute seen in the data collected over the last hour. This report can be useful for checking the number of nodes polled over any given time range.

You can use the available attributes to filter the data and create a report that represents only the elements you are interested in. The report presents the list of attributes in the form of a table. The Count column of the table indicates the number of entries for each attribute. For example, count 5 for the topology item Node Location means that all nodes on your network can be grouped based on five different locations that host the nodes.

You can use the following topology attributes with the virtual circuit Health reports:

- Qualified ATM PVC Name
- ATM PVC Name
- ATM PVC ID
- Qualified Interface Name
- Interface Name
- Interface Alias
- Interface Physical Address

- Interface Annotation
- ATM PVC UUID
- Node Name
- Node Contact
- Node Location
- Node Family
- Node Vendor
- Node ID
- Node UUID
- Node Annotation
- Interface ODBID
- Node ODBID
- Tenant Name
- Tenant UUID
- SecGroup Name
- SecGroup UUID)

The Managed Inventory report can take significant time to build if you select a time range greater than 24 hours.

ATM Most Changed Report

The Most Changed report compares components for two different (consecutive) time periods and ranks them according to the amount of change. The sort order is most-changed to least-changed.

Features and Defaults

This report contains one table, which provides data for one metric only.

The table columns are:

- Grouping by levels: one to five columns, each displaying a level
- Performance for the previous time period
- Performance for the current time period
- Growth, expressed as a percentage increase
- Change

The default filters for the Most Changed report are:

- Grouping by Elements = Qualified ATM PVC Name
- Start Date/Time = depends on default Time Range and data available in database

- Hour of Day (HOD) = All
- Day of Week (DOW) = All
- Ranking Metric = Volume - Bytes (sum)
- Top N Option = Top 10

How to Use this Report

You can use this report to spot objects at a grouping level that experienced significant growth from the previously selected time period to the currently selected time period. Significant growth could point to a developing problem. You can change the ranking metric and the number of elements listed.

ATM Peak Period Report

The Peak Period report ranks the utilization and performance of an interface during the busiest time of the selected time range.

This report enables you to:

- Identify the performance and utilization of the selected metrics during the peak period.
- Identify the interfaces that have the highest or lowest performances or utilization levels during the peak period.
- Compare the performance for multiple interfaces during the peak period using this report.

You can use this report to:

- Identify a group of virtual circuits that have a common network performance problem.
- Identify the virtual circuit that is suffering from a persistent performance problem.
- Identify the period when the virtual circuit utilization was the highest.

Report Options

- Top / Bottom N[1]
- Select Metric(s)[2]
- Grouping by Time Period[3]

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

To add another metric, click **Options** and the **Add New Grouping** button.

To remove a metric you already added, click **Options** and the **Remove Grouping** button.

[1]Select a rank between top or bottom five, ten, 25, 50, 100, all descending, and all ascending for the selected component.
[2]Select the metrics based on which you want to generate the report.
[3]Enables you to group the report data based on a specific time grain. Click Add New Grouping icon to add a new group.

To select a range of values for the metric, click and .

Type the ranges of metric values the report should consider. Make sure that the ranges are one of the following:

- Decimal multiplier (1 to specify 100%, 0.5 to specify 50%, etc.)
- Range with the % (Percentage) symbol (100%, 50%, etc.)

For example, to see the top five virtual circuits for node 15.2.103.112 with average utilization between 10% and 90%, type the following ranges:

- 0.1 or 10% as **Lowest Value**
- 0.9 or 90% as the **Highest Value**

Tips:

- Check this report once a day to see which virtual circuit might need special attention.
- Check this report periodically throughout the day to see which virtual circuit is performing at the extremes and might, therefore, need special attention.

ATM Top N Report

The Top N report ranks network elements by the metric selected. Use this report to spot the element that performed at the extremes and to analyze the historical data for elements that are exhibiting unusual utilization levels.

This report enables you to:

- Detect the ATM virtual circuits that have a health or performance problem.
- Analyze the utilization of the NNMi managed ATM virtual circuits based on a specific time range.
- Detect the over-utilized and under-utilized ATM virtual circuits in the network.
- Compare the performance of multiple ATM virtual circuits for a single node or multiple nodes using this report.

Example

One of the routers in your network is performing poorly. Using this report, you can group the ATM virtual circuit for the router reporting the highest average error rate. That virtual circuit is ranked first.

Reports Options

The report displays the following options:

- Top / Bottom N
- Select Metric(s): The report ranks the selected virtual circuits according to the value of the first metric listed in the Select Metric(s) field.
- Display Time Series Chart
- Grouping By

This report tracks up to six metrics for each metric type over the selected time period.

To add another metric, click **Options** and the **Add New Grouping** button.

To remove a metric you already added, click **Options** and the **Remove Grouping** button.

To select a range of values for the metric, click and .

Select a range of metric values the report should consider. Make sure the range is one of the following formats:

- Decimal multiplier (1 to specify 100%, 0.5 to specify 50%, etc.)
- Range with the % (Percentage) symbol (100%, 50%, etc.)

For example, to see the top five interfaces for the node 192.168.255.200, where average utilization is between 10% and 90%, enter the following ranges:

- 0.1 or 10% as **Lowest Value**
- 0.9 or 90% as the **Highest Value**

The Time Series Chart report displays the selected metrics using two Y axes.

- The left Y axis (the Y1 axis) displays the performance of the main metric on which you want to generate the report.
- The right Y axis (the Y2 axis) displays the performance of the metric that should overlay the main (primary) metric.

By default, the Top N Report does not display the Time Series Chart. To view the chart with the detail table:

- Select **Options** > **Display Time Series Chart** > **Confirm Selection**.
- Click **Show Chart** link below the detail table.

Tips:

Check this report once a day to see which network interface might need special attention.

Check this report periodically throughout the day to see which network interfaces are performing at the extremes and might need special attention.

ATM Top N Frequency Distribution Report

The Top N Frequency Distribution report ranks network elements by the metrics you select and shows the distribution of metric values for each collected sample during the selected time range.

You can use this report as an alternative to the Top N report. In addition to providing all the details that are available on the Top N report, this report helps you see how much time the metric value has spent in each bucket[1].

The Top N Frequency Distribution report uses **buckets** to indicate different ranges of metric values.

About Buckets

A bucket represents a range of values. The Top N Frequency Distribution report enables you to define 12 different buckets (or ranges of values) for a metric series—from bucket 0 (**Bkt 0**) through bucket 11 (**Bkt 11**). Each bucket is associated with a color code (in-built, not configurable). The generated report represents the distribution of different value ranges with the color codes that are associated with buckets.

Before launching the report, you must define the ranges by typing an upper limit in the text box provided for each bucket. The first bucket (Bkt 1) represents all values below the specified upper limit.

If you want to create evenly distributed buckets, specify the upper limit for Bkt 11 and Bkt 0, and then click **Spread Values**.

Tip: Since you can define buckets (value ranges) only for each metric series and not for individual metrics, you must select only related metrics in a metric series. You can use the same series and bucket ranges for percentage metrics, but do not place counter metrics (such as Volume) and percentage metrics together on the same series.

How to Run the Report

In the navigation pane of the NPS console, expand the Reports workspace, and then click **iSPI Metrics > Interface_Health > InterfaceMetrics > Top N Frequency Distribution**. You can modify the default settings of the report with the help of the Time, Topology, and Options menus.

Time

To modify the time settings, click **Time** on the report.The Time Control workspace in the navigation panel opens.

Topology

To filter the report by topology attributes, click **Topology** on the report. Alternatively, click **Topology Filter** in the navigation panel, and then click **Launch Topology Selector**.

Options

[1]A bucket represents a range of values. The Top N Frequency Distribution report enables you to define 12 different buckets (or ranges of values) for a metric series—from bucket 0 (Bkt 0) through bucket 11 (Bkt 11). Each bucket is associated with a color code (in-built, not configurable). The generated report represents the distribution of different value ranges with the color codes that are associated with buckets.

To modify report options, first open the Report Options pane by clicking the **Options** menu on the report.

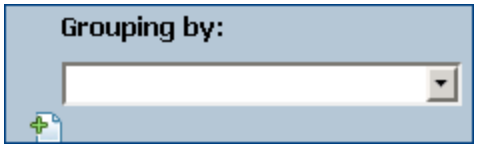
Top/Bottom N:

The Top/Bottom N list helps you specify the number of ranks that you want to see on this report.

To select data points on the report:

In the Top/Bottom N list, select a value of your choice.

To change the Grouping By option:



In the Grouping By list, select an attribute to define the grouping mechanism for the tabular data on the report.

To select more than one attribute, click **Add New Grouping**. A new Grouping By box with the list of attributes appears.

To remove a grouping attribute, click **Remove Grouping**.

Metrics:

To select a metric:

1. Right-click the metric.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to Y2** if you want to select this metric for the Y2 axis. On each axis, you can select up to six metrics.

   Tip: Click **Show Description** to see the metric definition.

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.

You can limit the number of rows on the report by specifying a range of values in the From and To boxes on each axis. After typing a value in the From or To box, you must press **Enter**. For the percentage type of metrics, specify values in decimal fractions. For example, to specify 9%, type 0.09.

To remove a metric from an axis:

Right-click the metric on the axis, and then click **Delete**. The metric disappears from the axis.

To change the order of the metric:

Right-click the metric on the axis, and then click **Move Up** or **Move Down**. The metric changes its position on the axis and, subsequently, changes its position on the report when the report is launched.

Note: Right-clicking a metric on the Y1 or Y2 axis does not bring up any context menus when no other metrics are present on the axis.

Defaults

Time

- Relative start: Yes
- Interval: (Last rolling) 1 hour
- Grain: 5 minutes

Topology

- Topology group tracking method: SCD Type 1
- Filter attribute selection: None

Options

- Top/Bottom N: Top 10
- Grouping by: Qualified Atm Pvc name
- Metrics:
  - Y1: Volume - Bytes (sum)
  - Y2: Utilization (avg)

ATM Top N Table Report

This report ranks network elements by the metrics you select. Unlike the Top N report, this report does not show any bar charts or time series graphs and does not show the others[1] group. In a large environment, NPS can generate the Top N Table report faster than it can generate the Top N report. If

[1]On a Top N report, elements that are not ranked by the report are grouped together and represented by the "others" row.

you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

Use this report to spot the element that performed at the extremes and to analyze historical data for elements that are exhibiting unusual utilization levels. You can:

- Detect the ATM virtual circuit that has a health or performance problem.
- Analyze the utilization of the NNMi-managed network ATM virtual circuits during a specific time range.
- Detect over-utilized and under-utilized ATM virtual circuits on the network.
- Compare performance for multiple network ATM virtual circuits.

How to Run the Report

In the navigation pane of the NPS console, expand the Reports workspace, and then click**iSPI Metrics > AtmPvc_Health > AtmPvcMetrics > Top N Table**. You can modify the default settings of the report with the help of the Time, Topology, and Options menus.

Time

To modify the time settings, click **Time** on the report.The Time Control workspace in the navigation panel opens.

Topology

To filter the report by topology attributes, click **Topology** on the report. Alternatively, click **Topology Filter** in the navigation panel, and then click **Launch Topology Selector**.

Options

To modify report options, first open the Report Options pane by clicking the **Options** menu on the report.

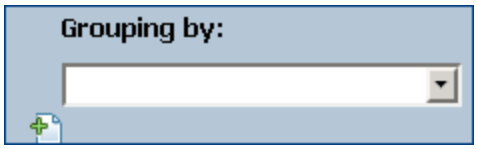
Top/Bottom N:

The Top/Bottom N list helps you specify the number of ranks that you want to see on this report.

To select data points on the report:

In the Top/Bottom N list, select a value of your choice.

To change the Grouping By option:



In the Grouping By list, select an attribute to define the grouping mechanism for the tabular data on the report.

To select more than one attribute, click **Add New Grouping**. A new Grouping By box with the list of attributes appears.

To remove a grouping attribute, click **Remove Grouping**.

Metrics:

To select a metric:

1. Right-click the metric.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to Y2** if you want to select this metric for the Y2 axis. On each axis, you can select up to six metrics.

   Tip: Click **Show Description** to see the metric definition.

You can limit the number of rows on the report by specifying a range of values in the From and To boxes on each axis. After typing a value in the From or To box, you must press **Enter**. For the percentage type of metrics, specify values in decimal fractions. For example, to specify 9%, type 0.09.

To remove a metric from an axis:

Right-click the metric on the axis, and then click **Delete**. The metric disappears from the axis.

To change the order of the metric:

Right-click the metric on the axis, and then click **Move Up** or **Move Down**. The metric changes its position on the axis and, subsequently, changes its position on the report when the report is launched.

Note: Right-clicking a metric on the Y1 or Y2 axis does not bring up any context menus when no other metrics are present on the axis.

Time

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.

- Relative start: Yes
- Interval: (Last rolling) 1 hour
- Grain: 5 minutes

Topology

- Topology group tracking method: SCD Type 1
- Filter attribute selection: None

Options

- Top/Bottom N: Top 10
- Grouping by: Qualified Atm Pvc name
- Metrics:
  - Y1: Volume - Bytes (sum)
  - Y2: Utilization (avg)

Tip: Check this report once a day to see which ATM virtual circuits might need special attention.

Check this report throughout the day to see which ATM virtual circuits are performing at the extremes and might need special attention.

ATM Top N Chart Report

The Top N Chart report ranks the ATM virtual circuits by the metric you select.

This report enables you to:

- Spot the virtual circuits that perform at the extremes.
- Analyze historical data for virtual circuits that exhibite unusual utilization levels.
- Detect virtual circuits that have a health or performance problem.
- Analyze the utilization of the NNMi managed ATM virtual circuits based on a specific time range.
- Detect the over-utilized and under-utilized ATM virtual circuits in the network.
- Detect the underlying reason of a persistent problem with a virtual circuit. You can compare the performance for multiple virtual circuits using this report.

About Reportlets

In a large enterprise network, the NNM iSPI Performance products (HP NNM iSPI Performance for Metrics, HP NNM iSPI Performance for Quality Assurance, and HP NNM iSPI Performance for Traffic) can produce a large amount of data and large cardinality. Enterprise networks often have a very large

number of unique IP addresses, source nodes, destination nodes, virtual circuits, interfaces, and components that each produce a large amount of data. Generating reports can therefore be time-consuming.

Reportlets enable you to generate quick impressions of the larger reports using the NNM iSPI Performance dashboard.

To display the reportlets:

1. Log on to the NPS home page.
2. On the left navigation panel, expand **Reportlets** from **iSPI Metrics > AtmPvc_Health > AtmPvcMetrics**.
3. Double-click the reportlet of your choice.

You can also create custom dashboards using the reportlets.

Calendar

Displays a comparative study of the selected Primary Metric[1] and Secondary Metric[2]

The default display grain is set to 1 hour. You cannot change the display grain of this reportlet.

Enables you to monitor the following:

- Daily CIR or EIR utilization for the selected ATM PVC Health virtual circuits
- Volume of data passed through the virtual circuit for past 24 hours
- Performance of the virtual circuit for past 24 hours

This reportlet supports two metrics.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

[1]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.
[2]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.

You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to Y2** if you want to select this metric for the Y2 axis.

Tip: Click **Show Description** to see the metric definition.

Gauge

Evaluates the metric for the selected point of time.

Select only the metrics that display the percentage values.

Enables you to:

- Measure the daily performance of the selected metric.
- Detect any abnormal or unexpected performance level.

This reportlet supports one metric.

When the NPS database has no data, the needle icon on the gauge does not appear.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and the click **Toggle Options**.

You can select a metric of your choice from a drop-down list.

Heat Chart

Grades the performance of the selected metric for the selected time range.

The metric performance is aggregated according to an hourly display grain.

Enables you to:

- View how the performance of the selected ATM PVC Health virtual circuits is affected by a varying metric.
- Compare the hourly performance of the selected metric.
- Detect the time range when the performance of the selected ATM PVC Health virtual circuits is affected adversely because of the fluctuating metric value.

This reportlet supports one metric.

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the report.

   Tip: Click **Show Description** to see the metric definition.

Metric Snapshot

Displays the metric performance for the selected time range.

Enables you to:

- Build a performance history for the selected metric and analyze how the metric performance changes over time. The history can help you determine the baseline value for the metric.
- Compare the performance of multiple metrics over a specified time range. You can generate a snapshot report for a single metric, save the snapshot report for various metrics, and compare the performance of each metric over a time range.

This reportlet supports one metric.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the report.

   Tip: Click **Show Description** to see the metric definition.

Most Changed

Compares the metric performance between the following:

- Selected time range
- Period preceding the selected time range

Aggregates metric utilization and ranks performance in descending order.

Enables you to:

- Measure performance fluctuations for ATM PVC Health virtual circuits.
- Detect the top N ATM PVC Health virtual circuits that have a common performance or utilization problem.

You can enhance the reportlet usability using the following features:

- Top / Bottom N[2]
- Grouping By[3]

This reportlet supports one metric.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.
[2]Select a rank between top or bottom five, ten, 25, 50, 100, all descending, and all ascending for the selected component.
[3]Organize the report data based on a specific parameter. Click Add New Grouping icon to add a new group.

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the report.

   Tip: Click **Show Description** to see the metric definition.

Multimetric Chart

Analyzes the performance trend for the selected metrics for the selected time range.

Enables you to:

- Perform a comparative analysis of the selected metrics for each display grain. The default display grain is 1 hour.
- Analyze the reason for ups and downs in the performance of the selected ATM PVC Health virtual circuits.
- Detect any persistent problem in the performance of the ATM PVC Health virtual circuits.

This reportlet supports up to six metrics.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[2]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to**

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.
[2]A tag is a keyword that represents an aggregation type or a domain-specific group.

Y2 if you want to select this metric for the Y2 axis.

Tip: Click **Show Description** to see the metric definition.

Simple Bar and Line Chart

Displays the performance trend of ATM PVC Health virtual circuits for the past 24 hours using the following values:

- Primary Metric[1] on the bar chart
- Secondary Metric[2] on the line chart

Enables you to:

- Compare the performance trends of multiple metrics.
- Analyze how the value of the secondary metric increases or decreases based on the increase or decrease in the value of the primary metric.

This reportlet supports two metrics.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[3]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to Y2** if you want to select this metric for the Y2 axis.

   Tip: Click **Show Description** to see the metric definition.

[1]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.
[2]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.
[3]A tag is a keyword that represents an aggregation type or a domain-specific group.

Simple Bar Chart

Compares the performance of two metrics for the selected time range.

Enables you to:

- Compare the performance trends of multiple metrics.
- Analyze how the value of the secondary metric increases or decreases based on the increase or decrease in the value of the primary metric.

This reportlet supports two metrics.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to Y2** if you want to select this metric for the Y2 axis.

   Tip: Click **Show Description** to see the metric definition.

Simple Chart

Analyzes the utilization trend for the selected metrics for the selected time range.

Enables you to:

- Perform comparative analysis of the selected metrics for each display grain. The default display grain is 1 hour.
- Analyze the reason for ups and downs in the performance of the selected ATM PVC Health virtual

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.

circuits.

- Detect any persistent problem in the performance of the selected ATM PVC Health virtual circuits

This reportlet supports two metrics.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to Y2** if you want to select this metric for the Y2 axis.

   Tip: Click **Show Description** to see the metric definition.

Simple Table

Analyzes the utilization trend for the selected metrics for the selected time range.

The default display grain is 1 hour.

Enables you to:

- Analyze the hourly performance of the metrics.
- Detect any abnormal or unexpected performance for the selected ATM PVC Health virtual circuits.
- Analyze how the value of the secondary metric increases or decreases based on the increase or decrease in the value of the primary metric.

This reportlet supports up to six metrics.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to Y2** if you want to select this metric for the Y2 axis.

   Tip: Click **Show Description** to see the metric definition.

Sparkline

Evaluates the trend of how the selected metric value has changed for the selected time range.

Enables you to:

- Analyze variations in performance for the selected metric.
- Determine whether the expected behavior for the selected metric should be reassessed.

This reportlet supports one metric.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[2]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.
[2]A tag is a keyword that represents an aggregation type or a domain-specific group.

2. In the context menu, click **Send to Y1** if you want to select this metric for the report.

   Tip: Click **Show Description** to see the metric definition.

Top N Chart

Ranks the individual contribution of each metric for the performance of the selected ATM PVC Health virtual circuits for the selected time range.

Performance of the interface is aggregated on an hourly basis.

Enables you to:

- Spot the virtual circuits for which the performance metrics present extreme values.
- Investigate the aggregated data for the virtual circuits that exhibit unusual utilization levels.
- Select the metric on which to generate the report. The metric you select is used to rank the virtual circuits.
- Group the report data based on a specific parameter. To add a subgroup, click **Add Group**.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to Y2** if you want to select this metric for the Y2 axis.

   Tip: Click **Show Description** to see the metric definition.

You can use only one metric with this reportlet.

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.

Top N Line Chart

Ranks the utilization trend for the selected metrics for the selected time range.

The performance of the virtual circuits is aggregated on an hourly basis.

Enables you to:

- Spot the virtual circuits for which the performance metrics present extreme values.
- Investigate the aggregated data for the virtual circuits that exhibit unusual utilization levels.
- Select the metric on which to generate the report. The metric you select is used to rank the virtual circuits.
- Group the report data based on a specific parameter. To add a subgroup, click **Add Group**.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to Y2** if you want to select this metric for the Y2 axis.

   Tip: Click **Show Description** to see the metric definition.

You can use only one metric with this reportlet.

Top N Stacked Chart

Ranks the individual contribution of each virtual circuit based on the selected metrics.

The performance of each interface is aggregated for the default display grain of 1 hour.

Enables you to:

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.

- Spot the virtual circuits for which the performance metrics present extreme values.
- Investigate the aggregated data for virtual circuits that exhibit unusual utilization levels.
- Detect the network paths that have a common network performance problem.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to Y2** if you want to select this metric for the Y2 axis.

   Tip: Click **Show Description** to see the metric definition.

You can use only one metric with this reportlet.

Top N Table

Ranks the interfaces based on the selected metric.

Enables you to:

- Spot the virtual circuits for which the performance metrics present extreme values.
- Investigate the aggregated data for virtual circuits that exhibit unusual utilization levels.
- Select the metric on which to generate the report. The metric you select is used to rank the virtual circuits.
- Group the report data based on a specific parameter. To add a subgroup, click **Add Group**.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type the metric name in the Search box.

   You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to Y2** if you want to select this metric for the Y2 axis.

   Tip: Click **Show Description** to see the metric definition.

You can use only one metric with this reportlet.

Top N Table with Bars

Ranks the ATM PVC Health virtual circuits based on the selected metric, and displays a horizontal bar depicting the aggregated metric value.

Enables you to:

- Spot the virtual circuits for which the performance metrics present extreme values.
- Investigate the aggregated data for virtual circuits that exhibit unusual utilization levels.
- Select the metric on which to generate the report. The metric you select is used to rank the virtual circuits.
- Group the report data based on a specific parameter. To add a subgroup, click **Add Group**.

To generate a reportlet with the metrics of your choice, click **Show Toolbar**, and then click **Toggle Options**.

The Report Options pane appears when you click **Toggle Options**.

The Report Options pane presents a list of all metrics provided by the Extension Pack in a well-structured table from which you can select a metric of your choice and build a report with it.

To select a metric:

1. Right-click the metric in the metric selection list.

   Tip: You can use the search feature to find the metric of your choice. To search a metric, type

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.

the metric name in the Search box.

You can also use tag[1]s to narrow down your search. To use tags, click inside the Tags box, and then select tags of your choice.

2. In the context menu, click **Send to Y1** if you want to select this metric for the Y1 axis; click **Send to Y2** if you want to select this metric for the Y2 axis.

Tip: Click **Show Description** to see the metric definition.

You can use only one metric with this reportlet.

[1]A tag is a keyword that represents an aggregation type or a domain-specific group.

Glossary

A

ACK

Acknowledgement code: A transmission control character used to indicate that a transmitted message was received uncorrupted, without errors or that the receiving station is ready to accept transmissions. The receiving station sends this code to the sender to indicate that it has accepted the transmission.

B

Backplane Utilization

The backplane is the switch's internal communication channel that passes information to ports. Backplane utilization is the amount of this channel's available bandwidth being used by traffic moving between switch ports. Backplane utilization helps you determine the point at which the amount of traffic on a port segment causes a decline in performance.

baseline exception

The Baseline Exception Rate metric indicates the percentage of time for which the object experienced baseline exceptions.

BECN

Backward-Explicit Congestion Notification (BECN): The BECN bit is part of the Address field in the Frame Relay frame header. DCE devices set the value of the BECN bit to 1 in frames traveling in the opposite direction of frames with their FECN bit set. This informs the receiving DTE device that a particular path through the network is congested. The DTE device then relays this information to a higher-layer protocol for processing. Depending on the implementation, the higher-layer protocol may initiate flow-control or ignore the indication.

bucket

A bucket represents a range of values. The Top N Frequency Distribution report enables you to define 12 different buckets (or ranges of values) for a metric series—from bucket 0 (Bkt 0) through bucket 11 (Bkt 11). Each bucket is associated with a color code (in-built, not configurable). The generated report represents the distribution of different value ranges with the color codes that are associated with buckets.

buckets

A bucket represents a range of values. The Top N Frequency Distribution report enables you to define 12 different buckets (or ranges of values) for a metric series—from bucket 0 (Bkt 0) through bucket 11 (Bkt 11). Each bucket is associated with a color code (in-built, not configurable). The generated report represents the distribution of different value ranges with the color codes that are associated with buckets.

D

Display Time Series Chart

Select Yes to view the detail chart with the table. Select No to hide the chart and display only the table. The created Top N Report displays the graphical representation of the metric values for the components over the selected time range.

F

FCS
Frame Check Sequence: Each PPP packet has a checksum attached to ensure that the data being received is the data being sent. If the FCS of an incoming packet is incorrect, the packet is dropped and the FCS error count is increased.

FECN
Forward-Explicit Congestion Notification (FECN): The FECN bit is part of the Address field in the Frame Relay frame header. The FECN mechanism is initiated when a DTE device sends Frame Relay frames into the network. If the network is congested, DCE devices (switches) set the value of the frames' FECN bit to 1. When the frames reach the destination DTE device, the Address field (with the FECN bit set) indicates that the frame experienced congestion in the path from source to destination. The DTE device relays this information to a higher-layer protocol for processing. Depending on the implementation, the higher-layer protocol then may initiate flow-control or ignore the indication.

G

Grouping By
Organize the report data based on a specific parameter. Click Add New Grouping icon to add a new group.

Grouping by Time Period
Enables you to group the report data based on a specific time grain. Click Add New Grouping icon to add a new group.

I

ifAdminStatus
Administrative State in NNMi: Represents either the current MIB II ifAdminStatus value (set by the device's administrator) or a value calculated by the State Poller Service. The current Administrative State contributes towards the status calculation for this interface.

ifOperStatus
Operational State in NNMi: Represents the current MIB II ifOperStatus value or a value calculated by the State Poller Service. The current Operational State contributes towards the status calculation for this interface.

O

others
On a Top N report, elements that are not ranked by the report are grouped together and represented by the "others" row.

overall exception rate
The Overall Exception Rate indicates the percentage of time in the selected time range for which the object experienced threshold exceptions or baseline exceptions or both.

P

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.

R

RTS
Request To Send: A message sent from a device seeking access to a wireless network.

S

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.

Select Metric(s)
Select the metrics based on which you want to generate the report.

sysUpTime
NNMi uses the sysUptime to detect a system reboot. Any time a system reboot is detected, NNMi resets the sysUpTime value to zero.

T

tag
A tag is a keyword that represents an aggregation type or a domain-specific group.

threshold exception
The Threshold Exception Rate metric indicates the percentage of time for which the object experienced threshold exceptions.

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

topology attribute
The topology attribute is an attribute of a network element that gives information about the element's type, location, or some other identification characteristic. You can narrow down your analysis to elements of your interest by filtering an NPS report by a specific topology attribute (like device location, site, or device UUID).

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