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For the Windows[®] and Linux operating systems

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Online Help for Cisco IP Telephony Reports

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Cisco IP Telephony Gateway B Channel Activity Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT GW BChannel Activity** extension pack to view and analyze the performance data of the Cisco IP telephony environment. You can use this extension pack to generate reports based on gateway B-channel attributes such as the gateway name and the gateway interface name, and the gateway B-channel quality metrics such as the number of B channels and the number of in-service B channels. This report helps you analyze the gateway B-channel activity over a specified time period.

The extension pack retains the detailed data in the Network Performance Server (NPS) for a period of 14 days and retains the summary data for a period of 70 days.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Peak Period
- Top N
- Top N Chart
- Top N Table

Prerequisites for Viewing the Cisco IP Telephony Gateway B Channel Activity Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony Gateway B Channel Activity reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Enable the Cisco CDR reporting in the NNM iSPI for IP Telephony.
3. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT GW BChannel Activity extension pack.

Accessing the Cisco IP Telephony Gateway B Channel Activity Reports

To access the Cisco IP Telephony Gateway B Channel Activity Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_BChannel_Activity > BChannelActivity**. The list of reports that you can launch using this extension pack is displayed. You can click any report format to launch the specific report based on the default metrics (**Number of B Channels (avg)**) as the primary metric and the **Number of In-Service Channels (avg)** as the secondary metric, with no Topology Filter selected.

Calendar Report

The **Calendar** report uses a traditional, calendar-style layout to show hourly statistics for two B-Channel activity metrics in a single, extended graph spanning over multiple days. By default, this report displays the data for the current month.

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected B-channel activity metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.



See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** report compares the variation in the metric values for two different (consecutive) time periods for specified grouping of B-Channel attributes and ranks these groups of attributes based on the variation. The sort order lists the attributes from the attributes with the most

changed values to the attributes with the least changed values. The report displays the value of the B-Channel metric for the previous time frame and the current time frame along with the difference and the percentage of change in the value. Based on your requirement, you can select a metric, specify the attribute to group by, select the topology filter to scope the report only for certain B-Channel attribute values, and specify the time range before generating the report.

Note: You can select multiple metrics by clicking  (the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the attributes. You can remove the additional attribute drop-down lists displayed by clicking  (the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report, by default, displays the top 10 hours based on the **Number of B Channels (avg)** metric. You can generate this report for an hour, a day, or a week to analyze the call duration for all the B-Channels on your network. You can select the number of B-Channels that you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the attributes and the metric, the **Top N** report ranks the attribute values in the ascending or descending order of the total raw values of the call metric . The report displays the rank of the B-Channel attribute value along with the B-Channel metric value and the percentage of the B-Channel metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis. You can use this report to identify the B-Channel attribute values that had occurrences at the extremes. You can also use this report to investigate historical sampled data for the call attributes that exhibit unusual occurrence levels in the calls.

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology

- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony Call Types and Termination Reasons Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT Calls Terminations Types** extension pack to view and analyze the performance data of the Cisco IP telephony environment. You can use this extension pack to generate reports for the Duration and Hourly Usage Volume by the types and termination reasons records for the Cisco Unified Communications Manager clusters deployed on your network.

The extension pack retains the detailed data in the Network Performance Server (NPS) for a period of 14 days and retains the summary data for a period of 400 days. You can use this extension pack for capacity planning.

You can filter the reports based on the various attributes of the of the calls, such as the ID of the cluster that handled the call, the name of the call manager that handled the call, the calling party number, and the called party number.

You can use the different report formats to view specific metric details across a range of time frames and perform a trend analysis to assist you better in taking decisions for your IP Telephony infrastructure.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Peak Period
- Top N
- Top N Chart
- Top N Table

Prerequisites for Viewing the Cisco IP Telephony Call Types and Termination Reasons Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony Call Types and Termination Reasons reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.

2. Configure the NNM iSPI for IP Telephony to enable the CDR data collection from each Cisco Unified Communications Manager cluster in your network for which you want to view the reports on call metrics.
3. Configure the NNM iSPI for IP Telephony to enable collection of Cisco AXL API exposed configuration data from each of the Cisco Unified Communications Manager clusters in your network for which you want to view the reports on call metrics.
4. Enable the Cisco CDR reporting in the NNM iSPI for IP Telephony.
5. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT Calls Terminations Types extension pack.

Accessing the Cisco IP Telephony Duration Volume by Types and Termination Reasons Reports for the Extension Pack

To access the Cisco IP Telephony Duration Volume by Types and Termination Reasons Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_Calls_Terminations_Types > Duration_Volume_By_Types_TermReasons**. The list of reports that you can launch using this report format is displayed.

Accessing the Cisco IP Telephony Hourly Usage Volume by Types and Termination Reasons Reports for the Extension Pack

To access the Cisco IP Telephony Hourly Usage Volume by Types and Termination Reasons Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_Calls_Terminations_Types > Hourly_Usage_Volume_By_Types_TermReasons**. The list of reports that you can launch using this report format is displayed.

Calendar Report

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

For example, for the Duration Volume by types and terminations reasons report format, if you want to analyze the call duration and call volume based on the type of calls, you can select **Call**

Duration (secs) (avg) and **Sample Count (sum)** as the primary and secondary metrics and select the required values for the **Call Classification** call attribute from the Topology Filters page.

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected call metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

For example, for the Duration Volume by types and terminations reasons report format, if you select the **Sample Count** as the primary metric, the **Call Duration (avg)** as the secondary metric, generate the report and then select the **Display Grain** as one hour, you can analyze the trend for the Hourly Call Attempts (HCA) and the Busy Hour Call Attempts (BHCA) along with the average duration for every hour.

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected call metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

For the Duration Volume by types and terminations reasons report format, by default, the Heat Chart report displays the data for all calls from the last 31 days, for all days of the week, for all hours

of the day, the **Call Duration (secs) (avg)** as the call metric, and with no topology filter selected. The minimum time range for this report is 24 hours. To change the call metric to sample count, select the **Sample Count (sum)** metric from the **Metric:** drop-down list after clicking the **Options** link. For example, if you want to identify the hour of the month, week, or day when the number of call attempts were the highest, you can select the **Sample Count** as the metric and set the time control options to the default values for this report as discussed in the previous paragraph and then generate the report. You can move the mouse pointer on a cell in the table of the report to see the raw value of the call metric for the specific hour.

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time
- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:



- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** report compares the variation in the call metric values for two different (consecutive) time periods for the specified grouping of call attributes and ranks these groups of call attributes based on the variation. The sort order lists the attributes from the attributes with the most changed values to the attributes with the least changed values. The report displays the value of the call metric for the previous time frame and the current time frame along with the difference and the

percentage of change in the value. Based on your requirement, you can select a call metric, specify the call attribute to group by, select the topology filter to scope the report only for certain call attribute values, and specify the time range before generating the report.

For example, if you want to analyze the overall call volume variation for all the clusters in your deployment environment over a specified time frame, click the **Options** link and select the **Cluster ID** call attribute from the **Grouping By** drop-down list and select the **Sample Count (sum)** call metric from the **Metric:** drop-down list. You can select an appropriate time frame over which the call volume variation must be analyzed.

Note: You can select multiple metrics by clicking  (the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the call attributes. You can remove the additional attribute drop-down lists displayed by clicking  (the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report, by default, displays the top 10 calls based on the **Call Duration (secs)** metric for the Duration Volume by types and terminations reasons report format. For the Hourly Usage Volume by types and terminations reasons, it displays the top 10 hours based on the **Usage (Erlangs) (avg)** metric. You can generate this report for an hour, a day, or a week to analyze the call duration for all the calls on your network. You can select the number of calls you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the attributes and the metric, the **Top N** report ranks the attribute values in the ascending or descending order of the total raw values of the metric. This report includes all the calls that had a variation for the specified call attribute. The report displays the rank of the attribute value along with the metric value and the percentage of the metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis. You can use this report to identify the attribute values that had occurrences at the extremes. You can also use this

report to investigate historical sampled data for the attributes that exhibit unusual occurrence levels in the calls.

For example, for the Duration Volume by types and terminations reasons report format, if you want to identify the Top N termination reasons for the call, you can specify the **Sample Count (sum)** as the call metric and select the call attribute **Termination Reason** in the **Grouping By** drop-down list.

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options

- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options

- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony Calls By Detail Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT Calls By Detail** extension pack to view and analyze the performance data of the Cisco IP telephony environment. You can use this extension pack to generate reports for the Duration and Hourly Usage Volume by Details records for the Cisco Unified Communications Manager clusters deployed on your network. This extension pack enables you to filter the reports based on the various attributes of the of the calls, such as the ID of the cluster that handled the call, the name of the call manager that handled the call, the calling party number, and the called party number.

The extension pack retains the data in the Network Performance Server (NPS) for a short period of time (32 days). You can use the data for short-term operational reporting and run the reports once a month.

You can use the different report formats to view specific metric details across a range of time frames and perform a trend analysis to assist you better in taking decisions for your IP Telephony infrastructure.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Peak Period
- Top N
- Top N Chart
- Top N Table

Prerequisites for Viewing the Cisco IP Telephony Calls By Detail Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony Calls By Detail reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Configure the NNM iSPI for IP Telephony to enable the CDR data collection from each Cisco Unified Communications Manager cluster in your network for which you want to view the reports on call metrics.

3. Configure the NNM iSPI for IP Telephony to enable collection of Cisco AXL API exposed configuration data from each of the Cisco Unified Communications Manager clusters in your network for which you want to view the reports on call metrics.
4. Enable the Cisco CDR reporting in the NNM iSPI for IP Telephony.
5. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT Calls By Detail extension pack.

Accessing the Cisco IP Telephony Duration Volume by Details Reports for the Extension Pack

To access the Cisco IP Telephony Duration Volume by Details Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_Calls_By_Details > Duration_Volume_By_Details**. The list of reports that you can launch using this report format is displayed.

Accessing the Cisco IP Telephony Hourly Usage Volume by Details Reports for the Extension Pack

To access the Cisco IP Telephony Hourly Usage Volume by Details Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_Calls_By_Details > Hourly_Usage_Volume_By_Details**. The list of reports that you can launch using this report format is displayed.

Calendar Report

The **Calendar** report uses a traditional, calendar-style layout to show hourly statistics for two call metrics in a single, extended graph spanning over multiple days. By default, this report displays the data for the current month. You can select the **Until Now** option from the **Time Range** drop-down list to see the call data for the past 70 days, based on the duration for which the NNM iSPI for IP Telephony processes the CDR data and shares it with the NPS.

For example, for the Duration Volume by Details report format, if you want to analyze the call duration and call volume based on the type of calls, you can select **Call Duration (secs) (avg)** and **Sample Count (sum)** as the primary and secondary metrics and select the required values for the **Call Classification** call attribute from the Topology Filters page.

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected call metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

For example, for the Duration Volume by Details report format, if you select the **Sample Count** as the primary metric, the **Call Duration (avg)** as the secondary metric, generate the report and then

select the **Display Grain** as one hour, you can analyze the trend for the Hourly Call Attempts (HCA) and the Busy Hour Call Attempts (BHCA) along with the average duration for every hour.

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected call metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

For the Duration Volume by Details report format, by default, the Heat Chart report displays the data for all calls from the last 31 days, for all days of the week, for all hours of the day, the **Call Duration (secs) (avg)** as the call metric, and with no topology filter selected. The minimum time range for this report is 24 hours. To change the call metric to sample count, select the **Sample Count (sum)** metric from the **Metric:** drop-down list after clicking the **Options** link. For example, if

you want to identify the hour of the month, week, or day when the number of call attempts were the highest, you can select the **Sample Count** as the metric and set the time control options to the default values for this report as discussed in the previous paragraph and then generate the report. You can move the mouse pointer on a cell in the table of the report to see the raw value of the call metric for the specific hour.

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:



- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** report compares the variation in the call metric values for two different (consecutive) time periods for the specified grouping of call attributes and ranks these groups of call attributes based on the variation. The sort order lists the attributes from the attributes with the most changed values to the attributes with the least changed values. The report displays the value of the call metric for the previous time frame and the current time frame along with the difference and the percentage of change in the value. Based on your requirement, you can select a call metric, specify

the call attribute to group by, select the topology filter to scope the report only for certain call attribute values, and specify the time range before generating the report.

For example, if you want to analyze the overall call volume variation for all the clusters in your deployment environment over a specified time frame, click the **Options** link and select the **Cluster ID** call attribute from the **Grouping By** drop-down list and select the **Sample Count (sum)** call metric from the **Metric:** drop-down list. You can select an appropriate time frame over which the call volume variation must be analyzed.

Note: You can select multiple metrics by clicking  (the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the call attributes. You can remove the additional attribute drop-down lists displayed by clicking  (the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report, by default, displays the top 10 calls based on the **Call Duration (secs)** metric for the Duration Volume by Details report format. For the Hourly Usage Volume by Details, it

displays the top 10 hours based on the **Usage (Erlangs) (avg)** metric. You can generate this report for an hour, a day, or a week to analyze the call duration for all the calls on your network. You can select the number of calls you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the attributes and the metric, the **Top N** report ranks the attribute values in the ascending or descending order of the total raw values of the metric. This report includes all the calls that had a variation for the specified call attribute. The report displays the rank of the attribute value along with the metric value and the percentage of the metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis. You can use this report to identify the attribute values that had occurrences at the extremes. You can also use this report to investigate historical sampled data for the attributes that exhibit unusual occurrence levels in the calls.

For example, for the Duration Volume by Details report format, if you want to identify the Top N termination reasons for the call, you can specify the **Sample Count (sum)** as the call metric and select the call attribute **Termination Reason** in the **Grouping By** drop-down list.

This report defaults to the following parameters:

- All calls
- Metric for ranking: **Sample Count (sum)**
- Top/Bottom N: **Top 10**
- Grouping By call attribute: **Cluster ID**

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options

- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options

- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony UCM CTIManager Connections Count Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT UCM CTIManagerConnections** extension pack to view and analyze the performance data of the Cisco IP telephony environment. You can use this extension pack to generate reports for the CTIManager Connection count on the UCMs based on the CTIManager module metrics such as the number of ConnectionsActive, CCMLink Active, Devices and Lines open. You can use these reports to identify the trends for the connection count on the UCMs during a specific time frame. For example, if you experience a lot of “Connections Active” on the network, you can generate a Top N report by selecting the “CTIManager Connections Active” as the metric and then specifying a time frame to identify when the metric had the highest value. This helps in identifying the time frame when the metric value was above the acceptable value. You can then see the incidents generated for the specific time frame to check for any alerts that might assist you in rectifying the underlying cause.

This extension pack also provides the Exceptions count for each of the available metrics. The positive value of “1” for an exception indicates that there was a breach of the configured threshold in the monitoring of the CTIManager Connection Count in the NNM iSPI for IP Telephony.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Peak Period
- Top N
- Top N Chart
- Top N Table

Prerequisites for Viewing the Cisco IP Telephony UCM CTIManager Connections Count Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony UCM CTIManager Connections Count reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Configure the SSH credentials for the Cisco Unified Communications Manager that you want to monitor.

3. Enable the monitoring of the CTIManager Connections Count.
4. Configure the CTIManager Connections Count settings.
5. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT UCM CTIManagerConnections extension pack.

Accessing the Cisco IP Telephony UCM CTIManager Connections Count Reports

To access the Cisco IP Telephony UCM CTIManager Connections Count Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_UCM_CTIManagerConnections > CTIManager_Connections**. The list of reports that you can launch using this extension pack is displayed.

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. By default, this report displays the data for the current month.

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology

- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.



See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.

- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** compares the variation in the metric values for two different (consecutive) time periods for specified metrics and ranks these metrics based on the variation. The sort order lists the metrics from the metrics with the most changed values to the metrics with the least changed values. The report displays the value of the metric for the previous time frame and the current time frame along with the difference and the percentage of change in the value.

Note: You can select multiple metrics by clicking  (the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the call attributes. You can remove the additional attribute drop-down lists displayed by clicking  (the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report, by default, displays the top 10 hours of the **CTIManager CCMLink Active (avg)** metric. You can generate this report for an hour, a day, or a week to analyze the call duration for all the calls on your network. You can select the number of calls you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the call attributes and the call metric, the **Top N** report ranks the call attribute values in the ascending or descending order of the total raw values of the call metric. This report includes all the calls that had a variation for the specified call attribute. The report displays the rank of the call attribute value along with the call metric value and the percentage of the call metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony Gateway Call Activity Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT GW Call Activity** extension pack to view and analyze the performance data of the Cisco IP telephony environment. You can use this extension pack to generate reports for the active calls on the H.323 gateway boxes and the MGCP gateway interfaces based on the attributes for the active calls such as the cluster ID, the H.323 gateway name, the MGCP gateway interface name, and so on. You can use these reports to identify the trends for the active calls on the H.323 gateway box or the MGCP gateway interface during a specific time frame.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Top N
- Top N Chart
- Top N Table

Prerequisites for Viewing the Cisco IP Telephony Gateway Call Activity Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony Gateway Call Activity reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Enable the monitoring of the Gateway Call Activity.
3. Configure the Gateway Call Activity Settings.
4. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT GW Call Activity extension pack.

Accessing the Cisco IP Telephony Gateway Call Activity Reports

To access the Cisco IP Telephony Gateway Call Activity Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.

3. Click **Cisco IP Telephony > Cisco_IPT_GW_Call_Activity > Gateway_Call_Activity**. The list of reports that you can launch using this extension pack is displayed.

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. By default, this report displays the data for the current month.

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected call metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your

requirement, you can select a metric for which you want to see the value range across a specified time frame.

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:


- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** report compares the variation in the metric values for two different (consecutive) time periods for specified grouping of attributes and ranks these groups of attributes based on the variation. The sort order lists the attributes from the attributes with the most changed values to the attributes with the least changed values. The report displays the value of the metric for the previous time frame and the current time frame along with the difference and the percentage of change in the value. Based on your requirement, you can select a metric, specify the attribute to group by, select the topology filter to scope the report only for certain attribute values, and specify the time range before generating the report.

Note: You can select multiple metrics by clicking



(the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the call attributes. You can remove the additional attribute drop-down lists displayed by clicking  (the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The Peak Period report, by default, displays the top 10 calls based on the **Period Length (secs) (sum)** metric. You can generate this report for an hour, a day, or a week to analyze the call duration for all the calls on your network. You can select the number of calls you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the attributes and the metric, the **Top N** report ranks the attribute values in the ascending or descending order of the total raw values of the metric. This report includes all the that had a variation for the specified attribute. The report displays the rank of the attribute value along with the metric value and the percentage of the metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis. You can use this report to identify the attribute values that had occurrences at the extremes. You can also use this report to investigate historical sampled data for the attributes that exhibit unusual occurrence levels.

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony Gateway Calls Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT Calls By GWs** extension pack to view and analyze the performance data of the Cisco IP telephony environment. You can use this extension pack to generate reports for the Duration and Hourly Usage Volume by Details records for the Cisco Gateways deployed on your network. This extension pack enables you to filter the reports based on the various attributes of the calls, such as the ID of the cluster that handled the call, the direction of the call, and the name of the voice gateway through which the call was routed out of the cluster that handled the call.

The extension pack retains the detailed data in the Network Performance Server (NPS) for a period of 14 days and retains the summary data for a period of 400 days. You can use this extension pack for capacity planning.

You can also use the different report formats to view specific metric details across a range of time frames and perform a trend analysis to assist you better in taking decisions for your IP Telephony infrastructure.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Peak Period
- Top N
- Top N Chart
- Top N Table
- Blocked Calls Percentage
- P.01 GoS Summary

Prerequisites for Viewing the Cisco IP Telephony Gateway Calls Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony Gateway Calls reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.

2. Configure the NNM iSPI for IP Telephony to enable the CDR data collection from each Cisco Unified Communications Manager cluster in your network for which you want to view the reports on call metrics.
3. Configure the NNM iSPI for IP Telephony to enable collection of Cisco AXL API exposed configuration data from each of the Cisco Unified Communications Manager clusters in your network for which you want to view the reports on call metrics.
4. Enable the Cisco CDR reporting in the NNM iSPI for IP Telephony.
5. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT Calls By GWs extension pack.

Accessing the Cisco IP Telephony Duration Volume by Details Reports for the Extension Pack

To access the Cisco IP Telephony Duration Volume by Details Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_Calls_By_GWs > Duration_Volume_By_Details**. The list of reports that you can launch using this report format is displayed.

Accessing the Cisco IP Telephony Hourly Usage Volume by Details Reports for the Extension Pack

To access the Cisco IP Telephony Hourly Usage Volume by Details Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_Calls_By_GWs > Hourly_Usage_Volume_By_Details**. The list of reports that you can launch using this report format is displayed.

Calendar Report

The **Calendar** report uses a traditional, calendar-style layout to show hourly statistics for two call metrics in a single, extended graph spanning over multiple days. By default, this report displays the data for the current month.

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

For example, for the Duration Volume by Details report format, if you select the **Sample Count** as the primary metric, the **Call Duration (avg)** as the secondary metric, generate the report and then select the **Display Grain** as one hour, you can analyze the trend for the Hourly Call Attempts (HCA) and the Busy Hour Call Attempts (BHCA) along with the average duration for every hour.

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns

- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.



See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** report compares the variation in the call metric values for two different (consecutive) time periods for the specified grouping of call attributes and ranks these groups of call attributes based on the variation. The sort order lists the attributes from the attributes with the most changed values to the attributes with the least changed values. The report displays the value of the call metric for the previous time frame and the current time frame along with the difference and the percentage of change in the value. Based on your requirement, you can select a call metric, specify the call attribute to group by, select the topology filter to scope the report only for certain call attribute values, and specify the time range before generating the report.

For example, if you want to analyze the overall call volume variation for all the clusters in your deployment environment over a specified time frame, click the **Options** link and select the **Cluster ID** call attribute from the **Grouping By** drop-down list and select the **Sample Count (sum)** call metric from the **Metric:** drop-down list. You can select an appropriate time frame over which the call volume variation must be analyzed.

Note: You can select multiple metrics by clicking  (the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the call attributes. You can remove the additional attribute drop-down lists displayed by clicking .

(the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report, by default, displays the top 10 calls based on the **Call Duration (secs)** metric for the Duration Volume by Details report format. For the Hourly Usage Volume by Details, it displays the top 10 hours based on the **Usage (Erlangs) (avg)** metric. You can generate this report for an hour, a day, or a week to analyze the call duration for all the calls on your network. You can select the number of calls you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the attributes and the metric, the **Top N** report ranks the attribute values in the ascending or descending order of the total raw values of the metric. This report includes all the calls that had a variation for the specified call attribute. The report displays the rank of the attribute value along with the metric value and the percentage of the metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis. You can use this report to identify the attribute values that had occurrences at the extremes. You can also use this report to investigate historical sampled data for the attributes that exhibit unusual occurrence levels in the calls.

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology
- Options

- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you

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

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Blocked Calls Percentage Report

The **Blocked Calls Percentage** report lets you do the gateway usage and call routing capacity planning by generating the estimates for the Blocked Calls Percentages for each gateway during

the Busiest Hour or Busiest Day. This report is applicable only for the Gateway devices that are channelized such as T1/E1 PRIs.

The report uses hourly aggregated Cisco CDR reported call information stored in NPS under Cisco IP Telephony Gateway Calls reporting packages.

For each gateway device in the set, the report first determines the Busiest Hour Calls carried, the busiest hour and the estimated number of Calls offered during the Busiest Hour. The report determines the estimated calls offered during the busiest hour by calculating a fraction of total Calls Carried in the day of the busiest hour. The report uses the fractional multiplier 14% by default. You can configure this value before generating the report. After estimating the busiest hour calls offered, the report estimates the percentage of offered calls that was blocked in the busiest hour. This is calculated by determining the difference between the estimated calls offered and calls carried during the busiest hour.

You can do a similar analysis for estimating the blocked calls percentage during the busiest day by selecting the Day as the option in the report options. While estimating the busiest day blocked calls percentage, the report first determines the Busiest day Calls carried, the busiest day, and the estimated number of Calls offered during the Busiest day. The report calculates the estimated calls offered during the busiest day by calculating a fraction of total Calls Carried in the week of the busiest day. The report uses the fractional multiplier 14% by default. You can configure this value before generating the report. After estimating the busiest day calls offered, the report estimates the percentage of offered calls blocked in the busiest day. This is calculated by determining the difference between the estimated calls offered and calls carried during the busiest day.

P.01 GoS Summary Report

The **P.01 GoS Summary** report helps you do the gateway usage and call routing capacity planning by generating the usage summary for a selected group of Cisco Voice gateway devices. This report is applicable only for the Gateway devices that are channelized, such as T1/E1 PRIs. This report displays a summary of the usage for any selected group as a logical bundle of channels along with the summary of the usage for each gateway device referenced by the group.

The report displays the final result for the group and each gateway in the group and also includes an indicator of the Grade of Service for the set as well as for each Gateway device in the set. This indicator indicates a percent of P.01 Grade Of Service for the number of channels in the set of Gateways for the group. the report displays the compliance indicator for each Gateway device in the selected group.

The P.01 Grade of Service indicates the Busy Hour Traffic (BHT) that the set representing the logical bundle can sustain with 0.01% blockage, for a given number of channels in a logical bundle.

The report uses hourly aggregated Cisco CDR reported call information stored in NPS under the Cisco IP Telephony Gateway Calls reporting package to arrive at the conclusions.

For each gateway device in the set, the report first determines the Total calls, the Average Duration for a call and the Busiest Day Calls carried by the gateway during the selected time period. The report then estimates the Busiest Hour Calls offered to the gateway by calculating a fraction of the Busiest Day Calls carried by the gateway. The report uses 14% as the fractional multiplier by default. You can configure this before generating the report. After estimating the Busiest Hour Calls offered, the report calculates the Busiest Hour Traffic (BHT) as the result of Busiest Hour Calls offered multiplied by the Average Duration for a Call. The report then compares the BHT against the

P.01 GoS BHT for the number of channels in the gateway device. The report displays the comparison as a percentage and indicates the compliance of this percentage with P.01 GoS standards.

This report performs similar calculations for the gateway group and treats the set of channels as a logical bundle of channels. This time the report determines the Total Calls, the Average Duration for a call, and the Busiest Day Calls carried for the complete set of gateways in the group. The report calculates the Average Duration for a call and the Busiest Day Calls carried for the set of channels. This calculation is not a sum of the same parameters for all the gateways. The report then estimates the Busiest Hour Calls offered to the group by calculating a fraction of the Busiest Day Calls carried. The report uses 14% as the fractional multiplier by default. You can configure this before generating the report. After estimating the Busiest Hour Calls offered, the report calculates the Busiest Hour Traffic (BHT) as the result of Busiest Hour Calls offered multiplied by the Average Duration for a Call. The report then compares the BHT against the P.01 GoS BHT for the total number of channels in the group. The report displays the comparison as a percentage and indicates the compliance of this percentage with P.01 GoS standards. The total number of channels in a group is the sum of number channels for all the gateways in the group.

Note: You can select the option to generate the report based on the inbound calls carried, the outbound calls carried, or both from the options provided for the report.

Cisco IP Telephony IP Trunk Calls Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT Calls By IP Trunks** extension pack to view and analyze the performance data of the Cisco IP telephony environment.

The extension pack retains the detailed data in the Network Performance Server (NPS) for a period of 14 days and retains the summary data for a period of 400 days. You can use this extension pack for long term capacity planning.

You can filter the reports based on the various attributes of the of the calls, such as the ID of the cluster that handled the call, the name of the call manager that handled the call, the calling party number, and the called party number. You can use the different report formats to view specific metric details across a range of time frames and perform a trend analysis to assist you better in taking decisions for your IP Telephony infrastructure.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Peak Period
- Top N
- Top N Chart
- Top N Table

Prerequisites for Viewing the Cisco IP Telephony IP Trunk Calls Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony IP Trunk Calls reporting:

1. Install the NNM iSPI Performance for Metrics/Network Performance Server (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Configure the NNM iSPI for IP Telephony to enable CDR data collection from each Cisco Unified Communication Manager cluster in your network.
3. Configure the NNM iSPI for IP Telephony to enable collection of Cisco AXL API exposed configuration data from each of the Cisco Unified Communications Manager clusters in your network for which you want to view the reports on call metrics.
4. Enable Cisco CDR reporting in the NNM iSPI for IP Telephony.

5. Enable the Cisco CDR reporting in the NNM iSPI for IP Telephony.
6. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT Calls By IP Trunks extension pack.

Accessing the Cisco IP Telephony Duration Volume by Details Reports for the Extension Pack

To access the Cisco IP Telephony Duration Volume by Details Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_IP_Trunk_Calls > Duration_Volume_By_Details**. The list of reports that you can launch using this report format is displayed.

Accessing the Cisco IP Telephony Hourly Usage Volume by Details Reports for the Extension Pack

To access the Cisco IP Telephony Hourly Usage Volume by Details Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_IP_Trunk_Calls > Hourly_Usage_Volume_By_Details**. The list of reports that you can launch using this report format is displayed.

Calendar Report

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

For example, for the Duration Volume by Details report format, if you want to analyze the call duration and call volume based on the type of calls, you can select **Call Duration (secs) (avg)** and **Sample Count (sum)** as the primary and secondary metrics and select the required values for the **Call Classification** call attribute from the Topology Filters page.

Use this report to observe:

- Gradual trends over time
- Isolated spikes

- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The Chart Detail report plots the selected call metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.



See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** report compares the variation in the call metric values for two different (consecutive) time periods for the specified grouping of call attributes and ranks these groups of call attributes based on the variation. The sort order lists the attributes from the attributes with the most changed values to the attributes with the least changed values. The report displays the value of the call metric for the previous time frame and the current time frame along with the difference and the percentage of change in the value. Based on your requirement, you can select a call metric, specify the call attribute to group by, select the topology filter to scope the report only for certain call attribute values, and specify the time range before generating the report.

For example, if you want to analyze the overall call volume variation for all the clusters in your deployment environment over a specified time frame, click the **Options** link and select the **Cluster ID** call attribute from the **Grouping By** drop-down list and select the **Sample Count (sum)** call metric from the **Metric:** drop-down list. You can select an appropriate time frame over which the call volume variation must be analyzed.

Note: You can select multiple metrics by clicking  (the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the call attributes. You can remove the additional attribute drop-down lists displayed by clicking  (the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report, by default, displays the top 10 calls based on the **Call Duration (secs)** metric for the Duration Volume by Details report format. For the Hourly Usage Volume by Details, it displays the top 10 hours based on the **Usage (Erlangs) (avg)** metric. You can generate this report for an hour, a day, or a week to analyze the call duration for all the calls on your network. You can select the number of calls you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology

- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the attributes and the metric, the **Top N** report ranks the attribute values in the ascending or descending order of the total raw values of the metric. The report displays the rank of the attribute value along with the metric value and the percentage of the metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis. You can use this report to identify the attribute values that had occurrences at the extremes. You can also use this report to investigate historical sampled data for the call attributes that exhibit unusual occurrence levels in the calls.

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony Media Resource Activity Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT Media Resources** extension pack to view and analyze the performance data of the Cisco IP telephony environment. This extension pack helps you to generate reports on the performance and health of media resources of Cisco Unified Communications Manager monitored by the NNMI. The graphs and charts on these reports help you identify the following:

- Availability of resources
- Total count of resources
- Total count of resources within a Cisco Unified Communications Manager cluster
- Types of resources within a Cisco Unified Communications Manager cluster

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Peak Period
- Top N
- Top N Chart
- Top N Table

Prerequisites for Viewing the Cisco IP Telephony Media Resource Activity Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony Media Resource Activity reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Configure the NNM iSPI for IP Telephony to enable the Media Resource Activity data collection from each Cisco Unified Communications Manager cluster in your network for which you want to view the reports on call metrics.
3. Enable the Cisco Media Resource Activity reporting in the NNM iSPI for IP Telephony.
4. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT Media Resources extension pack.

Accessing the Cisco IP Media Resource Activity Reports

To access the Cisco IP Telephony Duration Volume by Details Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_Media_Resources > Media_Resource_Activity**. The list of reports that you can launch using this extension pack is displayed.

Calendar Report

The Calendar report uses a traditional, calendar-style layout to show hourly statistics for two metrics (which indicate the availability of the Cisco Unified Communications Manager media resources) in a single, extended graph spanning over a day or multiple days.

Defaults

- Interval: one day

Note: For this report, you cannot select an interval smaller than one day.

- Display grain: one hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered media device types
 - All the discovered media types
 - All the SGUUIDs
- Metrics:
 - Primary: Active resources (avg)
 - Secondary: Active resources (max)

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected pair of metrics (which indicate the availability of media resources) on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

Defaults

- Interval: one day
- Display grain: one hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered media resource types
 - All the discovered media resources
 - All the SGUUIDs
- Metrics:
 - Y1 axis: Active resources (avg)
 - Y2 axis: Active resources (max)

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric.

Defaults

- Interval: one day
- Display grain: one hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered media resource types
 - All the discovered media resources
 - All the SGUUIDs
- Metrics: Active resources (avg)

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** report compares performance of the media devices for two different (consecutive) time periods and ranks the components by the amount of change. The sort order is from the most-changed to the least-changed.

Defaults

- Interval: one day
- Display grain: one hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered media resource types
 - All the discovered media resources
 - All the SGUUIDs
- Metrics: Active resources (avg)
- Grouping by: Cluster ID

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report ranks the utilization and performance of media resources during the busiest time of the selected time range.

Defaults

- Interval: one day
- Display grain: one hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval

- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered media resource types
 - All the discovered media resources
 - All the SGUUIDs
- Metrics: Active resources (avg), Active resources (max)
- Grouping by time period: Hour

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

The **Top N** report ranks the media devices by the metric that you select. Using this report you can spot the media device that performed at the extremes. You can use this report to analyze the historical data for elements that are exhibiting unusual utilization levels.

Defaults

- Interval: one day
- Display grain: one hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered media resource types
 - All the discovered media resources
 - the SGUUIDs
- Metrics: Active resources (avg)
- Grouping by: Cluster ID

Use this report to:

- Detect the media resource experiencing a health or performance problem
- Analyze the utilization of the NNMI-managed media resources against on a specific time range
- Detect the over-utilized and under-utilized media resources
- Compare the performance of multiple media resources for a single call Cisco Unified Communications Manager or a cluster

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks each media device with a chart; the chart indicates the change in metric values over the specified time range.

Defaults

- Interval: one day
- Display grain: one hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered media resource types
 - All the discovered media resources
 - All the SGUUIDs
- Metrics: Active resources (avg)
- Grouping by: Cluster ID

Use this report to:

- Spot the media resources that performed at the extremes.
- Analyze the historical data for media resources that are exhibiting unusual utilization levels
- Detect the media resources that are experiencing a health or performance problem
- Analyze the utilization of the NNMI-managed media resources
- Detect the over-utilized and under-utilized media resources

- Detect the underlying reason of a persistent problem with a media resource. You can compare the performance for multiple media resources using this report.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony RAID Status Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT RAID Status** extension pack to view and analyze the performance data of the Cisco IP telephony environment. You can use this extension pack to generate reports for the Cisco RAID Status on the UCMs based on the RAID metrics such as the RAID Physical Devices, Disks, Critical Disks, Failed Disks, Media Error Count, and Other Error Count.

You can use these reports to identify the trends for the RAID metrics on the UCMs during a specific time frame. For example, if you experience a lot of “Critical Disks” on the RAID associated with UCM, you can generate a Top N report by selecting the “RAID Critical Disks” as the metric and then specifying a time frame to identify when the metric had the highest value. This helps in identifying the time frame when the metric value was above the acceptable value. You can then see the incidents generated for the specific time frame to check for any alerts that might assist you in rectifying the underlying cause.

This extension pack also provides the Exceptions count for each of the available count metrics. The exception reporting is available for all the count variables except the Physical Devices and Disks variables. The positive value of “1” for exception indicates that there was a breach of the configured threshold in the monitoring of the Cisco RAID Status in the NNM iSPI for IP Telephony.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Peak Period
- Top N
- Top N Chart
- Top N Table

Prerequisites for Viewing the Cisco IP Telephony RAID Status Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony RAID Status reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Configure the SSH credentials for the Cisco Unified Communications Manager that you want to monitor.
3. Enable the monitoring of the Cisco RAID Status.

4. Configure the Cisco RAID Status settings.
5. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT RAID Status extension pack.

Accessing the Cisco IP Telephony RAID Status Reports

To access the Cisco IP Telephony RAID Status Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_RAID_Status > RAIDStatus**. The list of reports that you can launch using this extension pack is displayed.

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. By default, this report displays the data for the current month.

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options

- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help



You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** compares the variation in the metric values for two different (consecutive) time periods for specified metrics and ranks these metrics based on the variation. The sort order lists the metrics from the metrics with the most changed values to the metrics with the least changed values. The report displays the value of the metric for the previous time frame and the current time frame along with the difference and the percentage of change in the value.

Note: You can select multiple metrics by clicking  (the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the call attributes. You can remove the additional attribute drop-down lists displayed by clicking  (the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report, by default, displays the top 10 hours of the **RAID Critical Disks (avg)** metric. You can generate this report for an hour, a day, or a week to analyze the call duration for all the calls on your network. You can select the number of calls you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the call attributes and the call metric, the **Top N** report ranks the call attribute values in the ascending or descending order of the total raw values of the call metric. This report includes all the calls that had a variation for the specified call attribute. The report displays the rank of the call attribute value along with the call metric value and the percentage of the call metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony SIP Trunk Session Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT SIPTrunk Session** extension pack to view and analyze the performance data of the Cisco IP telephony environment. You can use this extension pack to generate reports for the monitoring of the SIP Trunk Session on the UCMs and the SIP trunks based on the call activity metrics such as the number of Calls Active, Calls Attempted, Calls Completed and Calls in Progress. You can use these reports to identify the trends for the SIP Trunk Session on the UCMs during a specific time frame. For example, if you experience a lot of Active Calls on the network, you can generate a Top N report by selecting the “Calls Active” as the metric, and then specifying a time frame to identify when the metric had the highest value. This helps in identifying the time frame when the metric value was above the acceptable value. You can then see the incidents generated for the specific time frame to check for any alerts that might assist you in rectifying the underlying cause.

This extension pack also provides the Exceptions count for each of the available metrics. The positive value of “1” for an exception indicates that there was a breach of the configured threshold in the monitoring of the SIP Trunk Session in the NNM iSPI for IP Telephony.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Top N
- Top N Chart

Prerequisites for Viewing the Cisco IP Telephony SIP Trunk Session Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony SIP Trunk Session reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Configure the SSH credentials for the Cisco Unified Communications Manager that you want to monitor.
3. Enable the monitoring of the Cisco SIP Trunk Session.
4. Configure the Cisco SIP Trunk Session settings.
5. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT SIP Trunk Session extension pack.

Accessing the Cisco IP Telephony SIP Trunk Session Reports

To access the Cisco IP Telephony SIP Trunk Session Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_SIPTrunk_Session > SIP_Trunk_Session**. The list of reports that you can launch using this extension pack is displayed.

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. By default, this report displays the data for the current month.

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.



See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** compares the variation in the metric values for two different (consecutive) time periods for specified metrics and ranks these metrics based on the variation. The sort order lists the metrics from the metrics with the most changed values to the metrics with the least changed

values. The report displays the value of the metric for the previous time frame and the current time frame along with the difference and the percentage of change in the value.

Note: You can select multiple metrics by clicking  (the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the call attributes. You can remove the additional attribute drop-down lists displayed by clicking  (the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report, by default, displays the top 10 hours of **Calls Active (avg)** metric. You can generate this report for an hour, a day, or a week to analyze the call duration for all the calls on your network. You can select the number of calls you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the call attributes and the call metric, the **Top N** report ranks the call attribute values in the ascending or descending order of the total raw values of the call metric. This report includes all the calls that had a variation for the specified call attribute. The report displays the rank of the call attribute value along with the call metric value and the percentage of the call metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology

- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony UCM Call Activity Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT UCM Call Activity** extension pack to view and analyze the performance data of the Cisco IP telephony environment. You can use this extension pack to generate reports for the call activity on the UCM clusters and the UCMs based on the call activity metrics such as the number of calls in progress, the number of incomplete calls, the attempted calls, and so on. You can use these reports to identify the trends for the call activity on the UCM cluster or the UCM during a specific time frame.

For example, if you experience a lot of incomplete calls on the network, you can generate a Top N report by selecting the Incomplete Calls as the metric and then specifying a time frame to identify when the metric had the highest value. This helps in identifying the time frame when the metric value was above the acceptable value. You can then see the incidents generated for the specific time frame to check for any alerts that might assist you in rectifying the underlying cause.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Top N
- Top N Chart

Prerequisites for Viewing the Cisco IP Telephony UCM Activity Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony UCM Call Activity reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Configure the SSH credentials for the Cisco Unified Communications Manager that you want to monitor.
3. Enable the monitoring of the UCM Call Activity.
4. Configure the UCM Call Activity settings.
5. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT UCM Call Activity extension pack.

Accessing the Cisco IP Telephony UCM Call Activity Reports

To access the Cisco IP Telephony UCM Call Activity Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_UCM_Call_Activity > UCM_Call_Activity**. The list of reports that you can launch using this extension pack is displayed.

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. By default, this report displays the data for the current month.

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.



See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** compares the variation in the metric values for two different (consecutive) time periods for specified metrics and ranks these metrics based on the variation. The sort order lists the metrics from the metrics with the most changed values to the metrics with the least changed

values. The report displays the value of the metric for the previous time frame and the current time frame along with the difference and the percentage of change in the value.

Note: You can select multiple metrics by clicking  (the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the call attributes. You can remove the additional attribute drop-down lists displayed by clicking  (the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report, by default, displays the top 10 hours based on the **Number of B Channels (avg)** metric. You can generate this report for an hour, a day, or a week to analyze the call duration for all the B-Channels on your network. You can select the number of B-Channels that you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the call attributes and the call metric, the **Top N** report ranks the call attribute values in the ascending or descending order of the total raw values of the call metric. This report includes all the calls that had a variation for the specified call attribute. The report displays the rank of the call attribute value along with the call metric value and the percentage of the call metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology

- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony UCM Service Availability Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT UCOS Services** extension pack to view and analyze the performance data of the Cisco IP telephony environment. You can use this extension pack to generate reports on the availability of the services on the Cisco UCM. You can generate the reports for all the UCM services on a cluster. You can base the report generation on the services discovered on the UCM and the attributes of the services such as the Cluster ID, the Call Manager Name, the Service Name, and so on. You can use these reports to identify the trends for the availability of services and the change of state for services during a specific time frame.

For example, if you experience a service down time above the permissible level for one of the services on the UCM, such as the Cisco AXL Web Service, which results in the failure to collect AXL data from the cluster, you can generate a Top N report by selecting the *Cisco AXL Web Service* as the metric and then specifying a time frame to identify when the metric had the highest value. This helps in identifying the time frame when the metric value was above the acceptable value. You can then see the incidents generated for the specific time frame to check for any alerts that might assist you in rectifying the underlying cause.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Peak Period
- Top N
- Top N Chart
- Top N Table

Prerequisites for Viewing the Cisco IP Telephony UCM Service Availability Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony UCM Service Availability reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Configure the SSH credentials for the Cisco Unified Communications Manager that you want to monitor.
3. Enable the monitoring of the UCM Service Availability.
4. Configure the UCM Service Availability Settings.

5. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT UCOS Services extension pack.

Accessing the Cisco IP Telephony UCM Service Availability Reports

To access the Cisco IP Telephony UCM Service Availability Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_UCOS_Services > Service_Availability**. The list of reports that you can launch using this extension pack is displayed.

Calendar Report

The **Calendar** report uses a traditional, calendar-style layout to show hourly statistics for two Service Availability metrics in a single, extended graph spanning over multiple days. By default, this report displays the data for the current month.

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options

- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help



You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** compares the variation in the metric values for two different (consecutive) time periods for specified metrics and ranks these metrics based on the variation. The sort order lists the metrics from the metrics with the most changed values to the metrics with the least changed values. The report displays the value of the metric for the previous time frame and the current time frame along with the difference and the percentage of change in the value.

Note: You can select multiple metrics by clicking  (the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the call attributes. You can remove the additional attribute drop-down lists displayed by clicking  (the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report, by default, displays the top 10 hours based on the **Number of B Channels (avg)** metric. You can generate this report for an hour, a day, or a week to analyze the call duration for all the B-Channels on your network. You can select the number of B-Channels that you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Options
- Run Prompts
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the attributes and the metric, the **Top N** report ranks the attribute values in the ascending or descending order of the total raw values of the metric. This report includes all the configuration file builds that had a variation for the attribute. The report displays the rank of the attribute value along with the metric value and the percentage of the metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony UCM System Health Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT UCM System Health** extension pack to monitor a set of parameters that indicate the health and performance of Cisco Unified Communications Managers. You can use this extension pack to analyze the polled system health data from the Cisco Unified Communications Manager.

The extension pack helps you detect the following:

- Availability of Cisco Unified Communications Managers
- Total count of Cisco Unified Communications Managers
- Total memory and CPU utilization of a Cisco Unified Communications Manager

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Peak Period
- Top N
- Top N Chart
- Top N Table

Prerequisites for Viewing the Cisco IP Telephony UCM System Health Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony UCM System Health reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Enable the Cisco CDR reporting in the NNM iSPI for IP Telephony.
3. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT UCM System Health extension pack.

Accessing the Cisco IP Telephony UCM System Health Reports

To access the Cisco IP Telephony UCM System Health Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_UCM_System_Health**. The list of reports that you can launch using this report format is displayed.

Calendar Report

The **Calendar** report uses a traditional, calendar-style layout to show hourly statistics for two metrics that indicate the health of the Cisco Unified Communications Manager, in a single, extended graph spanning over a day or multiple days.

Defaults

- Interval: One day

Note: For this report, you cannot select an interval smaller than one day.

- Display grain: One hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered Cisco Unified Communications Managers
 - All the SGUUIDs
 - All the tenants
- Metrics:
 - Primary: Active partition used (%) (max)
 - Secondary: Active resources (%) (avg)

Use this report to observe:

- Gradual trends over time
- Isolated spikes

- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

This report plots the selected pair of metrics that indicate the health of the Cisco Unified Communications Managers, on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

Defaults

- Interval: One day
- Display grain: One hour
- Auto refresh: No

- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered Cisco Unified Communications Managers
 - All the SGUUIDs
 - All the tenants
- Metrics:
 - Y1 axis: Active resources (%) (avg)
 - Y2 axis: Active resources (%) (max)

Use this report to:

- Analyze the trend of health and performance of Cisco Unified Communications Managers
- Detect persistent problems in Cisco Unified Communications Managers
- Compare health and performance of multiple Cisco Unified Communications Manager systems

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected call metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

Defaults

- Interval: One day
- Display grain: One hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered Cisco Unified Communications Managers
 - All the SGUUIDs
 - All the tenants
- Metrics: Active partition used (%) (avg)

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**)

basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** report compares the variation in the system health metric values for two different (consecutive) time periods for the specified grouping of attributes and ranks these groups of attributes based on the variation. The sort order lists the attributes from the attributes with the most changed values to the attributes with the least changed values.

Defaults

- Interval: One day
- Display grain: One hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered Cisco Unified Communications Managers

- All the SGUUIDs
- All the tenants
- Metrics: Active partition used (%) (avg)
- Grouping by time period: Hour
- Grouping by: Cluster ID

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report ranks the utilization and performance of Cisco Unified Communications Managers during the busiest time of the selected time range.

Defaults

- Interval: One day
- Display grain: One hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered Cisco Unified Communications Managers
 - All the SGUUIDs
 - All the tenants
- Metrics: Active resources (avg), Active resources (max)
- Grouping by time period: Hour

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

The **Top N** report ranks Cisco Unified Communications Managers by the metric that you select. Use this report to spot the Cisco Unified Communications Manager that performed at the extremes. You can use this report to analyze the historical data for elements that are exhibiting unusual utilization levels.

Defaults

- Interval: One day
- Display grain: One hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered Cisco Unified Communications Managers
 - All the SGUUIDs
 - All the tenants
- Metrics: Active Partition Used (%) (max), Metrics: Active Partition Used (%) (avg)
- Grouping by: Cluster ID

Use this report to:

- Detect the Cisco Unified Communications Manager experiencing a health or performance problem
- Analyze the utilization of the NNMI-managed Cisco Unified Communications Manager against on a specific time range
- Detect the over-utilized and the under-utilized Cisco Unified Communications Manager
- Compare the performance of multiple Cisco Unified Communications Managers

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, this report ranks each Cisco Unified Communications Manager with a chart; the chart indicates the change in metric values over the specified time range.

Defaults

- Interval: One day
- Display grain: One hour
- Auto refresh: No
- Time zone: Server time
- Relative start: Yes; last rolling interval
- Topology attribute selection:
 - All the discovered Cisco Unified Communications Manager clusters
 - All the discovered Cisco Unified Communications Managers

- All the SGUUIDs
- All the tenants
- Metrics: Active Partition Used (%) (max), Metrics: Active Partition Used (%) (avg)
- Grouping by: Cluster ID

Use this report to:

- Spot the Cisco Unified Communications Manager that performed at the extremes.
- Analyze the historical data for the Cisco Unified Communications Managers that are exhibiting unusual utilization levels
- Detect the Cisco Unified Communications Managers that are experiencing a health or performance problem
- Analyze the utilization of the NNMI-managed Cisco Unified Communications Managers
- Detect the over-utilized and under-utilized Cisco Unified Communications Managers
- Detect the underlying reason of a persistent problem with a Cisco Unified Communications Manager. You can compare the performance for multiple Cisco Unified Communications Managers using this report.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you want to view Top N elements in the least possible time, choose the Top N Table report instead of the Top N report.

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony UCM TFTP Server Reports

The NNM iSPI for IP Telephony provides the **Cisco IPT TFTP** extension pack. You can use this extension pack to generate reports for the configuration build activities performed by the Cisco TFTP server based on the build metrics such as the BuildCount, BuildAbortCount, and BuildDeviceCount.

For example, if you experience a lot of configuration file build failures on the network, you can generate a Top N report by selecting the **BuildAbortCount** as the metric and then specifying a time frame to identify when the metric had the highest value. This helps in identifying the time frame when the metric value was above the acceptable value. You can then see the incidents generated for the specific time frame to check for any alerts that might assist you in rectifying the underlying cause.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Peak Period
- Top N
- Top N Chart
- Top N Table

Prerequisites for Viewing the Cisco IP Telephony UCM TFTP Server Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony UCM TFTP Server reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Configure the SSH credentials for the Cisco Unified Communications Manager that you want to monitor.
3. Configure the Cisco TFTP server monitoring settings.
4. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT TFTP extension pack.

Accessing the Cisco IPT UCM TFTP Server Reports

To access the Cisco IP Telephony UCM TFTP Server Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_UCM_TFTP_Server > UCM_TFTP_Server**. The list of reports that you can launch using this report format is displayed.

Calendar Report

The **Calendar** report uses a traditional, calendar-style layout to show hourly statistics for two voice mail device metrics in a single, extended graph spanning over multiple days. By default, this report displays the data for the current month.

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected call metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.



See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** report compares the variation in the metric values for two different (consecutive) time periods for specified metrics and ranks these metrics based on the variation. The sort order lists the metrics from the metrics with the most changed values to the metrics with

the least changed values. The report displays the value of the metric for the previous time frame and the current time frame along with the difference and the percentage of change in the value.

Note: You can select multiple metrics by clicking  (the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the call attributes. You can remove the additional attribute drop-down lists displayed by clicking  (the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report, by default, displays the top 10 hours of the **BuildAbortCount (sum)** metric. You can generate this report for an hour, a day, or a week to analyze the call duration for all the calls on your network. You can select the number of calls you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the attributes and the metric, the **Top N** report ranks the attribute values in the ascending or descending order of the total raw values of the metric. This report includes all the configuration file builds that had a variation for the attribute. The report displays the rank of the attribute value along with the metric value and the percentage of the metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Time
- Topology
- Options

- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you

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

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Cisco IP Telephony Voice Mail Systems Reports

The NNM iSPI for IP Telephony provides the Cisco IPT VM Systems extension pack to view and analyze the performance data of the Cisco IP telephony environment. You can use this extension pack to generate reports for the voice mail devices based on the voice mail attributes such as total number of ports provisioned (Total Number of Ports Provisioned) and voice mail metrics such as the number of ports active for inbound calls (Number of Ports Active for Inbound Calls (avg), and the number of ports provisioned for outbound calls (Number of Ports Provisioned for Outbound Calls (avg)).

The extension pack retains the detailed data in the Network Performance Server (NPS) for a period of 14 days and retains the summary data for a period of 70 days.

You can view the following types of reports using this extension pack:

- Calendar
- Chart Detail
- Heat Chart
- Most Changed
- Peak Period
- Top N
- Top N Chart
- Top N Table

Prerequisites for Viewing the Cisco IP Telephony Voice Mail Systems Reporting

Make sure that the following prerequisites are satisfied to enable the Cisco IP Telephony Voice Mail Systems reporting:

1. Install the NNM iSPI Performance for Metrics (iSPI Performance for Metrics) in your deployment environment before installing the NNM iSPI for IP Telephony.
2. Enable the Cisco Voice Mail reporting in the NNM iSPI for IP Telephony.
3. Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Cisco IPT VM Systems extension pack

Accessing the Cisco IP Telephony Voice Mail Systems Reports

To access the Cisco IP Telephony Duration Voice Mail Systems Reports from the NNMi console, follow these steps:

1. Log on to the NNMi console.
2. Click **Actions > NNM iSPI Performance > Reporting-Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.
3. Click **Cisco IP Telephony > Cisco_IPT_VM_Systems > CiscoIPTVMInfoMetrics**. The list of reports that you can launch using this report format is displayed.

Calendar Report

The **Calendar** report uses a traditional, calendar-style layout to show hourly statistics for two voice mail device metrics in a single, extended graph spanning over multiple days. By default, this report displays the data for the current month.

Use this report to observe:

- Gradual trends over time
- Isolated spikes
- To verify that an abnormal condition has returned to normal
- To make comparisons

This report also reveals:

- Day of week patterns
- Hour of day patterns

Note: You can generate a Calendar Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Calendar** report are as follows:

- Options
- Run Prompts
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.

- To change the Report Options defaults, see the *Change Report Options* topic.

Chart Detail Report

The **Chart Detail** report plots the selected metrics on a chart at each display grain interval within the specified time frame. This report helps you to do a detailed analysis of the trend of aggregated metric values (aggregated at selected display grain interval) over a period of time. Based on your requirements, you can select a pair of metrics for which you want to analyze the data.

For example, if you select the **Current Number of Licensed Subscribers** as the primary metric, the **Current Number of Subscribers Licensed for VMI** as the secondary metric, generate the report and then select the **Display Grain** as one hour, you can analyze the trend for the number of licenses used for the VMI (Visual Messaging Interface).

Use this report to:

- Analyze the trend of health and performance for media resources
- Detect persistent problems in media resources
- Compare health and performance of multiple media resources

Note: You can generate a Chart Detail Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Chart Detail** report are as follows:

- Options
- Run Prompts
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Heat Chart Report

The **Heat Chart** report displays the hourly values of the selected call metric in a color-coded tabular format. The report lists the hour of the day vertically and the day of the month horizontally. The report also displays the legend for the color coding on top of the report using which you can identify the color code used to represent the specific value ranges for the metric. Based on your requirement, you can select a metric for which you want to see the value range across a specified time frame.

Use the Heat Chart report to identify the gradual shift in the range of values for a specific metric. The report enables you to:

- Spot an isolated instance (when the metric value was high)
- Spot day-of-the-week patterns
- See when high metric values returned to normal after a period of time

Note: You can generate a Heat Chart Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Heat Chart** report are as follows:

- Options
- Run Prompts
- Show Bookmark
- Help

You can use these controls to view and modify the report details.



See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Most Changed Report

The **Most Changed** report compares the variation in the voice mail device metric values for two different (consecutive) time periods for specified grouping of voice mail device attributes and ranks these groups of voice mail device attributes based on the variation. The sort order lists the attributes from the attributes with the most changed values to the attributes with the least changed values. The report displays the value of the voice mail device metric for the previous time frame and

the current time frame along with the difference and the percentage of change in the value. Based on your requirement, you can select a voice mail device metric, specify the voice mail device attribute to group by, select the topology filter to scope the report only for certain voice mail device attribute values, and specify the time range before generating the report.

Note: You can select multiple metrics by clicking  (the **Add new grouping** icon) on the **Report Options** page. When you click this icon, it displays another drop-down list of the call attributes. You can remove the additional attribute drop-down lists displayed by clicking  (the **Remove grouping** icon).

Use this report to spot objects at selected grouping level that saw significant growth from the previous selected time period to the selected time period. Significant growth could point to a developing problem you need to know about. You can change the ranking metric and also the number of elements that are listed.

Note: You can generate a Most Changed Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Most Changed** report are as follows:

- Options
- Run Prompts
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Peak Period Report

The **Peak Period** report by default, displays the top 10 calls based on the **Current Number of Licensed Subscribers (avg)** metric. You can generate this report for an hour, a day, or a week to analyze the number of licensed subscribers on your network. You can select the number subscribers you want the report to display from the options provided by the report template.

Using this report, you can:

- 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 media devices during the peak period using this report

The controls that appear on the **Peak Period** report are as follows:

- Options
- Run Prompts
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Report

Based on your selection of the call attributes and the call metric, the **Top N** report ranks the call attribute values in the ascending or descending order of the total raw values of the call metric. This report includes all the calls that had a variation for the specified call attribute. The report displays the rank of the call attribute value along with the call metric value and the percentage of the call metric value with respect to all the values listed. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

Note: You can generate a Top N Report on an Hourly (**H**), Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

The controls that appear on the **Top N** report are as follows:

- Options
- Run Prompts

- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Chart Report

Based on your selection of the attributes and the metric, the **Top N Chart** report ranks the attribute values in the ascending or descending order of the total raw values of the metric along with a chart that plots the change of values over the specified time frame. Based on your requirement, you can select a metric using the **Options** link and specify the topology filter using the **Topology Filter** link to fine tune the analysis.

The controls that appear on the **Top N Chart** report are as follows:

- Options
- Run Prompts
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

Top N Table Report

The **Top N Table** report ranks the network elements by the attributes that you select. Unlike the **Top N** report, this report does not show any bar charts or time series graphs. In a large environment, NPS can generate the Top N Table faster than it can generate the Top N report. If you

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

You can use this report to spot the element that performed at the extremes and to analyze historical data for elements that exhibit unusual utilization level. You can also use this report to do the following:

- Detect the attribute that has a health or performance problem.
- Analyze the utilization of the attributes during a specific time range.
- Detect over-utilized and under-utilized attributes.
- Compare the performance of multiple attributes.

Tips:

- Check this report once a day to see which network attribute might need special attention.
- Check this report throughout the day to see which network attributes are performing at the extremes and might need special attention.

The controls that appear on the **Top N Table** report are as follows:

- Time
- Topology
- Options
- Show Bookmark
- Help

You can use these controls to view and modify the report details.

See the following topics in the *Using Reports > Change Default Settings* section in the *Network Performance Server/NNM iSPI Performance for Metrics Online Help*:

- To change the Time Controls defaults, see the *Change Time Controls* topic.
- To change the Topology Filters defaults, see the *Set Topology Filters* topic.
- To change the Report Options defaults, see the *Change Report Options* topic.

We appreciate your feedback!

If you have comments about this document, you can [contact the documentation team](#) by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

Feedback on Online Help for Cisco IP Telephony Reports (Network Node Manager iSPI for IP Telephony 10.00)

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to docfeedback@hp.com.