HP Networl Node Manager iSPI for IP Telephony Software

For the Microsoft Windows ® operating system

Software Version: 9.10

Online Help for Call Details and Call Quality Reports

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Contents

Call Reports

The iSPI for IP Telephony provides the Call Reports extension pack. You can use this extension pack to generate reports based on the Call Details Record (CDR) collected from the Microsoft IP Telephony network.

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

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

Prerequisites to Enable Call Reports

You must make sure that the following prerequisites are satisfied to enable call reporting:

- Install the NNM iSPI Performance for Metrics/Network Performance Server (iSPI Performance for Metrics) in your deployment environment before installing the iSPI for IP Telephony.
- Verify that the iSPI Performance for Metrics is running before opening the reports provided by the Call Reports extension pack.

Specifying Time Controls

You can specify the time-specific details using which you want the report to be generated using the Time Control workspace on the NNM iSPI Performance page.:

To specify time controls, do as follows:

1. Click **Time Control** from the left panel on the NNMi Performance page. This displays the following options:
   - **Relative Start**: sets the date and time for report generation. based on the time frame specified in the **Last** drop-down list. Select **Yes** to enable this option. If you select **No**, you can specify the **Start Date**, **Time** (start time), the **End Date**, **Time**(end time), and the **Interval** to be used to generate the reports.

   - **Last**: set the time frame for which the report must be generated from this drop-down list. You can select one of the following options:
     - 1 Minute

     - 5 Minutes

     - 15 Minutes

     - 30 Minutes

     - 1 Hour

     - 2 Hours

- 12 Hours

- 24 Hours

- 7 Days

- 31 Days

- Other: Select this option to specify the time frame of your choice.

2. **Grain**: set the interval at which the report must represent data.

3. **Time Zone**: Select the time zone based on which you want to generate the report, from this drop-down list.

4. **Auto Refresh**: set the auto refresh rate for the report to a specific interval or disable the auto refresh feature for the report. This option is enabled only if you enable the **Relative Start** option.

5. Click **Submit** to apply the changes.

Call Detail Reports

You can generate the call detail reports based on the call details collected from the IP telephony network. You can filter the reports based on the call attributes such as the Calling Party, the Called Party , and so on and generate the reports based on the call metrics such as the Duration (secs) (duration) of the call.

To access the Call Detail reports from the NNMi console:

1. Log on to the NNMi console.

2. Click **Actions** > **Reporting - Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.

3. Click **Microsoft IP Telephony** > **Call Reports** > **Call_Detail_Metrics**. This displays the reports you can launch for the call details.

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

- Chart Detail

- Heat Chart

- Top N

- Most Changed

- Calendar

- Top N Chart

Specifying Metrics for Reports

You can use the **Options** link to specify the metrics or the attribute distinct count, based on which you want to generate the report.

To access the Report Options page and specify the metrics, do as follows:

1. From any report that is displayed, click **Options** from the menu. This displays the Report Options page.

2. Select the primary metric and the secondary metric from the respective drop-down lists as required for the report.

Note: You can add more metrics for the report by clicking the ![Add icon] (Add) icon and then selecting the metric of your choice from the drop-down list displayed.

3. Click **Confirm Selection** to generate the report.

Click here to see the metrics that you can select to generate reports.

Call Metric	Description
[1]Duration (secs)	The sum of the call duration in seconds.
Sample Count	The sum of the sample count of calls. Indicates the count of calls.
Call Attribute Distinct Count	**Description**
Session Sequence (countDistinct)	The distinct count of the Session Sequence.
Calling Party (countDistinct)	The distinct count of the Calling Party.
Called Party (countDistinct)	The distinct count of the Called Party.
Calling Party Endpoint URI (countDistinct)	The distinct count of the Calling Party Endpoint URI.
Called Party Endpoint URI (countDistinct)	The distinct count of the Called Party Endpoint URI.
Call Controller Pool (countDistinct)	The distinct count of the Call Controller Pool.
Call Controller (countDistinct)	The distinct count of the Call Controller.
Media Type (countDistinct)	The distinct count of the Media Type.
Session Type (countDistinct)	The distinct count of the Session Type.
Call Type (countDistinct)	The distinct count of the Call Type.
Calling Party Access Type (countDistinct)	The distinct count of the Calling Party Access Type.
Called Party Access Type (countDistinct)	The distinct count of the Called Party Access Type.
Calling Party Authentication (countDistinct)	The distinct count of the Calling Party Authentication.
Called Party Authentication (countDistinct)	The distinct count of the Called Party Authentication.
Calling Party Mediation Server (countDistinct)	The distinct count of the Calling Party Mediation Server.
Called Party Mediation Server (countDistinct)	The distinct count of the Called Party Mediation Server.
Calling Party Gateway (countDistinct)	The distinct count of the Calling Party Gateway.
Called Party Gateway (countDistinct)	The distinct count of the Called Party Gateway.

Call Metric	Description
Calling Party Edge Server (countDistinct)	The distinct count of the Calling Party Edge Server.
Called Party Edge Server (countDistinct)	The distinct count of the Called Party Edge Server.
Source OCS Site (countDistinct)	The distinct count of the Source OCS Site.
Destination OCS Site (countDistinct)	The distinct count of the Destination OCS Site.
Source Site (countDistinct)	The distinct count of the Source Site.
Destination Site (countDistinct)	The distinct count of the Destination Site.
Calling Party User Group (countDistinct)	The distinct count of the Calling Party User Group.
Called Party User Group (countDistinct)	The distinct count of the Called Party User Group.
Termination Reason (countDistinct)	The distinct count of the Termination Reason.
Tenant Name (countDistinct)	The distinct count of the Tenant Name.
Tenant UUID (countDistinct)	The distinct count of the Tenant UUID.
SecGroup Name (countDistinct)	The distinct count of the SecGroup Name.
SecGroup UUID (countDistinct)	The distinct count of the SecGroup UUID.

[1]You can select any of the following options for the metric:

- Average (avg)

- Minimum (min)

- Maximum (max)

Note: The distinct count of call attributes represents the sum of the occurrences of unique values for the call attributes. For example, if you select the Calling Party (countDistinct) metric, and three distinct calling parties had made calls during the time specified, the report lists the value for the Calling Party (countDistinct) as 3.

Specifying Topology Filters

Topology filters allow you to scope or filter the reports based on the various combinations of the call detail values available in the accumulated metric data.

You can use the Topology Filter page to specify the topology filters that you require.

To access the Topology Filter page and specify the topology filters, do as follows:

1. From any report that is displayed, click **Topology Filters** from the menu. This displays the Topology Filter page.

2. Select the topology filter as required from the list of topology filters using any of the following methods:
   - If you want to select only one value for a topology attribute, click the **Single value select** icon,

 and then select a value of your choice.

- If you want to select multiple values, click the **Multi value select** icon , and then select values of your choice (by using the Control **Ctrl-** key.

  o If you want to search and select a value for a topology filter from a list of values, click the **Search and Select** icon . This displays the following options:

    o **Keywords**: selecting the **Keywords** check box helps you search for values based on the keywords that you specify in the box provided. You can specify multiple keywords separated by white spaces. Click the **Options** link to select from the available options to specify how the specified keywords must be used to perform the search. You can select the **Case insensitive** check box if you do not want the keywords to be searched based on case sensitivity.

    o **Results**: This list displays the topology filter values that match the specifications you provided after you click the **Search** button. You can select the values that you want and click the **Insert** button to.move the selected values to the **Choices** list. The report uses the topology filter values in the Choices list to generate the report.

    o **Choices**:This list displays the topology filter values that you have selected to generate the report. You can select values that you do not want to be used and then click the **Remove** button to move the values back to the Results list.

    Note: You can use the **Select All** link to select all the listed values. You can use the **Deselect All** link to clear all the selected values.

3. Select the **Not** option to specify that the selected topology filter must not be considered when generating the report.

4. Click **Apply** and then click **Confirm Selection** to select the topology filter and generate the report.

Note: You can click **Reset** to clear all the topology filters you selected.

You can specify the topology filters based on the following attributes or dimensions of the calls.

Call Attribute	Description
Session Sequence	The Session Sequence.for the call.
Calling Party	The party that made the call.
Called Party	The party to which the call was made.
Calling Party Endpoint URI	The URI for the endpoint from where the call was made.
Called Party Endpoint URI	The URI of the endpoint to which the call was made.

Call Attribute	Description
Call Controller Pool	The pool that includes the Call Controller.
Call Controller	The Frontend pool that handled the call.
Media Type	The Media Type for the call.
Session Type	The Session Type for the call.
Call Type	The type of the call.
Calling Party Access Type	The type of access for the calling party.
Called Party Access Type	The type of access for the call.
Calling Party Authentication	The authentication used by the calling party.
Called Party Authentication	The authentication used by the called party.
Calling Party Mediation Server	The Mediation Server that handled the call for the calling party. For example, handling PSTN-to-SIP calls or SIP-to-PSTN calls.
Called Party Mediation Server	The Mediation Server that handled the call for the called party. For example, handling PSTN-to-SIP calls or SIP-to-PSTN calls.
Calling Party Gateway	The Gateway used by the calling party for the call.
Called Party Gateway	The Gateway used by the called party for the call.
Calling Party Edge Server	The Edge Server used by the calling party for the call.
Called Party Edge Server	The Edge Server used by the called party for the call.

Call Attribute	Description
Source OCS Site	The OCS Site from where the call originated.
Destination OCS Site	The OCS Site to which the call was made.
Source Site	The Source NNMi site for the call.
Destination Site	The Destination NNMi site for the call.
Calling Party User Group	The user group to which the calling party belongs.
Called Party User Group	The user group to which the called party belongs.
Termination Reason	The Termination Reason for the call.
Tenant Name	The Tenant Name associated with the call controller for the call.
Tenant UUID	The Tenant UUID associated with the call controller for the call.
SecGroup Name	The security group name associated with the call controller that handled the call.
SecGroup UUID	The UUID for the security group associated with the call controller that handled the call.

Note::On the Topology Filters page, if you do not find a specific attribute value that you want to include in the filter selection from the **Selection** list, verify the following details:

- The Topology Filters page lists the call attribute values in the **Selection** list. The list of attribute values are displayed based on all the call metric records available in the database at a given point of time. To select the specific attribute values for a call, make sure that an hour has elapsed on the network after the completion of the call.

- By default, the Topology Filters page lists only 5000 distinct values in the **Selection** list for a specific call attribute. If you are unable to find a specific value in the list, you can click the **Search and Select** icon to select the value of your choice.

Types of Reports

This extension pack helps you to generate the following types of reports based on the metrics that you specify:

- Chart Detail

- Heat Chart

- Top N

- Most Changed

- Calendar

- Top N Chart

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.

To launch a Calendar Report based on your requirements, do as follows:

1. Perform the steps in the section"Call Detail Reports" (on page 9) to launch the Chart Detail report for a specific time frame.

2. Specify the time controls for the report as mentioned in the "Specifying Time Controls" (on page 8) section.
   Note: If you select a time range that is less than 24 hours, the report displays the following message: `This report is not designed to operate with a time range of less than 24 hours. Please modify your time selections.`

3. Perform the steps in the section "Specifying Topology Filters" (on page 11)to specify the topology filters to be applied on the report.

4. Perform the steps listed in the "Specifying Metrics for Reports" (on page 9) to specify the primary metric and the secondary metric for the report.

5. Click **Confirm Selection** to generate the report.

Chart Detail Report

This 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.

To launch a Chart Detail Report based on your requirements, do as follows:

1. Perform the steps in the section"Call Detail Reports" (on page 9) to launch the Chart Detail report for a specific time frame.

2. Specify the time controls for the report as mentioned in the "Specifying Time Controls" (on page 8) section.

3. Perform the steps in the section <u>"Specifying Topology Filters" (on page 11)</u> to specify the topology filters to be applied on the report.

4. Perform the steps listed in the <u>"Specifying Metrics for Reports" (on page 9)</u> to specify the primary metric and the secondary metric for the report. You can select one of the following options from the **Chart or Table** drop-down list to specify the format in which you want the report to be displayed:

   ▪ **Chart**: specifies the report to be displayed as a chart. The Chart Detail report uses this option by default.

   ▪ **Table**: specifies the report to be displayed in a tabular format. The table lists the rows based on the specified display grain (time interval) and displays the corresponding values for the primary and the secondary metrics.

   ▪ **Chart and Table**: specifies the report to be displayed both in a chart and a tabular format.

5. Click **Confirm Selection** to generate the report.

Heat Chart Report

This 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.

Note: You can launch this report for a minimum time frame of 24 hours only.

To launch a Heat Chart Report based on your requirements, do as follows:

1. Perform the steps in the section <u>"Call Detail Reports" (on page 9)</u> to launch the Chart Detail report for a specific time frame.

2. Specify the time controls for the report as mentioned in the <u>"Specifying Time Controls" (on page 8)</u> section.

3. Perform the steps in the section <u>"Specifying Topology Filters" (on page 11)</u>to specify the topology filters to be applied on the report.

4. .Perform the steps listed in the <u>"Specifying Metrics for Reports" (on page 9)</u> to specify the primary metric and the secondary metric for the report.

5. Click **Confirm Selection** to generate the report.

Top N Report

Based on your selection metrics, this 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 metric 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 metric values that had occurrences at the extremes. You can also use this report to investigate historical sampled data for the metrics that exhibit unusual occurrence levels.

To launch a Top N Report based on your requirements, do as follows:

1. Perform the steps in the section "Call Detail Reports" (on page 9) to launch the Chart Detail report for a specific time frame.

2. Specify the time controls for the report as mentioned in the "Specifying Time Controls" (on page 8) section.

3. Click **Options** from the menu.

4. Select the topology filter to be applied for the report from the **Grouping by:** drop-down list.

   Note: You can select multiple call attributes by clicking the **Add New Grouping** icon . Clicking on this icon displays another drop-down list of the call attributes. You can remove the additional call attribute drop-down lists displayed by clicking the **Remove Grouping** icon .

5. Select the metric for the report.from the **Metric:** drop-down list.

6. Select one of the following options from the **Top N:** drop-down list to view the report for the specified number of attributes:

   - **Top 5**: lists five of the specified attributes with the maximum metric value in the descending order of the value, with the highest value at the top of the list.

   - **Top 10**: lists 10 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.

   - **Top 25**: lists 25 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.

   - **Top 50**: lists 50 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.

   - **Top 100**: lists 100 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.

   - **Bottom 5**: lists five of the specified attributes with the lowest metric value in the ascending order of the value, with the lowest value at the top of the list.

   - **Bottom 10**: lists 10 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.

   - **Bottom 25**: lists 25 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.

   - **Bottom 50**: lists 50 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.

   - **Bottom 100**: lists 100 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.

   - **Sort All in Descending**: lists all the specified attributes with the metric value in the descending order of the value, with the highest value at the top of the list.

   - **Sort All in Ascending**: lists all the specified attributes with the metric value in the ascending order of the value, with the lowest value at the top of the list.

7. You can select **Yes** from the **Display Time Series Chart** drop-down list if you want the report to display the data in the form of a chart. The chart uses a different color to plot each Top N attribute. Alternatively, you can click the **Show Chart** link to view the chart after you generate the report.

8. Click **Confirm Selection** to generate the report.

Most Changed Report

This report compares the variation in the metric values for two different (consecutive) time periods for specified grouping of call 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. You can select multiple call attributes by clicking the **Add New Grouping** icon . Clicking on this icon displays another drop-down list of the call attributes. You can remove the additional call attribute drop-down lists displayed by clicking the **Remove Grouping** icon .

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

To launch a Most Changed Report based on your requirements, do as follows:

1. Perform the steps in the section"Call Detail Reports" (on page 9) to launch the Chart Detail report for a specific time frame.

2. Specify the time controls for the report as mentioned in the "Specifying Time Controls" (on page 8) section.

3. Click **Options** from the menu.

4. Select the topology filter to be applied to the report from the **Grouping by:** drop-down list.

5. Select the metric for the report from the **Metric:** drop-down list.

6. Select one of the following options from the **Top N:** drop-down list to view the report for the specified number of attributes.
   - **Top 5**: lists the top five specified attributes with the maximum metric value variation in the descending order of the value with the highest value at the top of the list.

   - **Top 10**: lists the top 10 specified attributes with the maximum metric value variation in the descending order of the value with the highest value at the top of the list.

   - **Top 25**: lists the top 25 specified attributes with the maximum metric value variation in the descending order of the value with the highest value at the top of the list.

7. Click **Confirm Selection** to generate the report.

Top N Chart Report

Based on your selection of the attributes and the metric, this 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.

To launch a Top N Chart Report based on your requirements, do as follows:

1. Perform the steps in the section"Call Detail Reports" (on page 9) to launch the Chart Detail report for a specific time frame.

2. Specify the time controls for the report as mentioned in the "Specifying Time Controls" (on page 8) section.

3. Click **Options** from the menu.

4. Select the topology filter to be applied for the report from the **Grouping by:** drop-down list.
   Note: You can select multiple call attributes by clicking the **Add New Grouping** icon . Clicking on this icon displays another drop-down list of the call attributes. You can remove the additional call attribute drop-down lists displayed by clicking the **Remove Grouping** icon .

5. Select the metric for the report.from the **Metric:** drop-down list.

6. Select one of the following options from the **Top N:** drop-down list to view the report for the specified number of attributes:

   ▪ **Top 5**: lists five of the specified attributes with the maximum metric value in the descending order of the value, with the highest value at the top of the list.

   ▪ **Top 10**: lists 10 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.

   ▪ **Top 25**: lists 25 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.

   ▪ **Top 50**: lists 50 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.

   ▪ **Top 100**: lists 100 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.

   ▪ **Bottom 5**: lists five of the specified attributes with the lowest metric value in the ascending order of the value, with the lowest value at the top of the list.

   ▪ **Bottom 10**: lists 10 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.

   ▪ **Bottom 25**: lists 25 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.

   ▪ **Bottom 50**: lists 50 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.

   ▪ **Bottom 100**: lists 100 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.

   ▪ **Sort All in Descending**: lists all the specified attributes with the metric value in the descending order of the value, with the highest value at the top of the list.

   ▪ **Sort All in Ascending**: lists all the specified attributes with the metric value in the ascending order of the value, with the lowest value at the top of the list.

7. You can select **Yes** from the **Display Time Series Chart** drop-down list if you want the report to display the data in the form of a chart. The chart uses a different color to plot each Top N attribute. Alternatively, you can click the **Show Chart** link to view the chart after you generate the report.

8. Click **Confirm Selection** to generate the report.

Types of Reportlets

This extension pack helps you to generate the following types of reportlets based on the metrics that you specify:

Top N Chart

Top N Line Chart

Top N Stacked Chart

Top N Table

Top N Table with Bars

To access the reportlets, click the **Reportlets** workspace from the NNM iSPI Performance Report Menu page.

Top N Chart Reportlet

This reportlet displays the top 10 instances of the **Duration (secs) (sum)** metric in the descending order of the raw value on a chart.

You can click the (Toggle Options) icon to select the metrics of your choice and click **Confirm Selection** to regenerate the reportlet.

Top N Line Chart Reportlet

This reportlet displays the top 10 instances of the **Duration (secs) (sum)** metric in the descending order of the raw value on a chart. This reportlet displays the data by plotting the metric using a line on the chart over the time period.

You can click the (Toggle Options) icon to select the metrics of your choice and click **Confirm Selection** to regenerate the reportlet.

Top N Stacked Chart Reportlet

This reportlet displays the top 10 instances of the **Duration (secs) (sum)** metric in the descending order of the raw value on a chart. This reportlet displays the data by combining the metric value for all the top 10 instances on the chart over the time period.

You can click the (Toggle Options) icon to select the metrics of your choice and click **Confirm Selection** to regenerate the reportlet.

Top N Table Reportlet

This reportlet displays the top 10 instances of the **Duration (secs) (sum)** metric in the descending order of the raw value on a chart. This reportlet displays the data in a table listing the top 10 instances for the metric.

You can click the (Toggle Options) icon to select the metrics of your choice and click **Confirm Selection** to regenerate the reportlet.

Top N Table with Bars Reportlet

This reportlet displays the top 10 instances of the **Duration (secs) (sum)** metric in the descending order of the raw value on a chart. This reportlet displays the data in a table listing the top 10 instances for the metric along with a bar adjacent to the instance that depicts the value for that instance of the metric.

You can click the (Toggle Options) icon to select the metrics of your choice and click **Confirm Selection** to regenerate the reportlet.

Call Quality Reports

You can generate the call quality reports based on the call quality details from the IP telephony network. You can filter the reports based on the call quality attributes such as the Calling Party, the Called Party , and so on and generate the reports based on the call quality metrics such as the Conversational MOS of the call, the Audio Jitter for the call, and so on.

To access the Call Quality reports from the NNMi console:

1. Log on to the NNMi console.

2. Click **Actions** > **Reporting - Report Menu** from the menu bar. This launches the NNM iSPI Performance Report Menu page.

3. Click **Microsoft IP Telephony** > **Call Reports** > **Call_Quality_Metrics**. This displays the reports you can launch for the call details.

You can view the following types of reports for the call quality metrics:

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

Specifying Metrics for Reports

You can use the **Options** link to specify the call metrics or the call attribute distinct count, based on which you want to generate the report.

To access the Report Options page and specify the metrics, do as follows:

1. From any report that is displayed, click **Options** from the menu. This displays the Report Options page.

2. Select the primary metric and the secondary metric from the respective drop-down lists as required for the report.

3. Click **Confirm Selection** to generate the report.

Click here to see the metrics that you can select to generate reports.

Call Quality Metric	Description
[1]Conversational MOS	The Conversational MOS for the call.
[1]Overall Average Network MOS	The Overall Average Network MOS for the call.
[1]Send Listen MOS	The Send Listen MOS for the call.
[1]Receive Listen MOS	The Receive Listen MOS for the call.
[1]Audio Jitter	The Audio Jitter for the call.
[1]Audio Packet Loss Rate	The Audio Packet Loss Rate for the call.
[1]Audio Packet Utilization	The Audio Packet Utilization for the call.
[1]Audio Round Trip	The sum of the Audio Round Trip for the call.
[1]Video Jitter	The Video Jitter for the call.
[1]Video Packet Loss Rate	The Video Packet Loss Rate for the call.
[1]Video Packet Utilization	The Video Packet Utilization for the call.
[1]Video Round Trip	The Video Round Trip for the call.
[1]Video Frame Loss Rate	The Video Frame Loss Rate for the call.
Call Quality Attribute Distinct Count	**Description**
Calling Party (countDistinct)	The distinct count of the Calling Party.
Called Party (countDistinct)	The distinct count of the Called Party.
Media Type (countDistinct)	The distinct count of the Media Type.
Session Type (countDistinct)	The distinct count of the Session Type.
Calling Party User Agent (countDistinct)	The distinct count of the Calling Party User Agent.
Called Party User Agent (countDistinct)	The distinct count of the Called Party User Agent.
Calling Party Authentication (countDistinct)	The distinct count of the Calling party Authentication.
Called Party Authentication (countDistinct)	The distinct count of the Called Party Authentication.
Calling Party Relay IP Address (countDistinct)	The distinct count of the Calling Party Relay IP Address.
Called Party Relay IP Address (countDistinct)	The distinct count of the Called Party Relay IP Address.
Calling Party Connection Type (countDistinct)	The distinct count of the Calling Party Connection Type.
Called Party Connection Type (countDistinct)	The distinct count of the Called Party Connection Type.
Source OCS Site (countDistinct)	The distinct count of the Source OCS Site.

Call Quality Metric	Description
Destination OCS Site (countDistinct)	The distinct count of the Destination OCS Site.
Source Site (countDistinct)	The distinct count of the Source Site.
Destination Site (countDistinct)	The distinct count of the Destination Site.
Calling Party User Group (countDistinct)	The distinct count of the Caller User Group.
Called Party User Group (countDistinct)	The distinct count of the Called User Group.
Tenant Name (countDistinct)	The distinct count of the Tenant Name.
Tenant UUID (countDistinct)	The distinct count of the Tenant UUID.
SecGroup Name (countDistinct)	The distinct count of the SecGroup Name.
SecGroup UUID (countDistinct)	The distinct count of the SecGroup UUID.

[1]You can select any of the following options for the call duration metric:

- Average (avg)

- Minimum (min)

- Maximum (max)

Specifying Topology Filters

Topology filters allow you to scope or filter the reports based on the various combinations of the call quality details available in the accumulated metric data.

You can use the Topology Filter page to specify the topology filters that you require.

To access the Topology Filter page and specify the topology filters, do as follows:

1. From any report that is displayed, click **Topology Filters** from the menu. This displays the Topology Filter page.

2. Select the topology filter as required from the list of topology filters using any of the following methods:
   - If you want to select only one value for a topology attribute, click the **Single value select** icon, and then select a value of your choice.

   - If you want to select multiple values, click the **Multi value select** icon , and then select values of your choice (by using the Control **Ctrl-** key.

   - If you want to search and select a value from a list of values, click the **Search and Select** icon .

     o If you want to search and select a value for a topology filter from a list of values, click the **Search and Select** icon . This displays the following options:

- ○ **Keywords**: selecting the **Keywords** check box helps you search for values based on the keywords that you specify in the box provided. You can specify multiple keywords separated by white spaces. Click the **Options** link to select from the available options to specify how the specified keywords must be used to perform the search. You can select the **Case insensitive** check box if you do not want the keywords to be searched based on case sensitivity.

  - ○ **Results**: This list displays the topology filter values that match the specifications you provided after you click the **Search** button. You can select the values that you want and click the **Insert** button to.move the selected values to the **Choices** list. The report uses the topology filter values in the Choices list to generate the report.

  - ○ **Choices**:This list displays the topology filter values that you have selected to generate the report. You can select values that you do not want to be used and then click the **Remove** button to move the values back to the Results list.

  Note: You can use the **Select All** link to select all the listed values. You can use the **Deselect All** link to clear all the selected values.

3. Select the **Not** option to specify that the selected topology filter must not be considered when generating the report.

4. Click **Apply** and then click **Confirm Selection** to select the topology filter and generate the report.

Note: You can click **Reset** to clear all the topology filters you selected.

You can specify the topology filters based on the following attributes or dimensions of the calls.

Call Attribute	Description
Calling Party	The party that made the call.
Called Party	The party to which the call was made.
Media Type	The Media Type for the call.
Session Type	The Session Type for the call.
Calling Party User Agent	The user agent at the calling party.
Called Party User Agent	The user agent at the called party.
Calling Party Authentication	The authentication used by the calling party.
Called Party Authentication	The authentication used by the party to which the call was made.

Call Attribute	Description
Calling Party Relay IP Address	The Calling Party Relay IP Address for the call.
Called Party Relay IP Address	The relay IP address of the party that made the call.
Calling Party Connection Type	The connection type used by that party that made the call.
Called Party Connection Type	The connection type used by the party to which the call was made.
Source OCS Site	The OCS site from which the call originated.
Destination OCS Site	The OCS site to which the call was made.
Source Site	The Source NNMi site for the call.
Destination Site	The Destination NNMi site for the call.
Calling Party User Group	The user group to which the caller belongs.
Called Party User Group	The user group to which the called user belongs.
Tenant Name	The Tenant Name associated with the call controller for the call.
Tenant UUID	The UUID of the tenant associated with the call controller for the call.
SecGroup Name	The security group name associated with the call controller that handled the call.
SecGroup UUID	The UUID of the security group associated with the call controller for the call.

Note::On the Topology Filters page, if you do not find a specific attribute value that you want to include in the filter selection from the **Selection** list, verify the following details:

- The Topology Filters page lists the call attribute values in the **Selection** list. The list of attribute values are displayed based on all the call metric records available in the database at a given point of time. To select the specific attribute values for a call, make sure that an hour has elapsed on the network after the completion of the call.

- By default, the Topology Filters page lists only 5000 distinct values in the **Selection** list for a specific call attribute. If you are unable to find a specific value in the list, you can click the **Search and Select** icon to select the value of your choice.

Types of Reports

This extension pack helps you to generate the following types of reports based on the metrics that you specify:

- Chart Detail

- Heat Chart

- Top N

- Most Changed

- Calendar

- Top N Chart

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.

To launch a Calendar Report based on your requirements, do as follows:

1. Perform the steps in the section"Call Quality Reports" (on page 21) to launch the Chart Detail report for a specific time frame.

2. Specify the time controls for the report as mentioned in the "Specifying Time Controls" (on page 8) section.
   Note: If you select a time range that is less than 24 hours, the report displays the following message: `This report is not designed to operate with a time range of less than 24 hours. Please modify your time selections.`

3. Perform the steps in the section "Specifying Topology Filters" (on page 23)to specify the topology filters to be applied on the report.

4. Perform the steps listed in the "Specifying Metrics for Reports" (on page 21) to specify the primary metric and the secondary metric for the report.

5. Click **Confirm Selection** to generate the report.

Chart Detail Report

This 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.

To launch a Chart Detail Report based on your requirements, do as follows:

1. Perform the steps in the section"Call Quality Reports" (on page 21) to launch the Chart Detail report for a specific time frame.

2. Specify the time controls for the report as mentioned in the "Specifying Time Controls" (on page 8) section.

3. Perform the steps in the section "Specifying Topology Filters" (on page 23)to specify the topology filters to be applied on the report.

4. Perform the steps listed in the "Specifying Metrics for Reports" (on page 21) to specify the primary metric and the secondary metric for the report. You can select one of the following options from the **Chart or Table** drop-down list to specify the format in which you want the report to be displayed:

   - **Chart**: specifies the report to be displayed as a chart. The Chart Detail report uses this option by default.

   - **Table**: specifies the report to be displayed in a tabular format. The table lists the rows based on the specified display grain (time interval) and displays the corresponding values for the primary and the secondary metrics.

   - **Chart and Table**: specifies the report to be displayed both in a chart and a tabular format.

5. Click **Confirm Selection** to generate the report.

Heat Chart Report

This 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.

Note: You can launch this report for a minimum time frame of 24 hours only.

To launch a Heat Chart Report based on your requirements, do as follows:

1. Perform the steps in the section"Call Quality Reports" (on page 21) to launch the Chart Detail report for a specific time frame.

2. Specify the time controls for the report as mentioned in the "Specifying Time Controls" (on page 8) section.

3. Perform the steps in the section "Specifying Topology Filters" (on page 23)to specify the topology filters to be applied on the report.

4. Perform the steps listed in the "Specifying Metrics for Reports" (on page 21) to specify the primary metric and the secondary metric for the report.

5. Click **Confirm Selection** to generate the report.

Top N Report

Based on your selection metrics, this 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 metric 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 metric values that had occurrences at the extremes. You can also use this report to investigate historical sampled data for the metrics that exhibit unusual occurrence levels.

To launch a Top N Report based on your requirements, do as follows:

1. Perform the steps in the section"Call Quality Reports" (on page 21) to launch the Chart Detail report for a specific time frame.

2. Specify the time controls for the report as mentioned in the "Specifying Time Controls" (on page 8) section.

3. Click **Options** from the menu.

Select the topology filter to be applied for the report from the **Grouping by:** drop-down list.

Note: You can select multiple call attributes by clicking the **Add New Grouping** icon. Clicking on this icon displays another drop-down list of the call attributes. You can remove the additional call attribute drop-down lists displayed by clicking the **Remove Grouping** icon.

Select the metric for the report.from the **Metric:** drop-down list.

Select one of the following options from the **Top N:** drop-down list to view the report for the specified number of attributes:

1. **Top 5**: lists five of the specified attributes with the maximum metric value in the descending order of the value, with the highest value at the top of the list.
2. **Top 10**: lists 10 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.
3. **Top 25**: lists 25 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.
4. **Top 50**: lists 50 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.
5. **Top 100**: lists 100 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.
6. **Bottom 5**: lists five of the specified attributes with the lowest metric value in the ascending order of the value, with the lowest value at the top of the list.
7. **Bottom 10**: lists 10 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.
8. **Bottom 25**: lists 25 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.
9. **Bottom 50**: lists 50 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.
10. **Bottom 100**: lists 100 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.
11. **Sort All in Descending**: lists all the specified attributes with the metric value in the descending order of the value, with the highest value at the top of the list.
12. **Sort All in Ascending**: lists all the specified attributes with the metric value in the ascending order of the value, with the lowest value at the top of the list.

You can select **Yes** from the **Display Time Series Chart** drop-down list if you want the report to display the data in the form of a chart. The chart uses a different color to plot each Top N attribute. Alternatively, you can click the **Show Chart** link to view the chart after you generate the report.

Click **Confirm Selection** to generate the report.

Most Changed Report

This report compares the variation in the metric values for two different (consecutive) time periods for specified grouping of call 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.

To launch a Most Changed Report based on your requirements, do as follows:

1. Perform the steps in the section"Call Quality Reports" (on page 21) to launch the Chart Detail report for a specific time frame.

2. Specify the time controls for the report as mentioned in the "Specifying Time Controls" (on page 8) section.

3. Click **Options** from the menu.

4. Select the topology filter to be applied to the report from the **Grouping by:** drop-down list.

5. Select the metric for the report.from the **Metric:** drop-down list.

6. Select one of the following options from the **Top N:** drop-down list to view the report for the specified number of attributes.
   - **Top 5**: lists the top five specified attributes with the maximum metric value variation in the descending order of the value with the highest value at the top of the list.

   - **Top 10**: lists the top 10 specified attributes with the maximum metric value variation in the descending order of the value with the highest value at the top of the list.

   - **Top 25**: lists the top 25 specified attributes with the maximum metric value variation in the descending order of the value with the highest value at the top of the list.

7. Click **Confirm Selection** to generate the report.

Top N Chart Report

Based on your selection of the attributes and the metric, this 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.

To launch a Top N Chart Report based on your requirements, do as follows:

1. Perform the steps in the section"Call Quality Reports" (on page 21) to launch the Chart Detail report for a specific time frame.

2. Specify the time controls for the report as mentioned in the "Specifying Time Controls" (on page 8) section.

3. Click **Options** from the menu.

4. Select the topology filter to be applied for the report from the **Grouping by:** drop-down list.

   Note: You can select multiple call attributes by clicking the **Add New Grouping** icon ![icon]. Clicking on this icon displays another drop-down list of the call attributes. You can remove the additional call attribute drop-down lists displayed clicking the **Remove Grouping** icon ![icon].

5. Select the metric for the report.from the **Metric:** drop-down list.

6. Select one of the following options from the **Top N:** drop-down list to view the report for the specified number of attributes:

   - **Top 5**: lists five of the specified attributes with the maximum metric value in the descending order of the value, with the highest value at the top of the list.

   - **Top 10**: lists 10 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top of the list.

   - **Top 25**: lists 25 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top pf the list.

   - **Top 50**: lists 50 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top pf the list.

   - **Top 100**: lists 100 of the specified attributes with the maximum metric value in the descending order of the value with the highest value at the top pf the list.

   - **Bottom 5**: lists five of the specified attributes with the lowest metric value in the ascending order of the value, with the lowest value at the top of the list.

   - **Bottom 10**: lists 10 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top of the list.

   - **Bottom 25**: lists 25 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top pf the list.

   - **Bottom 50**: lists 50 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top pf the list.

   - **Bottom 100**: lists 100 of the specified attributes with the lowest metric value in the ascending order of the value with the lowest value at the top pf the list.

   - **Sort All in Descending**: lists all the specified attributes with the maximum metric value in the descending order of the value, with the highest value at the top of the list.

   - **Sort All in Ascending**: lists all the specified attributes with the maximum metric value in the ascending order of the value, with the lowest value at the top of the list.

7. You can select **Yes** from the **Display Time Series Chart** drop-down list if you want the report to display the data in the form of a chart. The chart uses a different color to plot each Top N attribute. Alternatively, you can click the **Show Chart** link to view the chart after you generate the report.

8. Click **Confirm Selection** to generate the report.

Types of Reportlets

This extension pack helps you to generate the following types of reportlets based on the metrics that you specify:

Top N Chart

To access the reportlets, click the **Reportlets** workspace from the NNM iSPI Performance Report Menu page.

Top N Chart Reportlet

This reportlet displays the top 10 instances of the **Audio Round Trip (sum)** metric in the descending order of the raw value on a chart.

You can click the 🔧 (Toggle Options) icon to select the metrics of your choice and click **Confirm Selection** to regenerate the reportlet.

Top N Line Chart Reportlet

This reportlet displays the top 10 instances of the **Audio Round Trip (sum)** metric in the descending order of the raw value on a chart. This reportlet displays the data by plotting the metric using a line on the chart over the time period.

You can click the 🔧 (Toggle Options) icon to select the metrics of your choice and click **Confirm Selection** to regenerate the reportlet.

Top N Stacked Chart Reportlet

This reportlet displays the top 10 instances of the **Audio Round Trip (sum)** metric in the descending order of the raw value on a chart. This reportlet displays the data by combining the metric value for all the top 10 instances on the chart over the time period.

You can click the 🔧 (Toggle Options) icon to select the metrics of your choice and click **Confirm Selection** to regenerate the reportlet.

Top N Table Reportlet

This reportlet displays the top 10 instances of the **Audio Round Trip (sum)** metric in the descending order of the raw value on a chart. This reportlet displays the data in a table listing the top 10 instances for the metric.

You can click the 🔧 (Toggle Options) icon to select the metrics of your choice and click **Confirm Selection** to regenerate the reportlet.

Top N Table with Bars Reportlet

This reportlet displays the top 10 instances of the **Audio Round Trip (sum) (sum)** metric in the descending order of the raw value on a chart. This reportlet displays the data in a table listing the top 10 instances for the metric along with a bar adjacent to the instance that depicts the value for that instance of the metric.

You can click the (Toggle Options) icon to select the metrics of your choice and click **Confirm Selection** to regenerate the reportlet.

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