

HP Network Node Manager i Software Smart Plug-in for IP Telephony

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

Software Version: 9.00

[Online Help: Help for Cisco IP Telephony CDR Reports](#)

Software Release Date: March 2010



PDF Version of Cisco IP Telephony CDR Reports Online Help

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

Note: Some topics do not convert properly to PDF format. You may encounter formatting problems or unreadable text in certain document locations. Those problem topics can be successfully printed from within the online help.

HP Network Node Manager

Legal Notices

Warranty

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

The information contained herein is subject to change without notice.

Restricted Rights Legend

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

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

Copyright Notices

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

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

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

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

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

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

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

Trademark Notices

DOM4J® is a registered trademark of MetaStuff, Ltd.

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

Java™ is a U.S. trademark of Sun Microsystems, Inc.

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

Oracle® is a registered U.S. trademark of Oracle Corporation, Redwood City, California.

UNIX® is a registered trademark of The Open Group.

Oracle Technology — Notice of Restricted Rights

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

Table of Contents

PDF Version of Cisco IP Telephony CDR Reports Online Help	3
HP Network Node Manager	4
Legal Notices	4
Table of Contents	6
Cisco IP Telephony CDR Reports	7
Prerequisites to Enable Cisco CDR Reporting	7
Accessing the Cisco IP Telephony CDR Reports	8
Specifying Time Controls	8
Specifying Topology Filters	9
Specifying Metrics for Reports	14
Types of Reports	16
Chart Detail Report	17
Heat Chart Report	17
Top N Report	18
Most Changed Report	20
Calendar Report	21
Managed Inventory Report	21
Index	22

Cisco IP Telephony CDR Reports

The iSPI for IP Telephony provides the Cisco IP Telephony CDR extension pack. You can use this extension pack to generate reports for the call count (Sample Count), the call duration, and the call quality metrics (such as jitter, latency, the number of packets lost, the MOS listening quality K-factor, and so on) for the Cisco Unified Communication Manager clusters deployed on your network. See the sections *Call Metric* and *Call Quality Metric* under [Specifying Metrics for Reports](#) for more information about the metrics you can specify to generate reports.

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, the called party number, and so on. See the section [Specifying Topology Filters](#) for more information about the attributes you can specify to filter the reports. 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:

- [Chart Detail](#)
- [Heat Chart](#)
- [Top N](#)
- [Most Changed](#)
- [Calendar](#)
- [Managed Inventory](#)

Prerequisites to Enable Cisco CDR Reporting

You must make sure that the following prerequisites are satisfied to enable Cisco IP Telephony CDR reporting:

1. Install the NNM iSPI Performance for Metrics/Network Performance Server (iSPI Performance for Metrics/NPS) in your deployment environment before installing the iSPI for IP Telephony. If you have installed the iSPI for IP Telephony before installing the iSPI Performance for Metrics/NPS, make sure that you enable CDR reporting in the iSPI for IP Telephony only after installing the iSPI Performance for Metrics/NPS in your deployment environment.
2. Configure the iSPI for IP Telephony to enable CDR data collection from each Cisco Unified Communication Manager cluster in your network. for which you want to view the reports on call metrics. See the *Online Help* for the iSPI for IP Telephony > **Help for Administrators > Configure Data Access > Configure Data Access for Cisco** section for additional information.
3. Configure the iSPI for IP Telephony to enable collection of Cisco AXL API exposed configuration data from each of the Cisco Unified Communication Manager clusters in your network for which you want to view the reports on call metrics. See the *Online Help* for the iSPI for IP Telephony > **Help for Administrators > Configure Data Access > Configure Data Access for Cisco** section for additional information.
4. Enable Cisco CDR reporting in the iSPI for IP Telephony. See the Online Help for the iSPI for IP Telephony > **Help for Administrators > Reporting Configuration > Configure Cisco CDR Reporting** section for additional information.
5. Verify that the iSPI Performance for Metrics/NPS is running before opening the reports provided by the Cisco IP Telephony CDR extension pack.

Accessing the Cisco IP Telephony CDR Reports

To access the Cisco IP Telephony CDR 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 the **Cisco IP Telephony CDR** tab to view a list of the supported Cisco CDR Report formats.
4. You can click on any time frame displayed above each report to launch the specific report for that time frame. The supported time frames are as follows:
 - Hourly (**H**)—generates the report for an hour after the **Server Start Date/Time**.
 - Daily (**D**)—generates the report for a day after the **Server Start Date/Time**.
 - Weekly (**W**)—generates the report for a week after the **Server Start Date/Time**.
 - Monthly (**M**)—generates the report for a month after the **Server Start Date/Time**.

Note: **Server Start Date/Time** represents the date and the time of the report generation as listed on the "[Specifying Time Controls](#)" (on page 8) for the report.

This generates the report based on the default metrics (**Call Duration (secs) (avg)**) with no Topology Filter selected.

After launching a report, you can configure the report based on your requirements by specifying the following details and regenerating the report:

- [Specify time controls](#)
- [Specify topology filters](#)
- [Specify metrics](#)

Specifying Time Controls

You can specify the time-specific details using which you want the report to be generated on the Time Controls page. This page lets you specify the following time control details:

- **Server Start Date/Time:** set the date and time for report generation.
- **Time Range:** set the time range for report generation. The Server Start Date/Time changes automatically based on your selection for this field.
- **Auto Refresh:** set the auto refresh rate for the report to a specific interval or disable the auto refresh feature for the report.
- **Display Grain:** set the interval at which the report must represent data.

Note: The minimum value you can specify for the display grain is one hour for Cisco IP Telephony reports.

- **Hour of the Day:** specify the hour of the day for which you want to generate the report. You can select multiple values from this drop-down list by pressing the Control (Ctrl) key.

- **Day of the Week:** specify the day of the week for which you want to generate the report. You can select multiple values from this drop-down list by pressing the Control (Ctrl) key.

To access the Time Controls page and specify the time controls, do as follows:

1. From any report that is displayed, click **Time Controls** from the menu. This displays the Time Controls page.
2. Select the time control that you want to specify and make the necessary changes.
3. Click **Confirm Selection** to select the topology filter and generate the report.

Click here to see the time controls you can specify for each report.

Report	Applicable Time Controls
Calendar	Server Start Date/Time, Time Range, Auto Refresh.
Chart Detail	Server Start Date/Time, Time Range, Display Grain, Auto Refresh, Hour of Day, Day of Week.
Heat Chart	Server Start Date/Time, Time Range, Auto Refresh, Hour of Day, Day of Week.
Most Changed	Server Start Date/Time, Time Range, Auto Refresh, Hour of Day, Day of Week.
Top N	Server Start Date/Time, Time Range, Display Grain, Auto Refresh, Hour of Day, Day of Week.
Managed Inventory	Server Start Date/Time, Time Range, Display Grain, Auto Refresh, Hour of Day, Day of Week.

The iSPI for IP Telephony marks the call metric data with a universal time stamp known as *seconds since epoch*, which directly reflects the Universal timestamp (in *seconds since epoch*) on the Cisco Unified Communications Manager server that logged the call. The Network Performance Server (NPS) converts this timestamp into the local time as defined by the location of the NPS. If the Cisco Unified Communications Manager server that logged the call is in a different time zone when compared to the time zone of the NPS or the iSPI for IP Telephony, the NPS data will not be in synchronization with the local time of the Cisco Unified Communications Manager server.

Note that when you generate the reports, the NPS converts the time the call was handled by the Cisco Unified Communications Manager server to the local time on the NPS. The reports display this converted time and not the time the call was handled by the Cisco Unified Communications Manager server.

Specifying Topology Filters

Topology filters allow you to scope or filter the call metric reports based on the various combinations of the call attribute values available in the accumulated call metric data. For example, you can specify the topology filters based on a combination of certain specific values for the Call Manager Name, Calling Party Number, Called Party Number, and so on. 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 and click the **Search** button:

- If you want to select only one value for a topology filter, click the **Single value select** icon



and then select a value of your choice.

- If you want to select multiple values for a topology filter, click the **Multi value select** icon



and then select values of your choice (by pressing the Control **Ctrl** key).

- 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 and 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
Cluster ID	The unique identifier or name of the cluster that handled the call.
Call Manager Name	The name of the call manager that handled the call.
Call Manager IP Address	The IP address of the call manager that handled the call.
Calling Party Number	The number of the party from where the call originated.
Calling Party Partition	The partition number associated with the number of the calling party.
Calling Party User ID	The user ID of the calling party.

Call Attribute	Description
Final Called Party Number	The number to which the call was made.
Final Called Party Partition	The partition number associated with the number to which the call was made.
Final Called Party User ID	The user ID of the number to which the call was made.
Outbound Gateway IP Address	The IP address of the gateway through which the call was routed by that cluster that handled the call.
Inbound Gateway IP Address	The IP address of the gateway through which the call reached the cluster that handled the call.
Outbound Gateway Name	The name of the Voice Gateway through which the call was routed out of the Cluster that handled the call. This can be the name of the Voice Gateway Endpoint (configured on the Call Manager) or the name of the interface in case of an MGCP or SCCP.
Inbound Gateway Name	The name of the Voice Gateway through which the call reached the Cluster that handled the call. This can be the name of the Voice Gateway Endpoint (configured on the Call Manager) or the name of the interface in case of an MGCP or SCCP.
Outbound Gateway B-Channel Number	The channel number of the Cisco MGCP or the SCCP Voice Gateway through which the call was routed out of the Cluster that handled the call. This filter displays <code>Unknown</code> for Cisco H323 Voice Gateways.
Inbound Gateway B-Channel Number	The channel number of the Cisco Media Gateway Control Protocol (MGCP) or the Skinny Call Control Protocol (SCCP) Voice Gateway through which the call reached the Cluster that handled the call. This filter displays <code>Unknown</code> for Cisco H323 Voice Gateways.
Outbound ICT Remote CM IP Address	The IP address of the Remote Call Manager to which the call was routed by the cluster that handled the call.

Call Attribute	Description
Inbound ICT Remote CM IP Address	The IP address of the Remote Call Manager from which the call reached the cluster that handled the call.
Outbound ICT Remote Cluster ID	The ID of the remote cluster to which the call was routed by the Cluster that handled the call.
Inbound ICT Remote Cluster ID	The ID of the remote cluster from which the call reached the Cluster that handled the call.
Outbound ICT Name	The name of the Inter Cluster Trunk through which the call was routed out of the Cluster that handled the call.
Inbound ICT Name	The name of the Inter Cluster Trunk through which the call reached the Cluster that handled the call.
Outbound Route Group	The outbound route group name.
Terminating Party	The party that terminated the call. You can select any of the following options to filter the information: <ul style="list-style-type: none">• Destination Party• Originating Party
Termination Reason	The reason for termination of the call. You can select the following option to filter the information: Normal Call Clearing
Failed Call	Indicates whether a call terminated due to a failure condition. The possible values include the following: <ul style="list-style-type: none">• No: signifies that the call did not terminate due to a failure condition.• Yes: signifies that call terminated due to a failure condition.
Failure Reason	The reason for failure of the call.

Call Attribute	Description
Call Classification	Classifies the call being reported based on the Cluster that handled the call. Possible values are as follows: <ul style="list-style-type: none"> • Inbound Inter Cluster • Outbound Inter Cluster • Inbound from Non-IP • Outbound to Non-IP • Intra Cluster IP to IP
Inbound	Specifies whether a call is inbound to the Cluster that handled the call. The possible values are as follows: <ul style="list-style-type: none"> • No: signifies that the call was not inbound to the cluster that handled the call. • Yes: signifies that the call was inbound to the cluster that handled the call.
Outbound	Specifies whether a call is outbound from the Cluster that handled the call. The possible values are as follows: <ul style="list-style-type: none"> • No: signifies that the call was not outbound from the cluster that handled the call. • Yes: signifies that the call was outbound from the cluster that handled the call.
Call ID	The unique identifier for the call.
Call Manager ID	The unique identifier of the call manager.

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.

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 call metrics, the call quality metrics, and the distinct count of call attributes that you can select to generate reports.

Call Metric	Description
¹ Call Duration	The call duration in seconds.
Sample Count	The sum of the sample count of calls. Indicates the count of calls.
Call Quality Metric	Description
¹ Jitter in Originating Leg	The jitter in the originating leg.for the call in milliseconds.
¹ Latency in Originating Leg	The latency in the originating leg.for the call.
¹ Number of Packets Lost in Originating Leg	The number of packets lost in the originating leg for the call.
¹ Jitter in Destination Leg	The jitter in the destination leg for the call.
¹ Latency in Destination Leg	The latency in the destination leg for the call.
¹ Number of Packets Lost in Destination Leg	The number of packets lost in the destination leg for the call.
¹ MOS Listening Quality K-Factor Average in Destination Leg	The average K-factor Mean Opinion Score (MOS) for listening quality at the destination leg for the call.
¹ MOS Listening Quality K-Factor Average in Originating Leg	The average K-factor Mean Opinion Score (MOS) for listening quality at the originating leg for the call.
Call Attribute Distinct Count	Description
Cluster ID (countDistinct)	The distinct count of the Cluster ID, where Cluster ID represents the name of the call attribute.
Call Manager Name (countDistinct)	The distinct count of the Call Manager Name, where Call Manager Name represents the name of the call attribute.

Call Metric	Description
Call Manager IP Address (countDistinct)	The distinct count of the Call Manager IP Address, where Call Manager IP Address represents the name of the call attribute.
Calling Party Number (countDistinct)	The distinct count of the Calling Party Number, where Calling Party Number represents the name of the call attribute.
Calling Party Partition (countDistinct)	The distinct count of the Calling Party Partition, where Calling Party Partition represents the name of the call attribute.
Calling Party User ID (countDistinct)	The distinct count of the Calling Party User ID, where Calling Party User ID represents the name of the call attribute.
Final Called Party Number (countDistinct)	The distinct count of the Final Called Party Number, where Final Called Party Number represents the name of the call attribute.
Final Called Party Partition (countDistinct)	The distinct count of the Final Called Party Partition, where Final Called Party Partition represents the name of the call attribute.
Final Called Party User ID (countDistinct)	The distinct count of the Final Called Party User ID, where Final Called Party User ID represents the name of the call attribute.
Outbound Gateway IP Address (countDistinct)	The distinct count of the Outbound Gateway IP Address, where Outbound Gateway IP Address represents the name of the call attribute.
Inbound Gateway IP Address (countDistinct)	The distinct count of the Inbound Gateway IP Address, where Inbound Gateway IP Address represents the name of the call attribute.
Outbound Gateway Name (countDistinct)	The distinct count of the Outbound Gateway Name, where Outbound Gateway Name represents the name of the call attribute.
Inbound Gateway Name (countDistinct)	The distinct count of the Inbound Gateway Name, where Inbound Gateway Name represents the name of the call attribute.
Outbound Gateway B-Channel Number (countDistinct)	The distinct count of the Outbound Gateway B-Channel Number, where Outbound Gateway B-Channel Number represents the name of the call attribute.
Inbound Gateway B-Channel Number (countDistinct)	The distinct count of the Inbound Gateway B-Channel Number, where Inbound Gateway B-Channel Number represents the name of the call attribute.
Outbound ICT Remote CM IP Address (countDistinct)	The distinct count of the Outbound ICT Remote CM IP Address, where Outbound ICT Remote CM IP Address represents the name of the call attribute.
Inbound ICT Remote CM IP Address (countDistinct)	The distinct count of the Inbound ICT Remote CM IP Address, where Inbound ICT Remote CM IP Address represents the name of the call attribute.
Outbound ICT Remote Cluster ID (countDistinct)	The distinct count of the Inbound Outbound ICT Remote Cluster ID, where Outbound ICT Remote Cluster ID represents the name of the call attribute.
Inbound ICT Remote Cluster ID (countDistinct)	The distinct count of the Inbound ICT Remote Cluster ID, where Inbound ICT Remote Cluster ID represents the name of the call attribute.
Outbound ICT Name (countDistinct)	The distinct count of the Outbound ICT Name, where Outbound ICT Name represents the name of the call attribute.

Call Metric	Description
Inbound ICT Name (count-Distinct)	The distinct count of the Inbound ICT Name, where Inbound ICT Name represents the name of the call attribute.
Outbound Route Group (countDistinct)	The distinct count of the Outbound Route Group, where Outbound Route Group represents the name of the call attribute.
Terminating Party (count-Distinct)	The distinct count of the Terminating Party, where Terminating Party represents the name of the call attribute.
Termination Reason (count-Distinct)	The distinct count of the Termination Reason, where Termination Reason represents the name of the call attribute.
Failure Reason (count-Distinct)	The distinct count of the Failure Reason, where Failure Reason represents the name of the call attribute.
Call Classification (count-Distinct)	The distinct count of the Call Classification, where Call Classification represents the name of the call attribute.
Inbound (countDistinct)	The distinct count of the Inbound, where Inbound represents the name of the call attribute.
Outbound (countDistinct)	The distinct count of the Outbound, where Outbound represents the name of the call attribute.
Call ID (countDistinct)	The distinct count of the Call ID, where Call ID represents the name of the call attribute.
Call Manager ID (count-Distinct)	The distinct count of the Call Manager ID, where Call Manager ID represents the name of the call attribute.
Failed Call (countDistinct)	The distinct count of the Failed Call, where Failed Call represents the name of the call attribute.

¹You can select any of the following options for the call duration 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 Number (countDistinct) metric, and three distinct calling parties had made calls during the time specified, the report lists the value for the Calling Party Number (countDistinct) as 3.

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](#)
- [Managed Inventory](#)

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.

For example, 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.

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

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

1. Perform the steps in the section "[Accessing the Cisco IP Telephony CDR Reports](#)" (on page 8) 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 9) to specify the topology filters to be applied on the report.
4. Perform the steps listed in the "[Specifying Metrics for Reports](#)" (on page 14) 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. 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 **Options**.

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 Chart Detail Report on a Daily (**D**), Weekly (**W**), or a Monthly (**M**) basis.

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

1. Perform the steps in the section "[Accessing the Cisco IP Telephony CDR Reports](#)" (on page 8) to launch the Heat Chart 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 9) to specify the topology filters to be applied on the report.
4. Perform the steps listed in the "[Specifying Metrics for Reports](#)" (on page 14) to specify the metric for the report.
5. Click **Confirm Selection** to generate the report.

Sample Use Case

Use the Heat Chart report to identify the gradual shift in the range of values for a call metric. For example, if you select the call count (**Sample Count (sum)**) metric to generate the Heat Chart report, you can use the report to identify the following instances on your IP Telephony network:

- Spot an isolated instance (when the metric value was high) such as the Busy Hour Call Attempts (BHCA) that affected the results for one day.
- Spot day-of-the-week patterns.
- Verify that a high call volume or call duration condition returned to normal after a period of time.

Top N Report

Based on your selection of the call attributes and the call metric, this 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. You can use this report to identify the call 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.

For example, 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.

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

1. Perform the steps in the section "[Accessing the Cisco IP Telephony CDR Reports](#)" (on page 8) to launch the Top N 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 that you want to apply on 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 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 maximum 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 maximum 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 maximum 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 maximum metric value in the ascending order of the value with the highest value at the top of the list.
 - **Bottom 100:** lists 100 of 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.
 - **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.

Most Changed Report

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

By default, this report groups data by the Cluster ID call attribute. 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 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 "[Accessing the Cisco IP Telephony CDR Reports](#)" (on page 8) to launch the Most Changed 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 you want to apply for 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.

Note: As this report compares the variations in the call metric values for two consecutive time frames, you must not select the **Until Now** option from the **Time Range** drop-down list accessible from the **Time Controls** link for this report. Selecting the **Until Now** option results in an error and displays the following message:

This report does not operate with the current time interval. Please modify your selection.

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 iSPI for IP Telephony has been processing the CDR data and sharing this data with the NPS.

For example, 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.

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

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

1. Perform the steps in the section "[Accessing the Cisco IP Telephony CDR Reports](#)" (on page 8) to launch the Calendar 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 9) to specify the topology filters to be applied on the report.
4. Perform the steps listed in the "[Specifying Metrics for Reports](#)" (on page 14) to specify the primary metric and the secondary metric for the report.
5. Click **Confirm Selection** to generate the report.

Managed Inventory Report

You can use the managed inventory report to view the number of unique values of each call attribute present in the call data within the selected time frame. For example, if you run the report for the last one day, you can see the number of clusters that had call activity for the past one day.

You can click the **Topology Filter** link to filter the data to create a report that represents data for calls that match the filter criteria you selected. This report lists all the possible call attributes for the calls in a tabular format. The **Count** column of the table indicates the distinct values for each call attribute for the number of calls that occurred during the specified time frame. For example, the value 5 for the call attribute, **Cluster ID**, indicates that all calls during the time frame specified were handled by five different clusters.

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

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

1. Perform the steps in the section "[Accessing the Cisco IP Telephony CDR Reports](#)" (on page 8) to launch the Managed Inventory 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 9) to specify the topology filters to be applied on the report.
4. Click **Confirm Selection** to generate the report.

Index

		Top N	18
		Report Types	16
		Reports Overview	7
		T	
		Time Controls	8
		Top N Report	18
		Topology Filters	9
<hr/>			
		A	
Accessing Reports	8		
		C	
Calendar Report	21		
Call Attributes	9		
Call Metrics	14		
Chart Detail Report	17		
		D	
distinct count	14		
		F	
Filters	9		
		H	
Heat Chart Report	17		
		M	
Managed Inventory Report	21		
Metrics	14		
Most Changed Report	20		
		P	
Prerequisites	7		
		R	
Report			
Calendar	21		
Chart Detail	17		
Heat Chart	17		
Managed Inventory	21		
Most Changed	20		