Export CDRs and CMRs

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CDR and CMR Records

This chapter describes how to export CDR/CMR records and how to view the exported records.

Use Export CDR/CMR in the CDR menu in Cisco Unified Communications Manager CDR Analysis and Reporting to export CDR/CMR dump information to the location of your choice on your computer. The CDR/CMR dump exists in the CSV format. You can also view the dump of the exported records.

Export CDR and CMR Records

Follow this procedure to export CDR and CMR record results.

Procedure

Step 1 From CDR Analysis and Reporting, choose **CDR** > **Export CDR/CMR**.

The **Export CDR/CMR records** window appears.

Step 2 In the **From Date** and **To Date** drop-down list boxes, choose a date range for the CDR/CMR dump.

Step 3 In Select records, check the CDR records and/or CMR records check box.

Step 4 Click **Export to File**.

The **Export CDR/CMR records Result** window appears. See the View CDR and CMR Records Results, on page 1.

View CDR and CMR Records Results

The following procedure describes how to view Export CDR/CMR record results.

Before you begin

Before you begin the following procedure, perform all the steps in the Export CDR and CMR Records, on page 1.

Procedure

Step 1 From the Export CDR/CMR Record Results window, right-click either the **CDR Dump** or **CMR Dump** link.

A popup window that comprises the following options displays:

a) Open - This option allows you to open the window that contains the CDR/CMR dump in the same window.
b) Open in a New Window - This option allows you to open the window that contains the CDR/CMR dump in a new window.
c) Save Target As... - This option allows you to save the CDR/CMR dump to a location on your computer.
d) Print Target - This option allows you to print the CDR/CMR dump information.
e) Copy Shortcut - This option allows you to copy the window shortcut to paste in another file.
f) Add to Favorites - This option allows you to add the CDR/CMR dump to your Favorites folder.
g) Properties - This option provides the properties of the CDR/CMR dump file.

Step 2 From the pop-up window, choose one of the options.

Step 3 If you chose to save the CDR/CMR dump to your computer, choose a location in which to save the dump and click **Save**. After the download is complete, you can locate the file wherever you download it to open it.

Step 4 To delete the CDR and/or CMR dump, check **Delete File** check box and click **Back** or **Close**.

The files get deleted.

Note
If you do not check the Delete File check box(es) (for example, if the CDR or CMR dump files get left undeleted), the background process deletes the files daily. Because the CDR and CMR dump files are large, Cisco recommends that you download the file to a local disk and delete them from the server to avoid the disk usage on the server side.

CDR Data

Call detail records (CDRs) detail the called number, the number that places the call, the date and time that the call starts, the time that the call connects, and the time that the call ends. Call management records (CMRs), or diagnostic records, detail the jitter, lost packets, the amount of data sent and received during the call, and latency. CDR data comprises CDRs and CMRs collectively. A single call can result in the generation of several CDRs and CMRs. Unified Communications Manager records information regarding each call in CDRs and CMRs. CDRs and CMRs, known collectively as CDR data, serve as the basic information source for CAR.

The Cisco CDR Agent service transfers CDR and CMR files that Unified Communications Manager generates from the local host to the CDR repository node, where the CDR Repository Manager service runs over a SFTP connection. If the SFTP connection fails, the Cisco CDR Agent services continue to make connection attempts to the CDR repository node until a connection is made. The CiscoCDR Agent service sends any accumulated CDR files when the connection to the CDR Repository node resumes. The CDR Repository Manager service maintains the CDR and CMR files, allocates the amount of disk space for use by CMRs and CDRs, sends the

files to up to three configured destinations, and tracks the delivery result for each destination. CAR accesses the CDR/CMR files in the directory structure that the CDR Repository Manager service creates.

The high and low water mark settings that you configure specify percentages of the total disk space that are allocated for the CDR repository. Although the preserved folder under the CDR repository folder contributes to the high and low water mark percentages, Log Partition Monitoring never deletes the folder if the high water mark gets reached. If the high water mark gets reached, the CDR Repository Manager deletes processed CDR files until the low water mark is reached or all processed files are deleted, whichever comes first. If all processed CDR files are deleted but the low water mark has not been reached, the deletion stops. The CDRHighWaterMarkExceeded alarm gets generated until the system reaches the maximum disk allocation. If the maximum disk allocation gets reached, the system deletes undelivered files, and files within the preservation duration, starting with the oldest files, until disk utilization falls below the high water mark. If you receive the CDRMaximumDiskSpaceExceeded alarm repeatedly for this scenario, either increase the disk allocation or lower the number of preservation days.

Note When the disk allocation usage exceeds the configured high water mark threshold value, LMP also purges the CDR and CMR data that are exported at the following path automatically: `/var/log/active/tomcat/logs/car/carreports/reports/ondemand/temp`.

Customers or any third-party applications should ensure to retrieve the exported files immediately to avoid losing their buffered historical data.

Information on these alarms is found in the CDR Repository Alarm Catalog (CDRRepAlarmCatalog). The following table displays the alarms and alerts in this catalog.

To configure these alarms, go to **Cisco Unified Serviceability** > **Alarm** > **Configuration** > **CDR Services**.

Table 1: CDR Repository Alarm Catalog

Name	Severity	Description
CDRFileDeliveryFailed	ERROR_ALARM	SFTP delivery of CDR files to the outside billing server failed.
CDRAgentSendFileFailed	ERROR_ALARM	The CDR Agent cannot send CDR files from the Cisco Unified CM node to the CDR Repository node within the Unified Communications Manager cluster.
CDRHWMExceeded	WARNING_ALARM	The high water mark (HWM) for CDR files was reached; some successfully delivered CDR files have been deleted.
CDRMaximumDiskSpaceExceeded	CRITICAL_ALARM	The CDR files disk usage exceeded the maximum disk allocation. Some undelivered files may have been deleted to bring disk usage down.
CDRFileDeliveryFailureContinues	ERROR_ALARM	SFTP delivery of CDR files failed on retries.

Name	Severity	Description
CDRAgentSendFileFailureContinues	ERROR_ALARM	The CDR Agent cannot send CDR files from the Cisco Unified CM node to the CDR Repository node on retries.

For additional information on these alarms and recommended action, see the alarm definitions at **Cisco Unified Serviceability** > **Alarm** > **Definitions** > **CDRRepAlarmCatalog**.

For more information on CDR services and alarms, see the *Cisco Unified Serviceability Administration Guide*.

CDR Search

In all CDR Search reports, the system only displays the oldest 100 records that fall into the time and date range that you configure. The CDR Search reports generate only in HTML format.

You can configure CDR searches to verify the details of a call. The search forms groups of all the related legs of a call, which can be useful if the call involves a conference or transfer. This method helps you track the progress and quality of each part of an entire call.

This section describes the following features:

- CDR Search by User/Phone Number/SIP URL - Available for CAR administrators. You can search CDRs by the user or directory number (calling, original called, final called, or bridge number) to analyze call details for the first 100 records that satisfy the search criteria. You can search for calls by using specific numbers for the period that you specify, which helps you trace calls that are placed from or to any specific numbers for diagnostic or informational purposes. All associated records, such as transfer and conference calls, appear together as a logical group. If you do not specify the phone number or SIP URL, the system returns the first 100 CDR records that match the date range that you specify.
- CDR Search by Gateway - Available for CAR administrators. You can search CDRs by gateways to analyze the call details of calls that are using specific gateways. This method helps you trace issues on calls through specific gateways.
- CDR Search by Cause for Call Termination - Available for CAR administrators. You can search CDRs by cause for call termination to get information about the cause for the termination of a call. You can choose from a list of causes for call termination and can generate the report for a particular date range. The generated report contains the report criteria, along with the total number of calls that were placed in the given time. In addition, a table displays with the fields Call Termination Cause Value and description, the total number of calls, and the percentage of calls for each Call Termination Cause, and an option to choose the CDRs.
- CDR Search by Call Precedence Level - Available for CAR administrators. You can search CDRs by call precedence level. The report that generates allows you to view the CDRs on the basis of precedence. You can choose the precedence level and date range for which to generate a report. The report displays the number of calls and the percentage of these calls for each precedence level that you choose. Report criteria display the precedence levels and date range for which the report-generated information in the Call Precedence Details window. You can view the media information and the CDR-CMR dump from the CDR Search by Precedence Levels Result window. The media information and CDR-CMR dump information display in separate windows.

- CDR Search for Malicious Calls - Available for CAR administrators. You can search for CDRs to get information about malicious calls. You can choose phone number or SIP URL and the date range for which to generate a report. The report displays the CDRs for all the malicious calls for a chosen phone number or SIP URL and date range. Report criteria display the phone number or SIP URL and the date range for which the report-generated information. You can view the media information and CDR-CMR dump from the CDR-CMR search results window. The media information and CDR-CMR dump information display in separate windows.
- Export CDR/CMR - Available for CAR administrators. With this feature, you can export CDR/CMR dump information, for a given date range in the CSV format, to a location that you choose on your computer. You can also view the file size of the dump information and delete CDR/CMR files.

Note CAR provides reporting capabilities for three levels of users: administrators, managers, and individual users. However, only CAR administrators can use CDR Search.

Before You Begin

Make sure that you set the Unified Communications Manager service parameters CDR Enabled Flag and Call Diagnostics Enabled to **True** (enabled), so the system can generate CDR/CMR data. By default, the system disables these service parameters. For more information about these service parameters, see the Configure CDR Service Parameters.

All CAR reports use CDR data. Be sure to have the most current CDR data from which to build your reports. By default, CDR data loads continuously 24 hours a day, 7 days a week. However, you can set the loading time, interval, and duration as needed. For more information, see Set Up CDR Load Schedule.

Note After you log in to the CAR main window, the following warning may display if Unified Communications Manager is also activated: “Warning: In some servers in this cluster the CDR Enabled Flag is false and so CDR entries may not be generated for all the calls that are made in this cluster.” Some clusters have multiple nodes where some of the nodes do not run Unified Communications Manager services. This warning checks all nodes in the cluster regardless of Unified Communications Manager service activation status. Ignore the warning after manually checking the CDR Enabled Flag parameter settings for all the Unified Communications Manager service subscribers.

Generate CDR Search by User

Only CAR administrators use the CDR Search by User/Phone Number/SIP URL feature.

This section describes how to show the details of CDR data based on a user or phone number or SIP URL feature. You can search CDR data by user or directory number (calling, original called, or final called) to analyze call details for the oldest 100 records that satisfy the search criteria. If more than 100 records are returned, the system truncates the results. You can search for calls by using specific numbers for the period that you specify, which helps you trace calls that are placed from or to any specific numbers for diagnostic or informational purposes. All associated records, such as transfer, mobility, silent monitoring and recording, and conference calls, appear together as a logical group.

Procedure

Step 1 Choose **CDR > Search > By User/Phone Number/SIP URL**.

The CDR Search window displays.

Note
You can enter a wildcard pattern like "!" or "X" to search on phone number or SIP URL. The "!" represents any n digit that has 0-9 as each of its digits, and the "X" represents a single digit in the range 0-9.

Step 2 Perform one of the following tasks:

a) To search CDRs based on Internal Phone Number/SIP URLs, enter the value in the Phone Number/SIP URL field and click **Add Phone Number/SIP URL**.

b) To search CDRs based on user, click the **Search Internal Phone Number/SIP URL based User** link, enter the first few letters of the first and/or the last name in the First Name and/or the Last Name fields, and click **Search**. When the results display, click the **Select** link next to the result that you want to include. Click **Close**.

The phone number or SIP URL displays in the Phone Number/SIP URL(s) box.

Note
To delete an item from the Report Criteria box, click **Remove Phone Number/SIP URL(s)** . You can delete all items from the Report Criteria box by clicking **Remove All Phone Number/SIP URL(s)** .

Step 3 Choose the date and time range of the period for which you want to see CDR data for the specified user or phone number or SIP URL. The current time displays in both Coordinated Universal Time (UTC) and local time and uses the following rules:

a) The UTC and local time comprise a numeric string of mmddyyyy hhmmss, as in January 15, 2007 12:00:00.

b) The default FromDate and ToDate values display in UTC time.

c) The default ToDate specifies the current time of the server in UTC time.

d) The default FromDate value specifies the ToDate value minus 1hour. For example, if ToDate = January 15, 2007 12:00:00, the FromDate default value = January 15, 2007 11:00:00 (all times in UTC).

Step 4 Choose whether to run the CDR Search report with grouping or without grouping. If you choose with grouping, check the check box beside **With Grouping**. The default value specifies Without Grouping.

Note
With Grouping choice means that the system returns CDR records that match the date and time range for the search, and groups them with their associated records. Without Grouping returns all the CDR records that match the date and time range without grouping all the associated records for each call.

Step 5 Click **OK**.

The CDR-CMR Search Results window displays. The system only displays the oldest 100 records that fall into the date range that you configured in Step 3, on page 6.

Step 6 To view the CMR data, click **Others**. To view both the CDR and CMR data fields, click **View**.

Step 7 To mail the report to e-mail recipient(s), follow the steps in the Mail Reports.

Generate CDR Search by Gateway

Only CAR administrators use the CDR Search by Gateway feature.

This section describes how to search CDR data based on a specific gateway type or on those gateways that use a chosen route pattern.

Procedure

Step 1 Choose **CDR > Search > By Gateway**.

The CDR Search by Gateway window displays.

Step 2 Perform one of the following tasks:

a) To display all the gateways that are configured in the system, click **Gateway Types** in the Gateway Types and Route Patterns pane.
b) To expand the tree structure and display the type of gateway from which you can choose, click the icon next to Gateway types.
c) To choose a gateway that uses a particular route pattern/hunt pilot, rather than a gateway type, click **Route Patterns/Hunt Pilots** in the Gateway Types and Route Patterns pane. The gateways that are associated with the configured Route Patterns/Hunt Pilots display.
d) To expand the tree structure and display route pattern/hunt pilot for you to choose, click the icon next to Route Patterns/Hunt Pilots.

Note
You can also search for specific route patterns/hunt lists by entering part of the name of the route pattern(s)/hunt pilot(s) in the Route Patterns/Hunt Pilots box in the column on the left side of the window. CAR searches for the route pattern(s)/hunt list(s) that matches the search string.

Step 3 Choose a gateway type from the list.

The gateway name displays in the List of Gateways box.

Note
The List of Gateways box displays up to 200 gateways that are configured for the chosen gateway type.

Step 4 In the List of Gateways box, choose the gateways that you want to include in the report.

Note
You can generate a report for up to 15 gateways at a time. If you choose more than 15 gateways, you will receive a message that states “Select 15 or fewer gateways to generate new report.”

Step 5 To move the chosen gateway to the list of Selected Gateways box, click the down arrow.

The gateway that you chose displays in the Selected Gateways box.

Step 6 Choose the date and time range of the period during which you want to search for CDR data. The current time displays in both Coordinated Universal Time (UTC) and local time and uses the following rules:

a) The UTC and local time comprise a numeric string of mmddyyyy hhmmss, as in January 15, 2007 12:00:00.
b) The default FromDate and ToDate values display in UTC time.
c) The default ToDate specifies the current time of the server in UTC time.

d) The default FromDate value specifies the ToDate value minus 1hour. For example, if ToDate = January 15, 2007 12:00:00, the FromDate default value = January 15, 2007 11:00:00 (all times in UTC).

Step 7 Choose whether to run the CDR Search report with grouping or without grouping. If you chose with grouping, check the check box beside **With Grouping**. The default specifies Without Grouping.

Note
With Grouping choice means that the system returns CDR records that match the date and time range for the search, and groups them with their associated records. Without Grouping returns all the CDR records that match the date and time range without grouping all the associated records for each call.

Step 8 Click **OK**.

The CDR-CMR Results window displays. The system only displays the oldest 100 records that fall into the date and time range that you configured in Step 6, on page 7. If more than 100 records are returned, the system truncates the results.

Step 9 To view the CMR data, click **Others** . To view both the CDR and CMR data fields, click **View**.

Step 10 To mail the report to e-mail recipient(s), follow the steps in the Mail Reports.

Generate CDR Search by Cause for Call Termination

Only CAR administrators use the CDR Search by Cause for Call Termination feature. The following tables contain the call termination cause codes by which you may search.

Table 2: Call Termination Cause Codes

Code	Description
0	No error
1	Unallocated (unassigned) number
2	No route to specified transit network (national use)
3	No route to destination
4	Send special information tone
5	Misdialed trunk prefix (national use)
6	Channel unacceptable
7	Call awarded and being delivered in an established channel
8	Preemption
9	Preemption - circuit reserved for reuse
16	Normal call clearing
17	User busy

Code	Description
18	No user responding
19	No answer from user (user alerted)
20	Subscriber absent
21	Call rejected
22	Number changed
26	Non-selected user clearing
27	Destination out of order
28	Invalid number format (address incomplete)
29	Facility rejected
30	Response to STATUS ENQUIRY
31	Normal, unspecified
34	No circuit/channel available
38	Network out of order
39	Permanent frame mode connection out of service
40	Permanent frame mode connection operational
41	Temporary failure
42	Switching equipment congestion
43	Access information discarded
44	Requested circuit/channel not available
46	Precedence call blocked
47	Resource unavailable, unspecified
49	Quality of Service not available
50	Requested facility not subscribed
53	Service operation violated
54	Incoming calls barred
55	Incoming calls barred within Closed User Group (CUG)
57	Bearer capability not authorized
58	Bearer capability not presently available

Code	Description
62	Inconsistency in designated outgoing access information and subscriber class
63	Service or option not available, unspecified
65	Bearer capability not implemented
66	Channel type not implemented
69	Requested facility not implemented
70	Only restricted digital information bearer capability is available (national use)
79	Service or option not implemented, unspecified
81	Invalid call reference value
82	Identified channel does not exist
83	A suspended call exists, but this call identity does not
84	Call identity in use
85	No call suspended
86	Call having the requested call identity has been cleared
87	User not member of CUG (Closed User Group)
88	Incompatible destination
90	Destination number missing and DC not subscribed
91	Invalid transit network selection (national use)
95	Invalid message, unspecified
96	Mandatory information element is missing
97	Message type nonexistent or not implemented
98	Message is not compatible with the call state, or the message type is nonexistent or not implemented
99	An information element or parameter does not exist or is not implemented
100	Invalid information element contents
101	The message is not compatible with the call state
102	Call terminated when timer expired; a recovery routine executed to recover from the error
103	Parameter nonexistent or not implemented - passed on (national use)
110	Message with unrecognized parameter discarded

Code	Description
111	Protocol error, unspecified
122	Precedence Level Exceeded
123	Device not Preemptable
125	Out of bandwidth (Cisco specific)
126	Call split (Cisco specific)
127	Interworking, unspecified
129	Precedence out of bandwidth

Table 3: Cisco-Specific Call Termination Cause Codes

Decimal Value Code	Hex Value Code	Description
262144	0x40000	Conference Full (was 124)
393216	0x60000	Call split (was 126) This code applies when a call terminates during a transfer operation because it was split off and terminated (was not part of the final transferred call). This can help determine which calls terminated as part of a feature operation.
458752	0x70000	Conference drop any party/Conference drop last party (was 128)
16777257	0x1000029	CCM_SIP_400_BAD_REQUEST
33554453	0x2000015	CCM_SIP_401_UNAUTHORIZED
50331669	0x3000015	CCM_SIP_402_PAYMENT_REQUIRED
67108885	0x4000015	CCM_SIP_403_FORBIDDEN
83886081	0x5000001	CCM_SIP_404_NOT_FOUND
100663359	0x600003F	CCM_SIP_405_METHOD_NOT_ALLOWED
117440591	0x700004F	CCM_SIP_406_NOT_ACCEPTABLE
134217749	0x8000015	CCM_SIP_407_PROXY_AUTHENTICATION_REQUIRED
150995046	0x9000066	CCM_SIP_408_REQUEST_TIMEOUT
184549398	0xB000016	CCM_SIP__410_GONE
201326719	0xC00007F	CCM_SIP_411_LENGTH_REQUIRED
234881151	0xE00007F	CCM_SIP_413_REQUEST_ENTITY_TOO_LONG
251658367	0xF00007F	CCM_SIP_414_REQUEST_URI_TOO_LONG

Decimal Value Code	Hex Value Code	Description
268435535	0x1000004F	CCM_SIP_415_UNSUPPORTED_MEDIA_TYPE
285212799	0x1100007F	CCM_SIP_416_UNSUPPORTED_URI_SCHEME
83886207	0x1500007F	CCM_SIP_420_BAD_EXTENSION
369098879	0x1600007F	CCM_SIP_421_EXTENSION_REQUIRED
402653311	0x1800007F	CCM_SIP_423_INTERVAL_TOO_BRIEF
419430421	0x19000015	CCM_SIP_424_BAD_LOCATION_INFO
1073741842	0x40000012	CCM_SIP_480_TEMPORARILY_UNAVAILABLE
1090519081	0x41000029	CCM_SIP_481_CALL_LEG_DOES_NOT_EXIST
1107296281	0x42000019	CCM_SIP_482_LOOP_DETECTED = 0x42000000 + EXCHANGE_ROUTING_ERROR
1124073497	0x43000019	CCM_SIP_483_TOO_MANY_HOOPS
1140850716	0x4400001C	CCM_SIP_484_ADDRESS_INCOMPLETE
1157627905	0x45000001	CCM_SIP_485_AMBIGUOUS
1174405137	0x46000011	CCM_SIP_486_BUSY_HERE
1191182367	0x4700001F	CCM_SIP_487_REQUEST_TERMINATED
1207959583	0x4800001F	CCM_SIP_488_NOT_ACCEPTABLE_HERE
1258291217	0x4B000011	CCM_SIP_491_REQUEST_PENDING
1291845649	0x4D000011	CCM_SIP_493_UNDECIPHERABLE
1409286185	0x54000029	CCM_SIP_500_SERVER_INTERNAL_ERROR
1442840614	0x56000026	CCM_SIP_502_BAD_GATEWAY
1459617833	0x57000029	CCM_SIP_503_SERVICE_UNAVAILABLE
-1493172161	0xA700003F	CCM_SIP_503_SERVICE_UNAVAILABLE_SER_OPTION_NOAVAIL
1476395110	0x58000066	CCM_SIP__504_SERVER_TIME_OUT
1493172351	0x5900007F	CCM_SIP_505_SIP_VERSION_NOT_SUPPORTED
1509949567	0x5A00007F	CCM_SIP_513_MESSAGE_TOO_LARGE
2701131793	0xA1000011	CCM_SIP_600_BUSY_EVERYWHERE
2717909013	0xA2000015	CCM_SIP_603_DECLINE
2734686209	0xA3000001	CCM_SIP_604_DOES_NOT_EXIST_ANYWHERE

Decimal Value Code	Hex Value Code	Description
2751463455	0xA400001F	CCM_SIP_606_NOT_ACCEPTABLE

This section describes how to search for information about the cause for termination of a call.

Procedure

Step 1 Choose **CDR** > **Search** > **By Cause for Call Termination**.

The Cause for Call Termination window displays.

Step 2 To search for the cause(s) of the termination of a call, highlight the cause(s) in the list of call termination causes.

Tip
You can select more than one cause by clicking the causes that you want while holding down the Ctrl key on your keyboard. You can also select all causes in the list by holding down the Shift key while clicking all causes.

Step 3 With the desired cause(s) highlighted, click the down arrow above the Selected Call Termination Causes box.

The cause(s) that you selected displays in the Selected Call Termination Causes list box.

Note
To view a complete list of Call Termination Causes, see the “Call Termination Cause Codes” section in the Cisco Unified Communications Manager Call Detail Records Administration Guide.

Step 4 Choose the date and time range of the period during which you want to search CDR data. When you configure the time range, use UTC.

Step 5 Choose whether to run the CDR Search report with grouping or without grouping. If you chose with grouping, check the box beside **With Grouping**. The default specifies Without Grouping.

Note
With Grouping choice means that the system returns CDR records that match the date and time range for the search and groups them with their associated records. Without Grouping returns all the CDR records that match the date and time range without grouping all the associated records for each call.

Step 6 Click **OK**.

The Call Termination Details window displays the report criteria for which the report was generated, along with the total number of calls that were placed during the given time range as well as how many call legs and the percentage of call legs for each cause code that is selected. The system displays only the oldest 100 records that fall into the date and time ranges that you configured in Step 4, on page 13. If more than 100 records are returned, the system truncates the results.

Step 7 To view CDRs, see the View Call Termination Details, on page 14.

View Call Termination Details

This section describes how to view the call termination details.

Before you begin

Follow the steps in the Generate CDR Search by Cause for Call Termination, on page 8 to display the Call Termination Details window.

Procedure

Step 1 In the Select CDRs field, check the check box beside the individual CDRs that you want to view or if you want to view all CDRs in the list, check the **Select CDRs** check box.

Step 2 After you have chosen the CDRs that you want to view, click **View CDRs**.

The CDR-CMR Search Results window displays.

To view the media information and the CDR-CMR dump records, click **Others** and **View** links.

Step 3 To print information that displays on the window, click **Edit** in your browser. Right-click **Select All** to highlight the section of the report that you want to print. Click **Print**.

Step 4 To mail the report in an e-mail, click **Send Report** and follow the procedure that is described in the Mail Reports.

Generate CDR Search by Call Precedence

Only CAR administrators use the CDR Search by Call Precedence Levels feature.

This section describes how to search for calls according to call precedence.

Procedure

Step 1 Choose **CDR** > **Search** > **By Call Precedence Level**.

The CDR Search by Precedence Levels window displays.

Step 2 In **Select Precedence Levels**, check the check boxes for the call precedence levels on which you want to search as described in the following table.

Table 4: Call Precedence Levels

Voice Quality	Description
Flash Override	Highest precedence setting for MLPP calls.
Flash	Second highest precedence setting for MLPP calls.
Immediate	Third highest precedence setting for MLPP calls.

Voice Quality	Description
Priority	Fourth highest precedence setting for MLPP calls.
Routine	Lowest precedence setting for MLPP calls.

Note
The Executive Override precedence level that is mentioned in the MLPP Precedence level on the Administration page will be considered as Flash Override in this report.

Note
To check the check boxes of every precedence level, click **Select All**. To clear the check boxes, click **Clear All**.

Step 3 In the **From Date** field, choose the date and time from which you want CDRs searched. The current time displays in both Coordinated Universal Time (UTC) and local time and uses the following rules:

a) The UTC and local time comprise a numeric string of mmddyyyy hhmmss, as in January 15, 2007 12:00:00.
b) The default FromDate and ToDate values display in UTC time.
c) The default ToDate specifies the current time of the server in UTC time.
d) The default FromDate value specifies the ToDate value minus 1hour. For example, if ToDate = January 15, 2007 12:00:00, then the FromDate default value = January 15, 2007 11:00:00 (all times in UTC).

Step 4 In the **To Date** field, choose the date and time to which you want CDRs searched.

Step 5 Choose whether to run the CDR Search report With Grouping or Without Grouping. If you chose. With Grouping, check the check box beside **With Grouping**. The default value specifies Without Grouping.

Note
With Grouping, choice means that the system returns CDR records that match the date and time range for the search and groups them with their associated records. Without Grouping returns all the CDR records that match the date and time range without grouping all the associated records for each call.

Step 6 Click **OK**.

The Call Precedence Details window displays and shows the call precedence levels and values, number of call legs, and percentage of call legs.

Step 7 In the Select CDRs column, check the check boxes of the CDRs at which you want to look.

Step 8 Click **View CDRs**.

The CDR-CMR Search by Precedence Levels - CDR-CMR Search Results window displays. The system displays only the oldest 100 records that fall into the date and time ranges that you configured in Step 3, on page 15 and Step 3, on page 15Step 4, on page 15. If more than 100 records are returned, the system truncates the results.

Step 9 To view the CMR data, click **Others**. To view both the CDR and CMR data fields, click **View**.

Step 10 To mail the report to e-mail recipient, click **Send Report** and follow the steps in the Mail Reports.

Generate CDR Search for Malicious Calls

Only CAR administrators use the CDR Search for Malicious Calls feature.

This section describes how to search for malicious calls.

Procedure

Step 1 Choose **CDR > Search > Malicious Calls**.

The CDR Search for Malicious Calls window displays.

Step 2 Perform one of the following tasks:

a) In the Select Phone Number/SIP URL(s) box, enter the phone number or SIP URL in the Phone Number/SIP URL field and click **Add Phone Number/SIP URL**.

The phone number or SIP URL of the user displays in the Selected Phone Number/SIP URL(s) box.

b) To search for a user phone number or SIP URL, click the **Search Internal Phone Number/SIP URL based User** link, enter the first few letters of the first and/or last name in the First Name and/or Last Name fields, and click the **Search** button. When the results display, click the **Select** link next to the result that you want to include. The phone number or SIP URL of the user displays in the Selected Phone Number/SIP URLs box. Click **Close**.

Note
To remove the phone number or SIP URL, highlight the phone number or SIP URL that you want to remove and click **Remove Phone Number/SIP URL(s)**. To remove all phone numbers or SIP URL(s), click **Remove All Phone Number/SIP URL(s)**.

Step 3 Choose the date and time range of the period when you want to search for CDR data. The current time displays in both Coordinated Universal Time (UTC) and local time and uses the following rules:

a) The UTC and local time comprise a numeric string of mmddyyyy hhmmss, as in January 15, 2007 12:00:00.
b) The default FromDate and ToDate values display in UTC time.
c) The default ToDate specifies the current time of the server in UTC time.
d) The default FromDate value specifies the ToDate value minus 1hour. For example, if ToDate = January 15, 2007 12:00:00, then the FromDate default value = January 15, 2007 11:00:00 (all times in UTC).

Step 4 Choose whether to run the CDR Search report With Grouping or Without Grouping. If you chose with grouping, check the box beside **With Grouping**. The default value specifies Without Grouping

Note
With Grouping means that the system returns CDR records that match the date and time range for the search and groups them with their associated records. Without Grouping returns all the CDR records that match the date and time range without grouping all the associated records for each call together.

Step 5 Click **OK**.

The CDR-CMR Search Results window displays. The system only displays the oldest 100 records that fall into the date and time ranges that you configured in Step 3, on page 16. If more than 100 records are returned, the system truncates the results.

Step 6 To view the CMR data, click **Others**. To view both the CDR and CMR data fields, click **View**.

Step 7 To mail the report to e-mail recipients, follow the steps in the Mail Reports.

Generate CDR Search for Call Types

Only CAR administrators use the CDR Search for Different Call Types feature.

This section describes how to search for different call types.

Procedure

Step 1 Choose **CDR** > **Search** > **By Call Types**.

The CDR Search for Different Call Types window displays.

Note
You can enter a wildcard pattern like "!" or "X" to search on phone number or SIP URL. The "!" represents any n digit that has 0-9 as each of its digits, and the "X" represents a single digit in the range 0-9.

Step 2 Choose the call type from the **Select Call Type** drop down list.

The following is a list of the call types:

- **Successful IME Call**: Calls that were successfully routed through IME trunks.
- **Failed IME Calls**: Calls that tried to route through the IME trunk, but failed.
- **IME Calls with Fallback to Alternate Route**: Calls which were initially routed through the IME trunk, but due to some reason (for example, poor QoS), the fallback mechanism was initiated and these calls were re-routed mid-call to an alternate route. The alternate route is typically a PSTN route.
- **Successful Fallback Calls to Alternate Route**: Calls which successfully fell back to the alternate route. The alternate route is typically a PSTN route.
- **Failed Fallback Calls to Alternate Route**: Calls which failed to fall back to the alternate route.
- **Calls on Alternate Route due to IME Redirection**: Calls that tried to route (at call setup) to IME, but for some reason were routed to an alternate route. The alternate route is typically a PSTN route.

Step 3 Perform one of the following tasks:

a) To search CDRs based on phone numbers/SIP URLs, enter the phone number or SIP URL in the Phone Number/SIP URL field and click **Add Phone Number/SIP URL** .

b) To search CDRs based on user, click the **Search Internal Phone Number/SIP URL based User** link, enter the first few letters of the first and/or the last name in the First Name and/or Last Name fields, and click **Search**. When the results display, click the **Select** link next to the result that you want to include. Click **Close**.

The phone number or SIP URL displays in the Selected Phone Number/SIP URL(s) box.

Note
To delete an item from the Report Criteria box, click the **Remove Phone Number/SIP URL(s)** button. You can delete all items from the Report Criteria box by clicking the **Remove All Phone Number/SIP URL(s)** .

Step 4 Current time displays in both Coordinated Universal Time (UTC) and local time. The UTC and local time comprise a numeric string of mmddyyyy hhmmss, as in January 15, 2007 12:00:00.

Step 5 From the **Select TimeZone** field, choose the time zone that you want to use to search the CDRs. Options include your local time zone and Greenwich Mean Time (GMT).

Step 6 In the **From Date** field and the **To Date** field, choose the date and time from and to which you want to search the CDRs, respectively. The times in the From and To fields use the following rules:

a) The default FromDate and ToDate values display in UTC time.
b) The default ToDate specifies the current time of the server in UTC time.
c) The default FromDate value specifies the ToDate value minus 1hour. For example, if ToDate = January 15, 2007 12:00:00, then the FromDate default value = January 15, 2007 11:00:00 (all times in UTC).

Step 7 Click **OK**.

The CDR-CMR Search Results window displays. The system displays only the oldest 100 records that fall into the date and time ranges that you configured in Step 3 and Step 4. If more than 100 records are returned, the system truncates the results.

Step 8 To view the CMR data, click **Others**. To view both the CDR and CMR data fields, click **View**.

Step 9 To mail the report to e-mail recipient(s), click **Send Report** and follow the steps in the Mail Reports.

CDR Search Results

The CDR search allows users to view the CDR/CMR fields as described in the table. The CDR search retrieves the CDR/CMR files from the tbl_billing_data and tbl_billing_error tables of the CAR database.

See the following table.

Table 5: CDR Search Results

Field	Description
Sl No	Specifies the serial or record number.
Call Type	Specifies the type of call: simple, transfer, forward, pickup, conference, refer, replaces, or redirection.
GCID_CMIdGCID_CallId	Specifies the call identifiers that are associated with all the records for the entire call.
Orig Node IdDest Node Id	Specifies the server where the call originator/destination was registered at the time of the call.
Orig Leg IdDest Leg Id	Specifies the unique identifiers to the originating/destination leg of a call.
Calling NoCalling No Partition	The calling number specifies the directory number where the call originated. The calling partition specifies the partition that is associated with the calling party.

Field	Description
Called NoCalled No Partition	The called number specifies the directory number from which the call was initially placed and is the same as the Dest No when the call is not transferred or forwarded. The called partition specifies the partition that is associated with the called party.
Dest NoDest No Partition	The destination number specifies the directory number where the call finally terminated and is the same as the called number when the call is not transferred or forwarded. The destination number partition specifies the partition that is associated with the destination number.
Last Rd NoLast Rd No Partition	The last redirected number specifies the directory number from which the call was finally redirected. The last redirected number partition specifies the partition that is associated with the last redirected number.
Media InfoOrig Pkts Rcd Dest Pkts Rcd Orig Pkts Lost Dest Pkts Lost	Specifies the packets that were received or lost for the origination or destination leg of a call and a link to the media information.
CDR - CMR Dump	Specifies a link to the CDR and CDR dump tables. This link allows the users to view the values in the CDR/CMR fields.

Media Information

The media information table provides the following information. See the table.

Table 6: CDR Media Information

Field	Description
Origination Leg	A unique identifier for the originating leg of a call.
Destination Leg	A unique identifier for the destination leg of a call.
Parameter	The media parameters MediaTransportAdd_Ip, PayLoadCapability, MediaCap_g723BitRate, Packets Sent, Octets Sent, Packets Received, Octets Received, Packets Lost, Jitter, Latency, QoS, VideoCap_Codec, VideoCap_Bandwidth, VideoCap_Resolution, VideoTransportAddress_IP, and VideoTransportAddress_Port
Origination	The value for all the preceding parameters for the origination leg of the call.

Field	Description
Destination	The value for all the preceding parameters for the destination leg of the call.

CDR and CMR Dump Tables

The CDR and CMR dump tables provide the following information. See the following table.

Note You can view the content of the voice quality metrics field, varVQMetrics, in the Origination CMR and Destination CMR fields.

Table 7: CDR and CMR Dump Tables

Field	Description
CDR	This field specifies the call detail record fields.
Origination CMR	Only a single set of fields for origination and destination exists. You can find the origination or destination CMR by using the leg IDs. If the leg IDs of the CMR match the Orig/Dest leg ID of the CDR, the following record represents Orig/Dest CMR.
Destination CMR	Only a single set of fields for origination and destination exists. You can find the origination or destination CMR by using the leg IDs. If the leg IDs of the CMR match the Orig/Dest leg ID of the CDR, the following record represents Orig/Dest CMR.

The following example displays output from a CDR dump file:

Sample CDR Dump File Output

cdrRecordType, globalCallID_callManagerId, globalCallID_callId, origLegCallIdentifier, dateTimeOrigination, origNodeId, origSpan, origIpAddr, callingPartyNumber, callingPartyUnicodeLoginUserID, origCause_location, origCause_value, origPrecedenceLevel, origMediaTransportAddress_IP, origMediaTransportAddress_Port, origMediaCap_payloadCapability, origMediaCap_maxFramesPerPacket, origMediaCap_g723BitRate, origVideoCap_Codec, origVideoCap_Bandwidth, origVideoCap_Resolution, origVideoTransportAddress_IP, origVideoTransportAddress_Port, origRSVPAudioStat, origRSVPVideoStat, destLegIdentifier, destNodeId, destSpan, destIpAddr, originalCalledPartyNumber, finalCalledPartyNumber, finalCalledPartyUnicodeLoginUserID, destCause_location, destCause_value, destPrecedenceLevel, destMediaTransportAddress_IP, destMediaTransportAddress_Port, destMediaCap_payloadCapability, destMediaCap_maxFramesPerPacket, destMediaCap_g723BitRate, destVideoCap_Codec, destVideoCap_Bandwidth, destVideoCap_Resolution, destVideoTransportAddress_IP, destVideoTransportAddress_Port, destRSVPAudioStat, destRSVPVideoStat, dateTimeConnect, dateTimeDisconnect, lastRedirectDn, pkid, originalCalledPartyNumberPartition, callingPartyNumberPartition, finalCalledPartyNumberPartition, lastRedirectDnPartition, duration, origDeviceName, destDeviceName, origCallTerminationOnBehalfOf, destCallTerminationOnBehalfOf, origCalledPartyRedirectOnBehalfOf,

lastRedirectRedirectOnBehalfOf, origCalledPartyRedirectReason, lastRedirectRedirectReason, destConversationId, globalCallId_ClusterID, joinOnBehalfOf, comment, authCodeDescription, authorizationLevel, clientMatterCode, origDTMFMethod, destDTMFMethod, callSecuredStatus, origConversationId, origMediaCap_Bandwidth, destMediaCap_Bandwidth, authorizationCodeValue, outpulsedCallingPartyNumber, outpulsedCalledPartyNumber, origIpv4v6Addr, destIpv4v6Addr, origVideoCap_Codec_Channel2, origVideoCap_Bandwidth_Channel2, origVideoCap_Resolution_Channel2, origVideoTransportAddress_IP_Channel2, origVideoTransportAddress_Port_Channel2, origVideoChannel_Role_Channel2, destVideoCap_Codec_Channel2, destVideoCap_Bandwidth_Channel2, destVideoCap_Resolution_Channel2, destVideoTransportAddress_IP_Channel2, destVideoTransportAddress_Port_Channel2, destVideoChannel_Role_Channel2, IncomingProtocolID, IncomingProtocolCallRef, OutgoingProtocolID, OutgoingProtocolCallRef, currentRoutingReason, origRoutingReason, lastRedirectingRoutingReason, huntPilotPartition, huntPilotDN

INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, VARCHAR(50), VARCHAR(128), INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, VARCHAR(64), VARCHAR(64), INTEGER, INTEGER, INTEGER, INTEGER, VARCHAR(50), VARCHAR(50), VARCHAR(128), INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, VARCHAR(64), VARCHAR(64), INTEGER, INTEGER, VARCHAR(50), UNIQUEIDENTIFIER, VARCHAR(50), VARCHAR(50), VARCHAR(50), VARCHAR(50), INTEGER, VARCHAR(129), VARCHAR(129), INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, VARCHAR(50), INTEGER, VARCHAR(2048), VARCHAR(50), INTEGER, VARCHAR(32), INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, VARCHAR(32), VARCHAR(50), VARCHAR(50), VARCHAR(64), VARCHAR(64), INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, INTEGER, VARCHAR(32), INTEGER, VARCHAR(32), INTEGER, INTEGER, INTEGER, VARCHAR(50), VARCHAR(50)

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