CHAPTER 13

Configuring CDR Repository Manager

Use the CDR Management Configuration window to set the amount of disk space to allocate to call detail record (CDR) and call management record (CMR) files, configure the number of days to preserve files before deletion, and configure up to three billing application server destinations for CDRs. The CDR repository manager service repeatedly attempts to deliver CDR and CMR files to the billing servers that you configure in the CDR Management Configuration window until it delivers the files successfully, until you change or delete the billing application server on the CDR Management Configuration window, or until the files fall outside the preservation window and are deleted.

Unified CM BE 5000 only: The CDR and CMR files get offloaded to the external billing application servers by using the time interval that you have previously specified in the **CDR File Time Interval** enterprise parameter in Cisco Unified Communications Manager. After the Communications Manager generates the files, the CDR Agent and CDR Repository Manager take over. On each Communications Manager server, the CDR agent pushes the CDR flat files to the publisher. The CDR Repository Manager pushes the files to the external billing application servers.

Note To access the Enterprise Parameters Configuration window, open Cisco Unified Communications Manager Administration and choose **System** -> **Enterprise Parameters**. The **CDR File Time Interval** parameter specifies the time interval for collecting CDR data. For example, if this value is set to 1, each file will contain 1 minute of CDR data (CDRs and CMRs, if enabled). The external billing server and CAR database will not receive the data in each file until the interval has expired, so consider how quickly you want access to the CDR data when you decide what interval to set for this parameter. For example, setting this parameter to 60 means that each file will contain 60 minutes worth of data, but that data will not be available until the 60-minute period has elapsed, and the records are written to the CAR database. and the CDR files are sent to the configured billing server(s). The default value equals 1. The minimum value specifies 1, and the maximum value specifies 1440. The unit of measure for this required field represents a minute.

Both the CDR Agent and the CDR Repository Manager process files with an interval that is independent of the CDR File Time Interval. The CDR Repository Manager sends all existing CDR files to the billing application servers, sleeps for 6 seconds before checking the new files to send, and continues that 6-second interval. If the destination (the external billing application servers) does not respond, the system attempts the process again by using a doubled length of the sleep interval (12 seconds). Each delivery failure results in double the sleep time (6, 12, 24, 48,and so on, seconds) until 2 minutes occurs, then stays at 2-minute intervals until successful delivery occurs. After successful delivery, the 6-second interval automatically resumes.

Users cannot configure the 6-second processing time, with the sleep time interval doubling in case of failure. Users can configure only the **CDR File Time Interval** enterprise parameter. No alert gets sent after the first file delivery failure. By default, the system generates the CDRFileDeliveryFailed alert after

the second delivery failure of the Cisco CDR Repository Manager service to deliver files to any billing application server. You can configure the alert to send you an e-mail or to page you. For information on configuring alerts, see the "Working with Alerts" chapter in the *Cisco Unified Real-Time Monitoring Tool Administration Guide*.

The system generates the CDRFileDeliveryFailureContinues syslog alarm upon subsequent failures to deliver the files to the billing application servers.

The CDR Agent behaves in almost the same manner. First, it sends all the existing CDR files to the publisher. If no additional files to send exist, the CDR Agent sleeps for 6 seconds before checking for new files. Each delivery failure results in the immediate change of the sleep interval to 1 minute, then says at 1-minute intervals until successful delivery. After the first successful delivery of files, the 6-second interval resumes.

The system sends no alert after the first file delivery failure by the CDR Agent. By default, the system generates the CDRAgentSendFileFailed alert after the second delivery failure of the CDR Agent. You can configure the alert to send you an e-mail or to page you. For information on configuring alerts, see the "Working with Alerts" chapter in the *Cisco Unified Real-Time Monitoring Tool Administration Guide*

The system generates the CDRAgentSendFileFailedContinues syslog alarm upon subsequent failures to deliver the files.

If you need to start or restart the file transfer timer for any reason, you can restart the Cisco CDR Repository Manager or CDR Agent process by going to the Cisco Unified Serviceability window and selecting **Tools -> Control Center -> Network Services**.

When you enable the file deletion based on high water mark parameter, the CDR repository manager service monitors the amount of disk space that CDR and CMR files use. If disk usage exceeds the high water mark that you configure, the system purges the CDR and CMR files that have been successfully delivered to all destinations and loaded into the CAR database (if CAR is activated) until the disk space reaches the low water mark or the system deletes all successfully delivered files. If disk usage still exceeds the high water mark after the system deletes all successfully delivered files, it does not delete any more files, unless the disk usage still exceeds the disk allocation that you configure. If the disk usage still exceeds the disk allocation that you configure, the system purges files beginning with the oldest, regardless of whether the files fall within the preservation window or have been successfully delivered, until the disk usage falls below the high water mark.

Note Regardless of whether you enable the deletion of files based on the high water mark parameter, if disk usage exceeds the disk allocation that you configure, the CDR repository manager service deletes CDR and CMR files, beginning with the oldest files, until disk utilization falls below the high water mark.

The Cisco Log Partition Monitoring Tool service monitors the disk usage of CDR and CMR flat files that have not been delivered to the CDR repository manager.

Unified CM only: If the disk usage of the log partition on a server exceeds the configured limit and the service has deleted all other log and trace files, the log partition monitor service deletes CDR/CMR files on the subsequent nodes that have not been delivered to the CDR repository manager.

For more information on log partition monitoring, refer to the *Cisco Unified Real-Time Monitoring Tool Administration Guide*.

This chapter contains the following topics:

Configuring the CDR Repository Manager General Parameters

To set disk utilization and file preservation parameters for CDRs, perform the following procedure:

Procedure

Step 1 Choose **Tools > CDR Management**.

The CDR Management window displays.

Step 2 Click the CDR Manager general parameter value that you want to change.

Step 3 Enter the appropriate parameters, as described in Table 13-1.

Step 4 Click **Update**.

Tip At any time, you can click **Set Default** to specify the default values. After you set the defaults, click **Update** to save the default values.

Additional Information

See the "Related Topics" section on page 13-8.

CDR Repository Manager General Parameter Settings

Table 13-1 describes the available settings in the General Parameters section of the CDR Management Configuration window. For related procedures, see the "Related Topics" section on page 13-8.

Table 13-1 CDR Repository Manager General Parameter Settings

Field	Description
Disk Allocation (MB)	Choose the number of megabytes that you want to allocate to CDR and CMR flat file storage. The default disk allocation and range vary depending on the size of the server hard drive. **Note** The maximum CAR database size equals 6 GB for a Cisco Unified Communications Manager server and 3 GB for a Cisco Unified Communications Manager Business Edition 5000 server. **Note** If disk usage exceeds the allocated maximum disk space for CDR files, the system generates the CDRMaximumDiskSpaceExceeded alert and deletes all successfully processed files (those delivered to billing servers and loaded to CAR). If disk usage still exceeds the allocated disk space, the system deletes undelivered files and files within the preservation duration, starting with the oldest, until disk utilization falls below the high water mark. **Note** If you have a large system and do not allocate enough disk space, the system may delete the CDR and CMR files before the CAR Scheduler loads the files into the CAR database. For example, if you configure the CAR Scheduler to run once a day and you set the disk allocation to a value that is not large enough to hold the CDR and CMR files that are generated in a day, the system will delete the files before they are loaded into the CAR database.

Table 13-1 CDR Repository Manager General Parameter Settings (continued)

Field	Description
High Water Mark (%)	This field specifies the maximum percentage of the allocated disk space for CDR and CMR files. For example, if you choose 2000 megabytes from the Disk Allocation field and 80% from the High Water Mark (%) field, the high water mark equals 1600 megabytes. In addition to the high water mark percentage, the number of CDRs in the CAR database cannot exceed two million records for a Cisco Unified Communications Manager server and one million records for a Cisco Unified Communications Manager Business Edition 5000 server. When the disk usage exceeds the percentage that you specify, or the total number of CDRs is exceeded, and the Disable CDR/CMR Files Deletion Based on HWM check box is unchecked, the system automatically purges all successfully processed CDR and CMR files (those delivered to billing servers and loaded to CAR) beginning with the oldest files to reduce disk usage to the amount that you specify in the Low Water Mark (%) drop-down list box. If the disk usage still exceeds the low water mark or high water mark, the system does not delete any undelivered or unloaded files, unless the disk usage exceeds the disk allocation. If you check the Disable CDR/CMR Files Deletion Based on HWM check box, the system does not delete CDRs and CMRs based on the percentage that you specify in this field. **Note** If CDR disk space exceeds the high water mark, the system generates the CDRHWMExceeded alert.
Low Water Mark (%)	This field specifies the percentage of disk space that is allocated to CDR and CMR files that is always available for use. For example, if you choose 2000 megabytes from the Disk Allocation field and 40% from the Low Water Mark (%) field, the low water mark equals 800 megabytes.
CDR / CMR Files Preservation Duration (Days)	Choose the number of days that you want to retain CDR and CMR files. The CDR Repository Manager deletes files that fall outside the preservation window. **Note** If you continuously receive the CDRMaximumDiskSpaceExceeded alarm, you either must increase the disk allocation or lower the number of preservation days.

Table 13-1 CDR Repository Manager General Parameter Settings (continued)

Field	Description
Disable CDR/CMR Files Deletion Based on HWM	**Note** Regardless of whether you enable the deletion of files based on the high-water mark parameter, if disk usage exceeds the disk allocation that you configure, the maximum database size, or the maximum number of records for your installation, the CDR repository manager service deletes CDR and CMR files, beginning with the oldest files, until disk utilization falls below the high water mark. If you do not want to delete CDRs and CMRs even if disk usage exceeds the percentage that you specify in the High Water Mark (%) field, check this check box. By default, this check box remains unchecked, so the system deletes CDRs and CMRs if disk usage exceeds the high water mark.
CDR Repository Manager Host Name	This field lists the host name of the CDR repository manager server.
CDR Repository Manager Host Address	This field lists the IP address of the CDR repository manager server.

Configuring Application Billing Servers

Use the following procedure to configure application billing servers to which you want to send CDRs. You can configure up to three billing servers.

Procedure

Step 1 Choose **Tools > CDR Management Configuration**.

The CDR Management Configuration window displays.

Step 2 Perform one of the following tasks:

- To add a new application billing server, click the **Add New** button.
- To update an existing application billing server, click the server host name/IP address.

Step 3 Enter the appropriate settings, as described in Table 13-2.

Step 4 Click **Add** or **Update**.

Additional Information

See the "Related Topics" section on page 13-8.

Application Billing Server Parameter Settings

Table 13-2 describes the available settings in the Billing Application Server Parameters section of the CDR Management Configuration window. For related procedures, see the "Related Topics" section on page 13-8.

Table 13-2 Application Billing Server Parameter Settings

Field	Description
Host Name/IP Address	Enter the host name or IP address of the application billing server to which you want to send CDRs. If you change the value in this field, a prompt asks whether you want to send the undelivered files to the new destination. Perform one of the following tasks: • To deliver the files to the new server, click **Yes**. • To change the server host name/IP address without sending undelivered files, click **No**. The CDR Management service marks the CDR and CMR files as successfully delivered.
User Name	Enter the user name of the application billing server.
Protocol	Choose the protocol, either FTP or SFTP, that you want to use to send the CDR files to the configured billing servers.
Directory Path	Enter the directory path on the application billing server to which you want to send the CDRs. You should end the path that you specify with a "/" or "\", depending on the operating system that is running on the application billing server. **Note** Make sure the FTP user has write permission to the directory.
Password	Enter the password that is used to access the application billing server.
Resend on Failure	When you check the Resend on Failure box, this option informs CDRM to send outdated CDR and CMR files to the billing server after the FTP or SFTP connection is restored. When the box is checked, the Resend on Failure flag is set to True. When the box is not checked, the Resend on Failure flag is set to False.[1]
Generate New Key	Click on the **Reset** button to generate new keys and reset the connection to the SFTP server.

1. There are several different scenarios that can occur. When the billing server Resend on Failure flag is set to True, all CDR files get moved to the billing server. When the Resend On Failure flag is set to False, CDR files that get generated during shutdown of the billing server get moved to the processed folder, but do not get moved to the billing server. When the Resend on Failure flag gets set to True at the beginning, and then gets changed several times, the result is that the CDR files get moved to the billing server whenever the Resend on Failure box gets checked.

Deleting Application Billing Servers

Use the following procedure to delete an application billing server.

Step 1 Choose **Tools > CDR Management**.

The CDR Management Configuration window displays.

Step 2 Check the check box next to the application billing server that you want to delete and click **Delete Selected**.

A message displays that indicates that if you delete this server, any CDR or CMR files that have not been sent to this server will not be delivered to this server and will be treated as successfully delivered files.

Tip When you delete a server, the system does not generate the CDRFileDeliveryFailed alert for the files that are not sent to that server.

Step 3 To complete the deletion, click **OK**.

Additional Information

See the "Related Topics" section on page 13-8.

Where to Find More Information

Related Topics

- Configuring the CDR Repository Manager General Parameters, page 13-3
- CDR Repository Manager General Parameter Settings, page 13-4
- Configuring Application Billing Servers, page 13-6
- Application Billing Server Parameter Settings, page 13-7
- Deleting Application Billing Servers, page 13-7

Additional Cisco Documentation

- *Cisco Unified Real-Time Monitoring Tool Administration Guide*
- *Cisco Unified Communications Manager CDR Analysis and Reporting Administration Guide*