C H A P T E R **3**

CAR System Configuration

Before you start generating reports with CAR, configure the system. In most cases, CAR provides default values; however, review the topics that this chapter provides to learn more about customizing CAR.

This chapter contains the following topics:

System Parameters Configuration

Unless you want to use the default values, you should customize a number of system parameters before you generate any reports. This section describes the system parameters. Because default values are provided for all system parameters, Cisco recommends customizing but does not require it.

This section contains the following topics:

Configuring Mail Server Parameters

To send e-mail alerts and reports by e-mail, you must specify the mail server configuration information. CAR uses the configuration information to successfully connect to the e-mail server.

This section describes how to specify e-mail server information.

Procedure

Step 1   Choose **System > System Parameters > Mail Parameters**.

The Mail Parameters window displays.

Step 2   In the Mail ID field, enter the e-mail identifier that will be used in the From field when e-mails are sent.

Step 3   In the Password field, enter the password that is used to access the server that is running the e-mail system.

> **Note**   CAR does not authenticate the user ID and password. You must disable authentication on the mail server or enter a valid user ID and password.

Step 4   In the Confirm Password field, enter the same password from Step 3 to confirm.

Step 5   In the Mail Domain field, enter the domain name for the server that is running the e-mail system.

Step 6   In the Mail Server Name field, enter the name or IP address of the server that is running the e-mail system.

Step 7   To make the changes, click the **Update** button.

Additional Information

See the "Related Topics" section on page 3-16.

Configuring the Dial Plan

The default dial plan in CAR specifies the North American numbering plan (NANP). Make sure that the dial plan is properly configured, so call classifications display correctly in the reports.

> **Note**   If you have modified the default NANP that is provided in Cisco Unified CallManager Administration, or if you are outside the NANP, be sure to configure the dial plan in CAR according to your Cisco Unified CallManager dial plan. At least one condition must exist to configure the Dial Plan. Refer to the *Cisco Unified CallManager Administration Guide* and the *Cisco Unified CallManager System Guide* for dial plan information.

To configure the dial plan, define the parameters for the outgoing call classifications. Call classifications include international, local, long distance, on net, and so on. For example, if local calls in your area equal six digits in length, you would specify a row in the dial plan as follows:

Condition	No of Digits	Pattern	Call Type
=	6	!	Local

This section describes how to update the CAR dial plan configuration.

Procedure

Step 1   Choose **System > System Parameters > Dial Plan Configuration**.

The Dial Plan Configuration window displays.

Step 2   In the Toll Free Numbers field, enter the numbers in your dial plan that can be placed without a charge.

Step 3   Update the values in the table by using the following fields:

- Condition—Select the condition of the rule where **>** represents greater than; **<** represents less than, and **=** represents a value that is equal to the specified value in the No of Digits field.

- No Of Digits—Choose the number of digits in the directory number to which this rule should be applied. If the number of digits does not impact the rule, specify NA.

- Pattern—Enter the pattern that is used for the call classification, where

  – G—Signifies classified as specified in the rule (G equals a wildcard for the gateway area code that is specified in the "Gateway Configuration" section on page 3-5.)

  – T—Retrieves the toll-free numbers that are configured in CAR.

  – !—Signifies multiple digits (any number that is more than 1 digit in length, such as 1234 or 5551234).

  – X—Signifies a single-digit number (such as 0, 1, or 9).

- Call Type—Choose the call type if the condition is satisfied.

Step 4   To add more rows, check the check box in the row below where you want to add rows and click the **Add Rows** link. The system adds a row above the row you chose. To delete a row, check the check box by the row that you want to delete and click the **Delete Rows** link.

✎
Note   CAR classifies calls on the basis of the dialed number as stored in the CDRs. If the dialed digits differ from the digits that are written in CDRs (due to number transformations), then configure the Dial Plan in CAR on the basis of how the digits show up in CDRs.

Step 5   To make the changes, click the **Update** button.

Additional Information

See the

Restoring the Default Values for the CAR Dial Plan

If you have modified the default dial plan in CAR, you can restore the default values that are based on the North American numbering plan (NANP).

Table 3-1 provides the default NANP values.

Table 3-1   Default Values for CAR Dial Plan

Condition	No of Digits	Pattern	Call Type
=	5	!	OnNet
=	7	!	Local
=	10	T!	Others
=	10	G!	Local
=	10	!	Long Distance
=	11	T!	Others
=	11	XG!	Local
=	11	!	Long Distance
>	3	011!	International

The following information explains the default table values in Table 3-1:

- Row 1—If the number of digits dialed equals 5 and the pattern is ! (more than one digit, in this case, 5 digits), the call gets classified as OnNet.

- Row 2—If the number of digits dialed equals 7 and the pattern is ! (more than one digit, in this case, 7 digits), the call gets classified as Local.

- Row 3—If the number of digits dialed is equals 10 and the pattern is T! (more than one digit, in this case a 10-digit number that starts with a Toll Free number code), the call gets classified as Others.

- Row 4—If the number of digits dialed equals 10 and the pattern is G! (more than one digit, in this case a 10-digit number that starts with a gateway code), the call gets classified as Local.

- Row 5—If the number of digits dialed equals 10 and the pattern is ! (more than one digit, in this case an 10-digit number), the call gets classified as Long Distance.

- Row 6—If the number of digits dialed equals 11 and the pattern is T! (more than one digit, in this case an 11-digit number that starts with a toll-free number code), the call gets classified as Others.

- Row 7—If the number of digits dialed equals 11 and the pattern is XG! (more than one digit, in this case an 11-digit number that starts with any single digit followed by a gateway code), the call gets classified as Local.

- Row 8—If the number of digits dialed equals 11 and the pattern is ! (more than one digit, in this case an 11-digit number), the call gets classified as Long Distance.

- Row 9—If the number of digits dialed is greater than three and that starts with 011, the call gets classified as International.

If none of the conditions gets satisfied, the call gets classified as Others. This section describes how to restore the NANP dial plan values in CAR.

Procedure

Step 1 Choose **System > System Parameters > Dial Plan Configuration**.

The Dial Plan Configuration window displays.

Step 2 Click the **Restore Defaults** button.

The restoration takes effect at midnight. To make changes take effect immediately, restart the Cisco CAR Scheduler service. For information on restarting services, see the *Cisco Unified CallManager Serviceability Administration Guide*.

Additional Information

See the "Related Topics" section on page 3-16.

Gateway Configuration

Tip Configure the gateways in CAR for existing Cisco Unified CallManager system gateways. Also, after you add gateways to Cisco Unified CallManager Administration, configure the new gateways in CAR. When gateways are deleted from the Cisco Unified CallManager system, the system automatically removes the gateways (and any configuration settings that you specified) from CAR.

CAR uses the area code information to determine whether calls are local or long distance. You must provide the Number of Ports information for each gateway to enable CAR to generate the Utilization reports.

Note "G" acts as a wildcard for the gateway area codes that are used in Dial Plan configuration.

This section describes how to configure gateways in CAR.

Procedure

Step 1 Choose **System > System Parameters > Gateway Configuration**.

The Gateway Configuration window displays.

Note If you have not configured gateways in Cisco Unified CallManager Administration, a message displays that indicates that you have not configured gateways for the system.

Step 2 Perform one of the following tasks:

- To update the area code for all gateways, enter the area code in the Area Code field and click the **Set Area Code** button.

  A message displays that indicates that you must click Update to save changes. Click **OK**.

- To update the area code for specific gateways, enter the area code for each gateway that you want to configure in the area code field for that gateway.

Step 3 In the Max No. of Ports field, enter the number of ports for each gateway that you want to configure. The Max No of Ports range goes from 1 to 1000.

> ✎
>
> **Note** CAR uses the values that were provided for the gateway when it was added in Cisco Unified CallManager Administration. Therefore, some gateways will already have an area code setting or have a zero for maximum number of ports, depending on the details that were specified when the gateway was added in Cisco Unified CallManager Administration. CAR does not accept 0 as a value for the maximum number of ports; you may be prompted to change the maximum number of ports for all gateways with a value of zero.

Step 4 To make the changes, click the **Update** button.

You can run reports in CAR on any or all of the configured gateways.

Additional Information

See the .

Configuring System Preferences

CAR provides default system preferences; however, you may customize the system by specifying values for the system parameters.

This section describes how to specify values for system parameters.

Procedure

Step 1 Choose **System > System Parameters > System Preferences**.

The System Preferences window displays. The list of available system parameters displays in the Parameter Name list.

Step 2 In the Parameter Value field, enter the desired value for the parameter as described in Table 3-2.

Table 3-2   System Preferences Parameter

Parameter	Description
COMPANY_NAME	Enter the company name that is used as header information in reports.

Step 3 Click the **Update** button.

System Scheduler Configuration

The CAR System Scheduler provides the following functions:

- Loads the daily CDR schedule
- Disables the daily CDR schedule
- Schedules the daily report
- Schedules the weekly report
- Schedules the monthly report

Note   Loading CDR data can cause performance degradation on the Cisco Unified CallManager server. Cisco recommends that you use the default loading time or schedule the loading to occur at a time when Cisco Unified CallManager performance will be least affected.

Additional Information

See the "Related Topics" section on page 3-16.

Configuring the CDR Load Schedule

By default, CDR data loads every day from midnight to 5 a.m. This section describes how to customize the loading schedule, how to restore the default loading schedule if it was customized, and how to disable CDR loading.

Disable CDR loading when you are installing or upgrading the system in the same off-hours that CDR loading normally occurs. Because loading CDRs causes a resource drain on Cisco Unified CallManager resources, you can suspend CDR loads until other operations complete. Of course, the CDR data does not get updated when CDR loading is disabled. Be sure to enable CDR loading again as soon as possible. The CAR tool does not affect the CDR generation in Cisco Unified CallManager.

Tip   To manually delete the CAR data and reload the database with CDRs, see the "Manually Purging or Reloading the CAR Database" section on page 3-12.

Procedure

Step 1   Choose **System > Scheduler > CDR Load**.

The CDR Load window displays.

Step 2   Perform one of the following steps:

- To restore the default loading schedule, so CDR data loads every day from midnight to 5 a.m., click the **Restore Defaults** button.

    Changes take effect at midnight. For the change to take effect immediately, stop and restart the Cisco CAR Scheduler service in the Control Center—Feature Services window.

- To disable CDR data loading, check the **Disable Loader** check box and click the **Update** button.

  CDR data will not load into CAR until you enable CDR loading. Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the CAR Scheduler service.

- To enable CDR data loading, uncheck the **Disable Loader** check box and continue with Step 3 to configure the load parameters.

Step 3   In the Load CDR & CMR area, complete the fields as described in Table 3-3.

Table 3-3   Load CDR & CMR Values

Field	Value
Time	Choose the hour and minute that you want CAR to begin loading CDR data from the CDR flat files.
Loading Interval	Choose the interval at which you want records loaded. The interval can range from every 15 minutes to every 24 hours.
Duration	Enter the number of minutes that you want to allow CDR data to load. Depending on the size of the CDR flat files, CAR performance may degrade when CDRs load. You can limit the time that is allowed for loading, but in doing so, the possibility exists that only a portion of the CDR data will be loaded in the time that you set. Be sure to reconcile the duration limit that you place with the interval. For example, if you load CDR data every 15 minutes, the duration of loading cannot exceed 15 minutes.

Uninhibited loading allows you to set a time during which CDR data will load continuously. It will not load CDR data automatically in the duration specified; it will load CDR data uninhibited in the specified duration only if loading starts at that duration per settings done in load CDR and CMR area. So, if loading starts at uninhibited loading interval, it will continue to the end of uninhibited loading interval, plus the duration field set in the load CDR and CMR area.

Uninhibited loading take precedence over any values that are set for scheduled loading. If you do not want uninhibited loading of CDR data, set the From and To values at 00:00.

Step 4   In the Uninhibited Loading of CDR area, complete the fields as described in Table 3-4:

Table 3-4   Uninhibited Loading of CDR Values

Field	Value
From	Choose the hour and minute that you want continuous loading of CDR data to begin.
To	Choose the hour and minute that you want continuous loading of CDR data to end.

Step 5   Click the **Update** button.

CAR will load CDR data based on the time, interval, and duration that you have specified. Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the CAR Scheduler service.

Additional Information

See the .

Scheduling Daily Reports

The Daily Report Scheduler schedules the time and duration of CAR daily reports.

Note   Report generation can degrade Cisco Unified CallManager performance; schedule reports when performance will be least affected.

Before You Begin

Specify the reports to be generated by using the Automatic Generation/Alert Option. See the , for more information.

This section describes how to schedule the time and duration of the automatic daily reports.

Procedure

Step 1   Choose **System > Scheduler > Daily**.

The Daily Scheduler window displays.

Step 2   From the Time drop-down list box, choose the hour and minute that you want daily reports to be generated.

A 24-hour clock represents time, where 0 equals midnight, and 1 through 11 represent a.m. hours, and 12 through 23 represent the p.m. hours of 1 p.m. through 11 p.m., respectively.

Step 3   From the Life drop-down list box, choose the duration of the report from the range of 0 to 12 days.

Tip   If you set the life of the report to 00, the report does not generate.

Step 4   Click the **Update** button.

Reports with report generation interval as Daily in Automatic Generation/Alert Option, and enabled, automatically generate every day at the time that you specified and get deleted after the number of days that you specified.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the CAR Scheduler service.

Tip   To restore the defaults, click the **Restore Defaults** button. By default, the daily reports run at 1 a.m. every day and get purged after two days.

Additional Information

See the "Related Topics" section on page 3-16.

Scheduling Weekly Reports

The Weekly Report Scheduler schedules the day, time, and duration of the automatic weekly reports.

Note   Report generation can degrade Cisco Unified CallManager performance; schedule reports when performance will be least affected.

Before You Begin

Use the Automatic Generation/Alert Option to specify the reports to be generated. See the "Configuring Automatic Report Generation/Alert" section on page 4-6, for more information.

This section describes how to schedule the day, time, and duration of the automatic weekly reports.

Procedure

Step 1   Choose **System > Scheduler > Weekly**.

The Weekly Scheduler window displays.

Step 2   From the Day of Week drop-down list box, choose the day that you want reports to be generated.

Step 3   From the Time drop-down list box, choose the hour and minute that you want reports to be generated.

A 24-hour clock represents time, where 0 equals midnight, and 1 through 11 represent a.m. hours, and 12 through 23 represent the p.m. hours of 1 p.m. through 11 p.m., respectively.

Step 4   From the Life drop-down list box, choose the duration of the report from the range of 00 to 12 weeks.

Tip   If you choose 00 for the life of the report, the report does not generate.

Step 5   Click the **Update** button.

Reports with report generation interval as Weekly in Automatic Generation/Alert Option, and enabled, automatically generate every week at the time that you specified and get deleted after the number of weeks that you specified.

Changes take effect at midnight. For the changes to take effect immediately, stop and restart the CAR Scheduler service in the Control Center—Feature Services window.

Tip   To restore the defaults, click the **Restore Defaults** button. By default, weekly reports run at 4 a.m. every Sunday and get purged after four weeks.

Additional Information

See the "Related Topics" section on page 3-16.

Scheduling Monthly Reports

The Monthly Report Scheduler schedules the day, time and duration of CAR monthly reports.

> **Note** Report generation can degrade Cisco Unified CallManager performance; schedule reports when performance will be least affected.

Before You Begin

Use the Automatic Generation/Alert Option to specify the reports to be generated. See the "Configuring Automatic Report Generation/Alert" section on page 4-6, for more information.

This section describes how to schedule the day, time, and duration of the automatic monthly reports.

Procedure

Step 1   Choose **System > Scheduler > Monthly**.

The Monthly Scheduler window displays.

Step 2   From the Day of Month drop-down list box in the Monthly Bill Generation row, choose the day of the month that you want the report to be generated.

If you set the value to a day that does not occur in a given month (such as 29, 30, or 31), the report generates on the last day of that month.

Step 3   From the Time drop-down list box in the Monthly Bill Generation row, choose the hour and minute that you want the report to be generated.

A 24-hour clock represents time, where 0 equals midnight, and 1 through 11 represent a.m. hours, and 12 through 23 represent the p.m. hours of 1 p.m. through 11 p.m., respectively.

Step 4   From the Life drop-down list box in the Monthly Bill Generation row, choose the duration of the report from the range of 00 to 12 months.

> **Tip** If you choose 00, the reports do not generate.

Step 5   From the Day of Month drop-down list box in the Other Monthly Reports row, choose the day of the month that you want the reports generated.

If you set this value to a day that does not occur in a given month (such as 29, 30, or 31), the report generates on the last day of that month.

Step 6   From the Time drop-down list box in the Other Monthly Reports row, choose the hour and minute that you want reports to be generated.

A 24-hour clock represents time, where 0 equals midnight, and 1 through 11 represent a.m. hours, and 12 through 23 represent the p.m. hours of 1 p.m. through 11 p.m., respectively.

Step 7   From the Life drop-down list box in the Other Monthly Reports row, choose the life of the report from the range of 00 to 12 months.

> **Tip** If you choose 00, the reports do not generate.

Step 8   Click the **Update** button.

Reports with report generation interval as Monthly in Automatic Generation/Alert Option, and enabled, automatically generate every month at the time that you specified and get deleted after the number of months that you specified.

Changes take effect at midnight. For the changes to take effect immediately, stop and restart the CAR Scheduler service in the Control Center—Feature Services window.

> **Tip**   To restore the defaults, click the **Restore Defaults** button. By default, monthly bill reports run at 3 a.m. on the first day of every month and get purged after two months, and other monthly reports run at 2 a.m. on the first day of every month and get purged after two months.

Additional Information

See the "Related Topics" section on page 3-16.

System Database Configuration

You can configure CAR to notify you when the CAR database size exceeds a percentage of the maximum number of records. You can set the message and the maximum number of records and specify the alert percentage.

You can configure the system to maintain the CAR database size between the low water mark and the high water mark values that you configure through the Configure Automatic Database Purge window. When the database size reaches the low water mark, CAR sends an alert to the user. When the database size reaches the high water mark, the system deletes records based on the deletion age and sends an Email.

See the following sections to configure system database information:

Manually Purging or Reloading the CAR Database

This section describes how to manually purge selected records from the CAR database and how to delete all of the CAR data and reload the database with new CDR data. You may want to reload the database to reclassify calls after dial-plan updates, user-device association changes, call rate changes, and so on.

Procedure

Step 1   Choose **System > Database > Manual Purge**.

The Manual Database Purge window displays.

Step 2   Choose one of the following actions:

- To delete the existing CAR data and reload the CAR database, click the **Reload All Call Detail Records** button.

  The system displays a message that indicates that deleting the records may impact system performance. To continue the reload process, click **OK**.

  The system begins loading the CDRs into the CAR database within 5 minutes and continues uninterrupted for up to 6 hours. To monitor the progress of the reload, generate the CDR Load event log, as described in the "Generating the Event Log" section on page 3-15.

  After the system loads the new records, the system loads the records according to the schedule that is configured in the "Configuring the CDR Load Schedule" section on page 3-7. By default, CDR data loads every day from midnight to 5 a.m.

- To manually purge selected CAR records, continue with Step 3.

Step 3   In the Select Table field, choose the table in the database that you want purged.

To view the tables for which manual purge is permitted, the total number of records in the table, and the latest record and oldest record in the table, click the **Table Information** button.

The Table Information window displays. To return to the Manual Database Purge window, click the **Close** button.

Step 4   In the Delete records field, choose a date that will determine which records will be purged by clicking one of the following radio buttons:

- Older than
- Between

Choose the date range of the CAR records that you want to delete.

Step 5   To delete all records older than or between the dates that you specified, click the **Purge** button.

A prompt advises you that you are about to permanently delete the specified records.

Step 6   To purge the records, click the **OK** button or click the **Cancel** button to abort the purge operation.

If you click **OK**, the records get purged from the selected table. After successful deletion of records, the status message shows the number of records that were deleted from the table.

Additional Information

See the "Related Topics" section on page 3-16.

Configuring Automatic Database Purge

This section describes how to schedule and disable automatic purging of the CAR database. By default, the system enables automatic database purge.

Procedure

Step 1   Choose **System** > **Database** > **Configure Automatic Purge**.

The Configure Automatic Database Purge window displays.

Step 2   To enable automatic purge, make sure that the **Disable CAR Purge** check box is not checked.

Note   To disable automatic purge, check the **Disable CAR Purge** check box.

Step 3   From the Low Water Mark drop-down list box, choose the minimum percentage of the 6 gigabyte CAR database that you want the system to use for CAR data. The system stops purging CAR files when the database size reaches this level.

Tip   The system notifies you when the CAR database size reaches the low water mark. For information on configuring an Email alert, see the "Enabling or Disabling Alerts by Mail" section on page 4-8, for instructions.

Step 4   From the High Water Mark drop-down list box, choose the maximum percentage of the 6-gigabyte CAR database that you want the system to use for CAR data. The system begins purging CAR files when the database size exceeds this level.

Step 5   In the Delete CAR Records older than field of the Automatic Database Purge area, enter the age, in days, of the CAR records that you want to purge from the database. CAR deletes records that are older than the specified number of days when the database size reaches the high water mark.

Step 6   Click the **Update** button.

The changes take effect at midnight. To make changes take effect immediately, restart the Cisco CAR Scheduler service.

The CAR Scheduler checks the low water mark and high water mark as set here daily and deletes the records based on the specified age when the database size reaches the high water mark. The deletion occurs at the same time that the Daily report generation is set, as described in the "Scheduling Daily Reports" section on page 3-9. CAR also deletes records based on the specified age before each CDR load.

Note   To restore the default values for the fields on this window, click the **Restore Defaults** button. By default, the system enables automatic purge.

Additional Information

See the "Related Topics" section on page 3-16.

System Log Screens

CAR provides logs that can be used to track the status of the various activities. The event log tracks events that the CAR Scheduler triggers, such as automatically generated reports, loading of CDRs, report deletions, and database purging.

Additional Information

See the "Related Topics" section on page 3-16.

Generating the Event Log

The event log provides a report on the status of the activities that the CAR scheduler controls. The event log report shows whether the tasks have started, completed successfully, or are in progress.

This section describes how to generate the event log report.

Procedure

Step 1   Choose **System > Log Screens > Event Log**.

The Event Log window displays.

Step 2   Click the **Daily** radio button to choose daily jobs, the **Weekly** radio button to choose weekly jobs, or the **Monthly** radio button to choose monthly jobs.

Step 3   In the List of Jobs area, choose the tasks for which you want information.

Step 4   To add the chosen task to the Selected Jobs area, click the right arrow icon.

Step 5   To remove tasks from the Selected Jobs area, choose the task that you want removed and click the left arrow icon.

Step 6   To add tasks with a different frequency, repeat Step 2 through Step 4. For example, you can have daily reports and reports that include monthly or weekly tasks.

Step 7   Choose the status to include in the report. You must choose at least one status as described in Table 3-5.

> **Note**   The system chooses all the job statuses by default.

Table 3-5   Event Log Report Status

Status	Description
Completed	If this check box is checked, the event log report includes tasks that have completed.
In Progress	If this check box is checked, the event log report includes tasks that are currently in progress.
Unsuccessful	If this check box is checked, the event log report includes tasks that have failed.

Step 8   Choose a date range by choosing From and To values.

Step 9   To generate the event log report, click the **OK** button.

The event log displays information about the chosen tasks.

Table 3-6 describes the event log report output.

Table 3-6   Event Log Report Output Parameters

Parameter	Description
Sl No	Serial number
Jobs	Name of the task
Start Time	Time the task started
End Time	Time the task ended
Status	Unsuccessful, in progress, completed
Date	Date the task was scheduled

Step 10   Print the log by right-clicking on the screen and choosing **Print**.

Additional Information

See the "Related Topics" section on page 3-16.

Related Topics