



Configuring ART

Before you start generating reports in ART, you should configure the system. In most cases, ART provides default values. However, you should review the topics provided in this chapter to learn more about how you can customize ART.

Configuring System Parameters

There are a number of system parameters that should be customized before you generate any reports, unless you want to use the default values. This section describes the system parameters. Default values are provided for all system parameters, so customizing is recommended, but not required.

Setting Administrator Rights

Any user can be an ART administrator, but each user you want to be designated as an ART administrator must be specified in the Grant/Revoke ART Admin Rights window. User who have been identified as ART administrators have full control over the ART system. All the parameters related to the system and the reports can be modified by the administrator.

You should always have at least one administrator.

Related Topics

- [Granting Administrator Rights, page 2-18](#)
- [Revoking Administrator Rights, page 2-18](#)

Granting Administrator Rights

Use this procedure to grant ART administrator rights to one or more users.

For instructions on revoking ART administrator rights, see [Revoking Administrator Rights, page 2-18](#).

Procedure

- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.
- Step 2** Click **System > System Parameters > Admin Rights**.
The Grant/Revoke ART Admin Rights window displays.
- Step 3** In the **User ID** field, type the user ID for the individual that you want to add as an ART administrator. If you do not know the valid user ID, you can click the link for Search User(s). See [Searching for User Information, page 3-80](#), for instructions on searching for a user.
- Step 4** Click **Add**.
The user specified in the User ID field is copied to the list of ART administrators.
- Step 5** Click **Update** to designate the listed users as ART administrators. Changes take effect immediately.
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Related Topics

- [Setting Administrator Rights, page 2-17](#)
- [Revoking Administrator Rights, page 2-18](#)

Revoking Administrator Rights

Use this procedure to revoke ART administrator rights for one or more users.

Procedure

- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.

- Step 2** Click **System > System Parameters > Admin Rights**.
The Grant/Revoke ART Admin Rights window displays.
- Step 3** In the **ART Administrators** list box, choose the user ID for the individual that you want to remove as an ART administrator. You can select multiple user IDs by holding down the Control key while you click on user IDs.
- Step 4** Click **Remove** to remove the selected user(s), or click **Remove All** to remove all users specified in the ART Administrators list box.
- Step 5** Only those user(s) still listed in the ART Administrators list box will continue to have ART administrator rights. Click **Update**.
The ART Administrators you removed no longer have administrator access to ART. Changes take effect immediately.
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Related Topics

- [Setting Administrator Rights, page 2-17](#)
- [Granting Administrator Rights, page 2-18](#)

Configuring Mail Server Parameters

To send e-mail alerts and reports by e-mail, you must specify the server criteria for ART installation, or if the information has changed since you installed ART. ART uses this information to successfully connect to the e-mail server. If you do not want to send e-mail alerts or reports by e-mail, this information is not required.

To specify e-mail server information, perform the following steps.

Procedure

- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.
- Step 2** Click **System > System Parameters > Mail Parameters**.
The Mail Parameters window displays.

Step 3 Complete the following fields:

- **Mail ID**—enter the e-mail identifier that will be used in the From field when e-mails are sent.
- **Password**—enter the password used to access the server running your e-mail system.



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

- **Confirm Password**—enter the same password from Step 3 to confirm.
- **Mail Domain**—enter the domain name for the server running your e-mail system.
- **Mail Server Name**—enter the name or IP address of the server running your e-mail system.

Step 4 Click **Update**.

The e-mail server parameters have been saved.

Configuring the Dial Plan

The default dial plan in ART is for the North American numbering plan (NANP). The dial plan must be properly configured so that call classifications are correct in the reports. If you have modified the default NANP provided in Cisco CallManager Administration, or if you are outside the NANP, be sure to configure the dial plan according to your Cisco CallManager dial plan. The dial plan configuration in ART is used for outgoing calls.

To configure the dial plan, you simply define the parameters for the outgoing call classifications. Calls are classified as international, local, long distance, on net, and others. For example, if local calls in your area are 6 digits in length, you would specify a row in the dial plan as follows:

Condition	No of Digits	Pattern	Call Type
=	6	!	Local

Use the following instructions to update the dial plan configuration. Remember, if you are using the NANP, you do not need to change this configuration unless you have made modifications to the NANP in Cisco CallManager Administration.

Procedure

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- Step 1** Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.
- Step 2** Click **System > System Parameters > Dial Plan Configuration**.
The Dial Plan Configuration window displays.
- Step 3** In the Toll Free Numbers field, enter the numbers in your dial plan that can be placed without a charge (toll free).
- Step 4** Update the values in the table using the following fields. If you need more information about configuring a dial plan, see [Configuring the Dial Plan](#).
- **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 used for the call classification, where
 - **G**—Retrieves the area codes specified in gateway configuration in ART to determine whether a call is local or long distance. If the area code of the call matches any of the area codes defined in the [“Gateway Configuration”](#) section on page 2-24, the call is classified as local. Otherwise, it is classified as long distance.

- T—Retrieves the toll-free numbers configured in ART.
- !—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.

You can check a box in the row below which you want to add more rows, and then click **Add Rows**; or check the box and delete the selected row if there are too many rows for your dial plan. Remember that the dial plan in ART must match the call classifications you use in Cisco CallManager Administration for the reports in ART to be accurate.

Step 5 Click **Update**.

The gateways are now configured and you can run reports in ART on any or all of the specified gateways.

Related Topics

- [Restoring the Default Values for the ART Dial Plan, page 2-22](#)

Restoring the Default Values for the ART Dial Plan

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

The default NANP values are as follows:

Condition	No of Digits	Pattern	Call Type
=	5	!	OnNet
=	7	!	Local
=	10	T!	Others
=	10	G!	Local
=	10	!	Long Distance

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

The default table is explained as follows:

Row 1—If the number of digits dialed is equal to 5 and the pattern is ! (more than one digit, in this case, 5 digits), the call is classified as on net.

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

Row 3—If the number of digits dialed is equal to 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 is classified as others.

Row 4—If the number of digits dialed is equal to 10 and the pattern is G! (more than one digit, in this case, 10 digits where the first three digits match a gateway code), the call is classified as Local.

Row 5—If the number of digits dialed is equal to 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 is classified as Long Distance.

Row 6—If the number of digits dialed is equal to 11 and the pattern is XG! (more than one digit, in this case an 11-digit number that starts with a Toll Free number code and includes a gateway code), the call is classified as others.

Row 7—If the number of digits dialed is equal to 11 and the pattern is !(more than one digit, in this case an 11-digit number), the call is classified as long distance.

Row 8—If the number of digits dialed is greater than 3 and the pattern is 011! (more than one digit, in this case an 11-digit number), the call is classified as international.

Use the following instructions to restore the NANP dial plan values in ART.

Procedure

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- Step 1** Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.
- Step 2** Click **System > System Parameters > Dial Plan Configuration**.
The Dial Plan Configuration window displays.
- Step 3** Click **Restore Defaults**.
The default values for the NANP dial plan have been restored. Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.
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Related Topics

- [Configuring the Dial Plan, page 2-20](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Gateway Configuration

To utilize the gateway reports, you need to configure gateways in ART. You should do this initially after installation for any existing gateways in your Cisco IP Telephony system. Also, when you add gateways to the system, you should configure the new gateways in ART. If any gateways are deleted from the system, those gateways (and any configuration settings you may have specified) are automatically deleted from ART.

ART uses the area code information to determine whether calls are local or long distance. If an area code is not specified, ART classifies the calls as internal. The Number of Ports information for each gateway has to be provided to enable ART to generate the Utilization reports. Use this procedure to specify the gateway configurations, such as area codes and ports of each gateway.

Configure gateways in ART using the following procedure.

Procedure

- Step 1** Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.
- Step 2** Click **System > System Parameters > Gateway Configuration**.
The Gateway Configuration window displays.
- Step 3** For each gateway you want to configure, enter the area code and the maximum number of ports. To update the area code for all gateways, enter the area code in the **Area Code** field and click **Set Area Code**. Alternatively, you can enter area codes for certain gateways in the **Area Code** field adjacent to the appropriate gateway. Likewise, you can set the maximum number of ports in the **Max No. of Ports** field. The Max No. of Ports field has a range of 1 to 1000.

ART takes the values provided for the gateway when it was added in Cisco CallManager. Therefore, some gateways will already have an area code setting or have a zero for maximum number of ports, depending on the details specified when the gateway was added in Cisco CallManager Administration. ART 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** Click **Update**.
The gateways are now configured and you can run reports in ART on any or all of the specified gateways.
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Configuring System Preferences

You can set ART system preferences for various parameters. Defaults are supplied, but you may customize the system by specifying values for the system parameters.

Use the following procedure to specify values for system parameters.

Procedure

- Step 1** Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.

Step 2 Click **System > System Parameters > System Preferences**.

The System Preferences window displays.

Step 3 In the Parameters box, click the parameter for which you want to specify a value and then click **Update**. Repeat this step to specify values for more parameters.

Step 4 In the **Value** field, enter the value for the parameter:

- **ERRORLOGFILESIZE**—Enter the maximum size of the error log file in kb, with a range from 1 to 9999. The default is 100 kb. If the file exceeds the specified size limit, an e-mail alert will be sent to the administrator(s). The file will continue to grow in size if error logging continues and the administrator(s) will be alerted via e-mail each day the file exceeds the specified size.
- **ERRORRECYCLING**—CDR data that had errors while loading are written to an error table. These records would not be available for report generation unless you specify true for this parameter. If true, then an attempt is made to load these error records. If false, then no attempt is made to load the error records. The default is false.
- **SESSIONTIMEOUT**—Enter the duration, in seconds, that must pass before without any activity before a user is logged out of ART, with a range from 60 to 86400 (1 minute to 24 hours). The default is 1800 (30 minutes).
- **LDAP:URL**—Enter the URL for the LDAP server. The default value is `ldap://<local server name>:8404`
- **LDAP:MANAGERDN**—Enter the directory manager values. The default is `cn=Directory Manager, o=cisco.com`.
- **LDAP:MANAGERPASSWORD**—Enter the directory manager password.
- **LDAP:CISCOBASE**—Enter the root level of the directory structure. The default is `o=cisco.com`.
- **LDAP:DIRECTORYTYPE**—Enter the LDAP directory type. The default is Default.
- **LDAP:DIRECTORYACCESS**—Enter true or false, depending on whether you plan to make modifications to user data. The default is true.

The value you specified for the parameter has been saved.

Related Topics

- [Restoring Default System Preferences, page 2-27](#)

Restoring Default System Preferences

Use the following procedure to restore the default values for system parameters.

Procedure

- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.
- Step 2** Click **System > System Parameters > System Preferences**.
The System Preferences window displays.
- Step 3** Click **Restore Defaults**.
The default values for system parameters have been restored.
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Related Topics

- [Configuring System Preferences, page 2-25](#)

Loading CDR Data

Call detail records (CDRs) detail the called number, the number that placed the call, the date and time the call was started, the time it connected, and the time it ended. Call management records (CMRs, or diagnostic records) detail the jitter, lost packets, the amount of data sent and received during the call, and latency. CDRs and CMRs are collectively known as CDR data. A single call can result in the generation of several CDRs and CMRs. Statistics must be enabled in Cisco CallManager for CDR data to be generated.



Tip

Statistics are enabled by default, so unless you have disabled the service parameters that control CDR data generation, then you do not have to be concerned about enabling the CDR statistics. For more information about statistics service parameters, see the Cisco CallManager Administration Guide.

CDR data is used by all ART reports. It is important to have the most current CDR data from which your reports are built. By default, CDR data is loaded from midnight to 5 a.m. on a daily basis. However, you can set the loading time, interval, and duration as needed. See [Setting the CDR Load Schedule, page 2-28](#), for more information.

**Note**

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

Setting the CDR Load Schedule

By default, CDR data is loaded every day from midnight to 5 a.m. You can customize the loading schedule using the following instructions.

Procedure

- Step 1** Open ART. See the [“Opening ART — ART Administrators” section on page 1-12](#) for instructions on how to open ART.
- Step 2** Click **System > Scheduler > CDR Load**.
- The Daily CDR Load window displays.
- Step 3** In the Load CDR & CMR area, complete the following fields:
- **Time**—Choose the hour and minute that you want ART to begin loading CDR data from the Cisco CallManager CDR Database.
 - **Loading Interval**—Choose the interval at which you want records loaded. The range is every 15 minutes to every 24 hours.
 - **Duration**—Enter the number of minutes you want to allow CDR data to load. Depending on the size of the CDR database, ART performance may be degraded when CDRs load. You can limit the time allowed for loading but in doing so, it is possible that only a portion of the CDR data will be loaded in the duration you set. Be sure to reconcile the duration limit you place with the interval. For example, if you load CDR data every 15 minutes, the duration of loading cannot exceed 15 minutes.

- Step 4** Uninhibited loading allows you to set a time period where CDR data will load continuously. Uninhibited loading take precedence over any values set for scheduled loading. If you do not want uninhibited loading of CDR data, you can set the From and To values at 00:00 to disable uninhibited loading.

In the Uninhibited Loading of CDR area, complete the following fields:

- From—Choose the hour and minute you want continuous loading of CDR data to begin.
- To—Choose the hour and minute you want continuous loading of CDR data to end.

- Step 5** Click **Update**.

ART will load CDR data based on the time, interval, and duration you have specified. Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Loading CDR Data, page 2-27](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)
- [Disabling the Loading of CDR Data, page 2-30](#)
- [Enabling the Loading of CDR Data, page 2-31](#)
- [Restoring the Default CDR Load Schedule, page 2-29](#)

Restoring the Default CDR Load Schedule

By default, CDR data is loaded every day from midnight to 5 a.m. If you have customize the loading schedule, you can use the following instructions to restore the default loading schedule.

Procedure

- Step 1** Open ART. See the [“Opening ART — ART Administrators” section on page 1-12](#) for instructions on how to open ART.

Step 2 Click **System > Scheduler > CDR Load**.

The Daily CDR Load window displays.

Step 3 Click **Restore Defaults**.

The default CDR loading schedule has been restored. CDR data will be loaded every day from midnight to 5 a.m.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Loading CDR Data, page 2-27](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Disabling the Loading of CDR Data

By default, CDR data is loaded at midnight on a daily basis. However, you can disable the CDR loading.



Tip

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 CallManager, you can suspend CDR loads until your other operations are completed. Of course, the CDR data would not be updated when CDR loading is disabled. Be sure to enable CDR loading again as soon as possible.

Use the following instructions to disable the loading of CDR data.

Procedure

Step 1 Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.

Step 2 Click **System > Scheduler > CDR Load**.

The Daily CDR Load window displays.

Step 3 Check the **Disable Loader** box.

Step 4 Click **Update**.

CDR data will not load into ART until you enable CDR loading.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Loading CDR Data, page 2-27](#)
- [Enabling the Loading of CDR Data, page 2-31](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Enabling the Loading of CDR Data

If you have previously disabled the loading of CDR data, then you must follow these steps to enable CDR loading.

Once enabled, CDR data is loaded at midnight on a daily basis unless you specify otherwise.

Procedure

Step 1 Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.

Step 2 Click **System > Scheduler > CDR Load**.

The Daily CDR Load window displays.

Step 3 Clear the Disable Loader box.

Step 4 Click **Update**.

CDR data will load into ART every day at midnight. See [Loading CDR Data, page 2-27](#), for more information about designating an alternate time or interval for CDR loading.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Loading CDR Data, page 2-27](#)

Scheduling Reports

You can schedule any ART report to be generated automatically at a regular time. Reports can be scheduled daily, weekly, or monthly, and you can specify the duration to keep a report before it is automatically deleted.

For system monitoring, it's a good idea to automatically generate various reports, such as QoS reports, and review them at regular intervals, perhaps every day if you have a very large system, or every week or every two weeks for smaller systems. QoS reports help you determine the quality of calls running on your network and judge whether you need additional hardware to improve performance. Utilization reports for gateways, voice mail, conference bridge, route groups, route lists, and route patterns can be used to provide a picture of the the usage to help with system handling.

You must specify the reports you want to be generated in the Automatic Report Generation/Alert Option window (**Report Config > Automatic Generation/Alert**). See [Automatic Report Generation/Alert, page 2-60](#), for more information.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.



Note

Report generation can degrade Cisco CallManager performance, so you should schedule reports when performance will be least affected.

Scheduling Daily Reports

Use the following instructions to schedule reports for daily generation. You can access the automatically generated reports by choosing the report from the list of available reports. For example, if you have scheduled the Voice Mail report for automatic generation, you can click **System Reports > Traffic Summary** and choose the report from the Available Reports box. You can also have the report mailed to you by checking the Mailing Option check box when you customize parameters for each report in the Automatic Report Generation/Alert Option window. When this box is checked, the report is mailed automatically when it is generated. See [Automatic Report Generation/Alert, page 2-60](#), for more information.

**Note**

Report generation can degrade Cisco CallManager performance, so you should schedule reports when performance will be least affected.

Before You Begin

You must specify the reports you want to be generated in the Automatic Generation/Alert Option window (Report Config > Automatic Generation/Alert). See [Automatic Report Generation/Alert, page 2-60](#), for more information.

Procedure

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- Step 1** Open ART. See the [“Opening ART — ART Administrators” section on page 1-12](#) for instructions on how to open ART.
 - Step 2** Click **System > Scheduler > Daily**.
The Daily Scheduler window displays.
 - Step 3** Choose the hour and minute you want reports to be generated. Time is represented in a 24-hour clock, where 0 equals midnight and 1 through 11 represent a.m. hours. 12 through 23 represent the p.m. hours of 1 p.m. through 11 p.m., respectively.
 - Step 4** Choose the life of the report, in days. The range is 0 to 12 days. If you set the life of the report to 00, the report will not be generated.
 - Step 5** Click **Update** to save your changes.

Reports that you have specified in the Automatic Generation/Alert Option window (**Report Config > Automatic Generation/Alert**) will be automatically generated every day at the time you specified, and deleted after the number of days you specified.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Scheduling Reports, page 2-32](#)
- [Automatic Report Generation/Alert, page 2-60](#)
- [Disabling Daily, Weekly, and Monthly Reports, page 2-39](#)
- [Restoring Default Schedules for Daily, Weekly, and Monthly Reports, page 2-37](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Scheduling Weekly Reports

Use the following instructions to schedule reports for weekly generation. You can access the automatically generated reports by choosing the report from the list of available reports. For example, if you have scheduled the Voice Mail report for automatic generation, you can click **Device Reports > Voice Mail > Utilization** and choose the report from the Available Reports box. You can also have the report mailed to you by checking the Mailing Option check box when you customize parameters for each report in the Automatic Report Generation/Alert Option window. When this box is checked, the report is mailed automatically when it is generated. See [Automatic Report Generation/Alert, page 2-60](#), for more information.



Note

Report generation can degrade Cisco CallManager performance, so you should schedule reports when performance will be least affected.

Before You Begin

You must specify the reports you want to be generated in the Automatic Generation/Alert Option window (Report Config > Automatic Generation/Alert). See [Automatic Report Generation/Alert, page 2-60](#), for more information.

Procedure

- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.
- Step 2** Click **System > Scheduler > Weekly**.
The Weekly Scheduler window displays.
- Step 3** Choose the day you want reports to be generated.
- Step 4** Choose the hour and minute you want reports to be generated. Time is represented in a 24-hour clock, where 0 equals midnight and 1 through 11 represent a.m. hours. 12 through 23 represent the p.m. hours of 1 p.m. through 11 p.m., respectively.
- Step 5** Choose the life of the report, in weeks. The range is 00 to 12 weeks. If you choose 00, the report will not be generated.
- Step 6** Click **Update** to save your changes.

Reports that you have specified in the Automatic Generation/Alert Option window (Report Config > Automatic Generation/Alert) will be automatically generated every week at the time you specified, and deleted after the number of weeks you specified.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Scheduling Reports, page 2-32](#)
- [Automatic Report Generation/Alert, page 2-60](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Scheduling Monthly Reports

Use the following instructions to schedule reports for monthly generation. You can schedule all reports to be generated at the same time, or schedule monthly billing reports, such as the Individual Summary or Department Bill Summary, to be generated at one time, and all other reports to be generated at a different time. Generating the reports at different times helps distribute the load on the server.

You can access the automatically generated reports by choosing the report from the list of available reports. For example, if you have scheduled the Voice Mail report for automatic generation, you can click **System Reports > QOS > Summary** and choose the report from the Available Reports box. You can also have the report mailed to you by checking the Mailing Option check box when you customize parameters for each report in the Automatic Report Generation/Alert Option window. When this box is checked, the report is mailed automatically when it is generated. See [Automatic Report Generation/Alert, page 2-60](#), for more information.

**Note**

Report generation can degrade Cisco CallManager performance, so you should schedule reports when performance will be least affected.

Before You Begin

You must specify the reports you want to be generated in the Automatic Report Generation/Alert Option window (**Report Config > Automatic Generation/Alert**). See [Automatic Report Generation/Alert, page 2-60](#), for more information.

Procedure

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- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.
- Step 2** Click **System > Scheduler > Monthly**.
The Monthly Scheduler window displays.
- Step 3** In the Monthly Bill Generation area, choose the following:
- Choose the day of the month you want the report to generate. If this value is set to a day that does not occur in a given month (such as 29, 30, or 31), then the report generates on the last day of that month.

- Choose the hour and minute you want report to be generated. Time is represented in a 24-hour clock, where 0 equals midnight and 1 through 11 represent a.m. hours. 12 through 23 represent the p.m. hours of 1 p.m. through 11 p.m., respectively.
- Choose the life of the report, in months. The range is 00 to 12 months. If you choose 00, the reports will not be generated.

Step 4 In the Other Monthly Reports area, choose the following:

- Choose the day of the month you want the reports to generate.
- Choose the hour and minute you want reports to be generated.
- Choose the life of the report, in months.

Step 5 Click **Update** to save your changes.

Bill generation and other reports that you have specified in the Automatic Report Generation/Alert Option window (**Report Config > Automatic Generation/Alert**) will be automatically generated every month at the time you specified, and deleted after the number of months you specified.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Scheduling Reports, page 2-32](#)
- [Automatic Report Generation/Alert, page 2-60](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Restoring Default Schedules for Daily, Weekly, and Monthly Reports

Use the following instructions to restore the default schedule for automatic generation of reports on a daily, weekly, or monthly basis.

Default values are as follows:

- Daily reports are schedule to run at 1 a.m. every day. These reports will be purged after two days.
- Weekly reports are scheduled to run at 2 a.m. every Monday. These reports will be purged after four weeks.
- Monthly reports are scheduled to run at 2 a.m. on the first day of every month. These reports will be purged after two months.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Before You Begin

You must specify the reports you want to be generated in the Automatic Report Generation/Alert Option window (Report Config > Automatic Generation/Alert). See [Automatic Report Generation/Alert, page 2-60](#), for more information.

Procedure

-
- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.
- Step 2** To restore the default schedule for daily reports, click **System > Scheduler > Daily**.
- To restore the default schedule for weekly reports, click **System > Scheduler > Weekly**.
- To restore the default schedule for monthly reports, click **System > Scheduler > Monthly**.
- The Scheduler window displays.
- Step 3** Click **Restore Defaults**.
- The default schedule for the reports has been restored.
- Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.
-

Related Topics

- [Scheduling Reports, page 2-32](#)
- [Automatic Report Generation/Alert, page 2-60](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Disabling Daily, Weekly, and Monthly Reports

Use the following instructions to disable the automatic generation of reports on a daily, weekly, or monthly basis.

Procedure

-
- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.
- Step 2** To disable the generation of daily reports, click **System > Scheduler > Daily**.
To disable the generation of weekly reports, click **System > Scheduler > Weekly**.
To disable the generation of monthly reports, click **System > Scheduler > Monthly**.
The Scheduler window displays.
- Step 3** In the area for the report **Life**, choose **00** for days, weeks, or months.
- Step 4** Click **Update**.

The schedule for automatic report generation has been disabled. Even if reports are selected for automatic generation in the Automatic Generation/Alert window, none will be generated.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Scheduling Reports, page 2-32](#)
- [Restoring Default Schedules for Daily, Weekly, and Monthly Reports, page 2-37](#)

- [Automatic Report Generation/Alert, page 2-60](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Starting or Stopping the ART Scheduler

You can start or stop the ART scheduler in the Control Center or using the Services window (**Start > Programs > Administrative Tools > Services**). The scheduler service does not restart automatically, so you must manually restart the service if it has been stopped.

If you have made configuration changes, such as the rating engine or system parameters, those changes will not take effect until the start of the next day (00:00 hours). However, you can force the changes to take effect immediately by stopping and then restarting the scheduler service.

Cisco recommends you use the following procedure to start or stop the scheduler.

Procedure

-
- Step 1** Open ART. See [Opening ART — ART Administrators, page 1-12](#), for instructions on how to open ART.
- Step 2** Click **System > Control Center**.
- The Control Center displays, indicating the server name or IP address and the list of services.
- Step 3** Click the **Start** or **Stop** buttons for the service you want to start or stop. If you stop a service, any jobs currently scheduled, such as automatic generation of reports, database purge, loading CDRs, or alert notifications, will also be terminated.



Note By hovering your mouse over the graphic under Service Status, you can tell whether the service is running or not. A service is running when a right-facing arrowhead displays; a service is stopped when a square box displays.

- Step 4** Click **Close** to exit the Control Center.
-

Setting ART or CDR Database Alerts

You can configure ART to notify you when the ART database size or CDR database size exceeds a percentage of the maximum number of records. You can set the message, the maximum number of records, and specify the alert the percentage. The maximum number of records for the CDR database is not editable from ART.

Use the following procedure to set an alert for ART or CDR database size.

Before You Begin

You must enable alerts by mail in the system. If you have not already done so, see [Automatic Report Generation/Alert, page 2-60](#), for instructions. Alerts by mail are enabled by default.

Procedure

-
- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.
- Step 2** To set an ART database alert, click **System > Database > ART Database Alert**. To set a CDR database alert, click **System > Database > CDR Database Alert**. The Database Alert window displays.
- Step 3** Complete the following fields:
- Max number of rows in tables—For ART database, this value is limited to 2,000,000 rows for the billing table. Any records above this limit are deleted. For CDR database, this value is set at 1,500,000 for the CDR table.
 - Notify users when number of rows reaches—In this field, enter the percentage of rows that can be filled with data before you are notified. The default is 80%.
- Step 4** To have an e-mail alert sent to all users designated as ART Administrators, check the **Mail to Administrator** box. If you do not want ART administrators to be notified, do not check the box. You can also specify other users to be notified in place of or in addition to the ART Administrator(s). If you want only ART Administrators to be notified, you can check the box and then skip to Step 10.

When the percentage of rows that can be filled with data has been met, an e-mail is sent to the users specified in the **To...** field.

- Step 5** In the **To...** field, the default is ART Administrator. When set to ART Administrator, an e-mail alert is sent to all the users who are designated ART Administrators. You can send mail to users other than ART administrators as well by typing the e-mail ID of the people you want e-mails sent to, or search for users by clicking the **To...** button.
- A User Search window displays.
- Step 6** In the First Name and Last Name boxes, enter characters of the user's first or last name to whom you want an e-mail alert sent, and click **Search**.
- A User Search Results window displays, listing all users who matched the characters you entered.
- Step 7** In the row for the user you want an e-mail alert sent to, click **Select**.
- The user you selected is added to the list of users in the User Search window.
- Step 8** Repeat Steps 5 through 7 to add more users to the list of people to be alerted via e-mail. When you have added all users, click **OK** in the User Search window.
- The users listed in the Search Users window are copied to the **To...** field.
- Step 9** To carbon copy users on the alert, enter the users' e-mail IDs in the **CC...** field or click the **CC...** button and repeat Steps 4 through 7 to add users to the **CC...** field.
- Step 10** In the Mail Subject field, accept the default "Alert for ART Database" or "Alert for CDR Database" subject, or type over it with your own subject message.
- Step 11** In the Mail Message field, accept the default text or type over it to write your own message.
- Step 12** Click **Update**.
- When the database reaches the designated size, an e-mail alert will be sent to the users listed in the **To...** field using the subject message and text provided in the Mail fields.
-

Related Topics

- [Setting Notification Limits for QoS and Daily Charges, page 2-64](#)

Configuring ART and CDR Database Purge

ART provides manual and automatic purging of the CDR and ART database. When data is purged, records that are older than the number of day(s) specified for the ART or CDR database are deleted. Automatic database purging is disabled by default. When enabled, automatic purges of the CDR and ART databases occur when daily reports are automatically generated. Default purging for ART records occurs when records are older than 180 days. Default purging for CDR data occurs when records are older than 60 days.

Use the manual database purge when you want to delete records older than a particular date, but don't want to change the automatic purge schedule.

**Note**

Schedule database purges or manual purging during off-peak hours to minimize any degradation on Cisco CallManager performance.

Related Topics

- [Configuring Automatic Database Purge, page 2-43](#)
- [Disabling Automatic Database Purge, page 2-44](#)
- [Manually Purging the ART or CDR Database, page 2-45](#)
- [Restoring Database Purge Defaults, page 2-46](#)

Configuring Automatic Database Purge

You can schedule ART to automatically purge the ART and CDR databases. If you want to manually purge the database, see [Manually Purging the ART or CDR Database, page 2-45](#).

Use the following procedure to schedule automatic purging of the databases.

Procedure

-
- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on [page 1-12](#) for instructions on how to open ART.
- Step 2** Click **System > Database > Database Purge**.

The Database Purge window displays.

Step 3 In the **Automatic Database Purge** area, enter the age, in days, of the CDR and ART records you want to purge from the database. Only records older than the specified number of days will be deleted.

Step 4 Click **Update**.

The values you specified have been saved and records have been deleted. Each day, more records are deleted as their age reaches the threshold you specified.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Manually Purging the ART or CDR Database, page 2-45](#)
- [Configuring ART and CDR Database Purge, page 2-43](#)
- [Disabling Automatic Database Purge, page 2-44](#)
- [Restoring Database Purge Defaults, page 2-46](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Disabling Automatic Database Purge

You can schedule ART to automatically purge the ART and CDR databases. Use the following procedure to schedule automatic purging of the databases.

Procedure

Step 1 Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.

Step 2 Click **System > Database > Database Purge**.

The Database Purge window displays.

Step 3 In the Automatic Database Purge area, check the box for **Disable CDR Purge** if you want to disable the automatic purging of CDR data.

Step 4 In the Automatic Database Purge area, check the box for Disable ART Purge if you want to disable the automatic purging of ART records.

Step 5 Click **Update**.

Automatic purging of data for the database(s) you specified is terminated.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Configuring ART and CDR Database Purge, page 2-43](#)
- [Configuring Automatic Database Purge, page 2-43](#)
- [Manually Purging the ART or CDR Database, page 2-45](#)
- [Restoring Database Purge Defaults, page 2-46](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Manually Purging the ART or CDR Database

You can purge the ART and CDR databases on demand. Use the following procedure to manually purge the ART or CDR database.

Procedure

Step 1 Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.

Step 2 Click **System > Database > Database Purge**.

The Database Purge window displays.

Step 3 In the **Select Database** field, choose the database you want to purge manually, either ART or CDR.

Step 4 In the **Select Table** field, choose the table in the database that you want to purge. You can click the **Table Information** button to open a new window that shows all the tables for which manual purge is permitted. It shows the number of records and the date of the latest and oldest record in that table.

- Step 5** In the **Delete Records Older Than** field, choose a date that will determine which records will be purged. All records older than the date you specify will be deleted when you click Purge.
- Step 6** Click **Purge**.
A prompt advises you that you are about to permanently delete the specified records.
- Step 7** Click **OK** to purge the records or **Cancel** to abort the purge operation.
The records in the table you specified that are older than the date you specified have been deleted.
-

Related Topics

- [Configuring ART and CDR Database Purge, page 2-43](#)
- [Configuring Automatic Database Purge, page 2-43](#)
- [Disabling Automatic Database Purge, page 2-44](#)
- [Restoring Database Purge Defaults, page 2-46](#)

Restoring Database Purge Defaults

You can restore the default values for automatic database purging using the following procedure. By default, database purging is disabled. If you restore default values, purging will be disabled.

Procedure

- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.
- Step 2** Click **System > Database > Database Purge**.
The Database Purge window displays.
- Step 3** In the **Automatic Database Purge** area, click **Restore Defaults**.
The default values have been restored.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Configuring ART and CDR Database Purge, page 2-43](#)
- [Configuring Automatic Database Purge, page 2-43](#)
- [Disabling Automatic Database Purge, page 2-44](#)
- [Manually Purging the ART or CDR Database, page 2-45](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Generating Logs

ART provides logs that can be used to track the status of the various activities. The event log tracks events triggered by the ART Scheduler, such as automatically generated reports, loading of CDRs, database alerts notifications, report deletions, and database purging. The error log tracks errors that ART encountered while performing various tasks, such as report generation, loading CDR data, and so on. The error log assists with debugging and diagnosing problems in ART functionality.

Related Topics

- [Configuring the Event Log, page 2-47](#)
- [Configuring the Error Log, page 2-49](#)

Configuring the Event Log

The event log is a report on the status of the activities controlled by the ART scheduler, such as automatic report generation and loading CDR data. The report shows whether the tasks have started, completed successfully, or are in progress.

Use the following procedure to configure the event log report.

Procedure

- Step 1** Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.
- Step 2** Click **System > Log Screens > Event Log**.
- The Event Log window displays.
- Step 3** Select the button for the frequency of the tasks you want to view in the log file, either **Daily**, **Weekly**, or **Monthly**.
- Step 4** In the **List of Jobs** box, click to select the tasks you want information about. You can select multiple reports by holding down the Control key while clicking on the desired reports.
- Step 5** Click **Add** to add the task(s) to the Selected Jobs list, or click **Add All** to add each task to the list. You can remove tasks by selecting the task in the Selected Jobs list and clicking **Remove**.
- Step 6** Repeat Steps 3 through 5 to add more tasks from a different frequency. For example, if you added Daily reports initially, but would also like to generate a report that includes monthly or weekly tasks, then you can repeat Steps 3 through 5 to add more tasks.
- Step 7** Select the status(es) you would like to include in the report. You can select all or none of the following:
- **Completed**—If this box is checked, tasks which have completed will be included in the log.
 - **In Progress**— If this box is checked, tasks which are currently in progress will be included in the log.
 - **Unsuccessful**—If this box is checked, tasks which have failed will be included in the log.
- Step 8** Choose a date range by selecting **From** and **To** values.
- Step 9** Click **OK** to generate the event log report.

The event log displays information about the selected tasks. You can print this log by right-clicking on the screen and choosing **Print**, or by pressing **Ctrl + P** on your keyboard. See [Understanding the Event Log Output](#), page 2-49, for more information about the error log output.

Related Topics

- [Understanding the Event Log Output, page 2-49](#)
- [Generating Logs, page 2-47](#)
- [Configuring the Error Log, page 2-49](#)

Understanding the Event Log Output

The event log provides the following information.

SI No	The serial number.
Jobs	The name of the task.
Start Time	The time the task started.
End Time	The time the task ended.
Status	Unsuccessful, in progress, completed
Date	The date the task occurred.

Configuring the Error Log

The error log is a report on the errors that ART encountered while performing various tasks such as report generation, loading CDRs and so on. You can use this information to assist with troubleshooting the system when problems occur.

Use the following procedure to configure the Event Log report.

Procedure

-
- Step 1** Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.
- Step 2** Click **System > Log Screens > Error Log**.
The Error Log window displays.
- Step 3** In the **List of Modules** box, click to select the issues you want information about. You can select multiple items by holding down the Control key while clicking on the desired items.

- Step 4** Click **Add** to add the item(s) to the Selected Modules list, or click Add All to add every module to the list. You can remove modules by selecting the task in the Selected Jobs list and clicking Remove.
- Step 5** In the **List of Users** box, click to select the users you want to include in the log. You can select multiple users by holding down the Control key while clicking on each user.
- Step 6** Click **Add** to add the user(s) to the Selected Users list, or click Add All to add every user to the list. You can remove users by selecting the user in the Selected Users list and clicking Remove.
- Step 7** Choose a date range by selecting **From** and **To** values.
- Step 8** Click **OK** to generate the error log report.

The event log displays information about the selected tasks. You can print this log by right-clicking on the screen and choosing Print, or by pressing Ctrl + P on your keyboard.

Related Topics

- [Understanding the Error Log Output, page 2-50](#)
- [Understanding the Error Log Details, page 2-51](#)
- [Generating Logs, page 2-47](#)
- [Configuring the Event Log, page 2-47](#)

Understanding the Error Log Output

The error log provides the following information.

SI No	The serial number.
Module Name	The name of the module that generated the error.
Message	The description of the error and a recommended resolution.
Details	Provides a link to the error log details which displays the serial number, error code, other error details. See Understanding the Error Log Details, page 2-51 , for more information about the error log details.

Understanding the Error Log Details

The error log details provides the following information.

Sl No	The serial number.
Error Code	The code assigned to the error message.
User Message	Brief message to the user, explaining the error.
Program Name	The program that generated the error.
User	The user name who was logged on when this error occurred
Time	The precise date and time the error was generated.

Rating Parameters

You can use ART to set a base monetary rate for the cost of calls based on a time increment. Then, you can further qualify the cost by applying the time of day and voice quality factors. This feature is commonly used by service provider who must account for service to subscribers. Some organizations also use this information to establish billing costs for users and departments in the organization for accounting or budgeting purposes.

Reports that use these rating parameters include individual bill, department bill, Top N by charge, and top N by duration, among others.



Note

If you do not change the default value for charge base / block, the cost will always be zero because the default base charge per block is zero.

Related Topics

- [Setting the Base Rate and Duration, page 2-52](#)
- [Factoring Time of Day into Call Cost, page 2-53](#)
- [Factoring Voice Quality into Call Cost, page 2-55](#)

Setting the Base Rate and Duration

To establish a cost basis for calls, you must specify a base rate for all calls. For example, if your service provider charges you six cents per minute, billed in 10 second increments, you can set the base rate at which all calls are charged at one cent per 10 second increment. Use the following instructions to establish the base charge and duration values.



Note

If you use the default base charge value, no costs will be provided. Default values are provided, but if left to the defaults, the rating engine is disabled and costs are not provided.

Procedure

-
- Step 1** Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.
- Step 2** To establish the base call charge and duration, click **Report Config > Rating Engine > Duration**.
- The Call Duration window displays.
- Step 3** In the **To (seconds)** field, enter the number of seconds you want the base charge to be applied to. For example, if you are billed in six second increments, you would enter 6 here. If you are billed a flat rate per minute regardless of call duration, you would enter 60 here so the charge is based on whole minutes.
- Step 4** In the **Base Charge / Block** field, enter the cost basis for the number of seconds shown in the To (seconds) field. For example, if you are billed six cents per minute in six second increments, you would enter 0.006 in this field. If you are billed 7 cents per minute in whole minutes (no incremental billing), then you would enter 0.07 in this field.

In the above examples, if you are billed in six second increments and the cost is 0.006 for each six-second increment, then a call that lasted seven seconds would cost 0.012. Rationale: Each 6-second increment costs 0.006, and there were two blocks from 0 to 6 seconds.

Likewise, if you are billed in whole minutes and the cost is 7 cents per minute, then a call that lasted three minutes would cost 21 cents. Rationale: Each 60-second increment costs 7 cents, and there were three blocks of one minute.

Step 5 Click **Update**.

The duration and base charge has been established. Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Rating Parameters, page 2-51](#)
- [Factoring Time of Day into Call Cost, page 2-53](#)
- [Factoring Voice Quality into Call Cost, page 2-55](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Factoring Time of Day into Call Cost

To further define the cost of calls, you can specify a multiplication factor for certain times of day. For example, if you want to charge subscribers a premium for daytime calls, you can apply a multiplication factor to the base charge/block that you specified in the Call Duration window. Use the following instructions to establish certain times of day when calls cost more.

**Note**

If you do not want to increase call cost by time of day, you can use the default values. The default multiplication factor is 1.00, so there is no increase in call cost for time of day.

Procedure

-
- Step 1** Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.
- Step 2** To apply time of day factors to the cost of calls, click **Report Config > Rating Engine > Time of Day**.
- The Time of Day window displays.

Step 3 The default time range is a 24-hour period from 00:00:00 to 23:59:59. If you want to set one time of day range from 8 am to 5 pm, you will actually need to establish three time of day ranges: the first from 00:00:00 to 07:59:59; the second from 08:00:00 to 04:59:59; and the third from 05:00:00.

Click **Add Row** and specify the **From** and **To** time ranges, in 24-hour, minute, and second format, for the time of day ranges you want to establish.

- To add rows, check the box for the row below which you want to add a new row, and click **Add Rows**.

The new row is added above the row you had checked and the check box is cleared.

- To delete rows, check the box for the row you want to delete, and click **Delete Rows**.

The checked row is deleted.

Step 4 In the **Multiplication Factor** field, enter the number by which you want the base charge / block to be multiplied when a call occurs in the specified time range. For example, if you charge a premium of double the price for calls placed between 8 a.m. and 5 p.m., the multiplication factor would be 2.00. A multiplication factor of 1.00 does not affect the cost of the call.

Step 5 Click **Update**.

The time of day ranges and multiplication factors have been established. Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Rating Parameters, page 2-51](#)
- [Setting the Base Rate and Duration, page 2-52](#)
- [Factoring Voice Quality into Call Cost, page 2-55](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Factoring Voice Quality into Call Cost

To further define the cost of calls, you can specify a multiplication factor for the voice quality of a call. For example, if subscribers are paying a premium price to ensure the highest voice quality on calls, you can apply various multiplication factors to the base charge/block that you specified in the Call Duration window depending on the voice quality. Using a multiplication factor other than 1.00 helps you differentiate between the various voice quality calls as well. Use the following instructions to establish when calls that have a certain voice quality cost more.

**Note**

If you do not want to increase call cost by voice quality, you can use the default values. The default multiplication factor is 1.00, so there is no increase in call cost for voice quality.

Procedure

-
- Step 1** Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.
- Step 2** To apply voice quality factors to the cost of calls, click **Report Config > Rating Engine > Voice Quality**.
The Voice Quality window displays.
- Step 3** The voice quality categories, Good, Acceptable, Fair, Poor, are defined in the [“Define Quality of Service \(QoS\) Values”](#) section on page 2-57. In the **Multiplication Factor** field, enter the number by which you want the base charge / block to be multiplied when a call occurs in the specified voice quality category.

Example:

Voice Quality Good; Factor 1.2

Voice Quality Acceptable; Factor 1.0

Voice Quality Fair; Factor 1.0

Voice Quality Poor; Factor 0.8

A good call will be charged 1.2 times that of an acceptable and fair call. A poor call would be charged 0.8 times that of an acceptable and fair call.



Note Multiplication factor for a good call \geq the multiplication factor for acceptable \geq multiplication factor for fair \geq multiplication factor for poor.

Step 4 Click **Update**.

The multiplication factors for voice quality have been established. Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler](#), page 2-40, for more information.

Related Topics

- [Rating Parameters](#), page 2-51
- [Setting the Base Rate and Duration](#), page 2-52
- [Factoring Time of Day into Call Cost](#), page 2-53
- [Starting or Stopping the ART Scheduler](#), page 2-40

Restoring Default Values for Call Cost

You can restore the default values ART uses to determine call cost. By restoring the default value of 0.00 (zero) for the call charge / block, you have effectively disabled the other factors used in determining call cost. Use the following instructions to restore default for all call costs factors.

Procedure

Step 1 Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.

Step 2 To restore the default values for duration and call charge base / block, click **Report Config > Rating Engine > Duration**.

The Call Duration window displays.

To restore the default values for time of day factors, click **Report Config > Rating Engine > Time of Day**.

The Time of Day window displays.

To restore the default values for voice quality factors, click **Report Config > Rating Engine > Voice Quality**.

The Voice Quality window displays.

Step 3 Click **Restore Defaults**.

The default values have been restored. Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Rating Parameters, page 2-51](#)
- [Setting the Base Rate and Duration, page 2-52](#)
- [Factoring Voice Quality into Call Cost, page 2-55](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Define Quality of Service (QoS) Values

ART generates reports about QoS. To qualify the data presented in those reports, ART must use predefined values you set about voice quality. You specify the value ranges that you consider good, acceptable, fair, and poor for jitter, latency, and lost packets. If a call does not satisfy any of the criteria set for the four voice quality categories, it is classified as NA.

You can enter NA (not applicable) to ignore the values of a parameter. Suppose a QoS parameter, for example, jitter, has NA and the QoS is defined as good. This means that the QoS depends only on the values of latency and lost packets. All the three parameters cannot have NA as values. Infinity is the maximum value that is available for any parameter. If you specify a rule where a jitter value from 500 to Infinity is considered poor, then a call with jitter greater than 500 will be classified as poor.

Changes you make in ART take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Procedure

- Step 1** Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.
- Step 2** Click **Report Config > Define QoS**.
The Define Quality of Service window displays.
- Step 3** The rows represent the values ART uses to quantify the conditions good, acceptable, fair, and poor in the QoS reports. For each value that you want to set, enter the upper and lower limits in the From and To boxes.
- To add rows, check the box for the row below which you want to add a new row, and click **Add Rows**.
The new row is added above the row you had checked and the check box is cleared.
 - To delete rows, check the box for the row you want to delete, and click **Delete Rows**.
The checked row is deleted.
- Step 4** For each value you have set, choose the Quality of Service.
- Step 5** Click **Update**.
The QoS values have been set. Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.
-

Related Topics

- [Define Quality of Service \(QoS\) Values, page 2-57](#)
- [Restoring Default QoS Values, page 2-59](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Restoring Default QoS Values

Use the following instructions to restore the default QoS values.

Default values are as follows:

- Lost Packets
 - Good—0.00 to 15.00
 - Acceptable—15.01 to 30.00
 - Fair—30.01 to 45.00
 - Poor—45.01 to Infinity
- Jitter
 - Good—0 to 20
 - Acceptable—21 to 100
 - Fair—101 to 150
 - Poor—151 to Infinity
- Latency
 - There are no default values for latency.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Procedure

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- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.
- Step 2** Click **Report Config > Define QOS**.
- The Define Quality of Service window displays.

Step 3 Click **Restore Defaults**.

The default QoS values have been restored.

Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Define Quality of Service \(QoS\) Values, page 2-57](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Automatic Report Generation/Alert

ART allows you to automatically generate reports based on a schedule. This can include a daily, weekly, or monthly summary report, or QS reports you may want to view on a regular basis. Any report that ART provides can be setup to generate automatically based a default schedule or a specific time that you set. For this feature to work, you must enable the reports you want to generate on a scheduled basis. You can learn more about the scheduling of reports in the [“Scheduling Reports” section on page 2-32](#).

ART provides e-mail alerts for various events. Enabling the system for e-mail alerts is a two-step process. First you must enable the e-mail alerts. Some, but not all, reports are enabled by default. Then you must configure the e-mail that is sent when the alert criteria is met. E-mail alerts can be sent for the following events:

- CDR database exceeds a predefined size
- ART Database exceeds a predefined size
- Change Limit Notification indicates when the daily charge limit for a user exceeded the specified maximum. The maximum can be set in the Report Config > Notification Limits window.
- QoS Notification indicates when the percentage of good calls drops below a specified range, or the percentage of poor calls exceeds a specified limit. The range can be set in the Report Config > Notification Limits window.

Enabling or Customizing Reports for Automatic Generation

Automatically generating reports is a two-step process. First you must enable the reports you want generated, unless they are enabled by default. Second, you must schedule the reports for the day and time you want them to generate. ART provides a default schedule, so if the default schedule is acceptable, then you need only enable the reports you want to automatically generate. Use the following instructions to enable or disable one or all reports for automatic generation. You can also customize the report parameters and enable a mailing option so that reports are e-mailed when they are created.

See [Enabling or Disabling Alerts by Mail, page 2-63](#), for instructions on alerts.

Reports that are enabled by default include:

- Traffic Summary-Hour of Day[Daily]
- Conference Bridge Util-Day of Week[Weekly]
- Gateway Util-Day of Week[Weekly]
- Route Group Util-Day of Week[Weekly]
- Route List Util-Day of Week[Weekly]
- Route Pattern Util-Day of Week[Weekly]
- Traffic Summary-Day of Week[Weekly]
- Voice Mail Util-Day of Week[Weekly]
- Gateway Summary [Monthly]
- Traffic Summary-Hour of Day[Daily]
- QOS Summary [Monthly]
- System Overview [Monthly]

The reports you choose here will be generated at a specific time each day, week, or month, and be purged from the system after a predefined duration. If you want to change the time or life of a report, see [Scheduling Reports, page 2-32](#),

The default values for report scheduling and life are as follows:

- Daily reports are schedule to run at 1 a.m. every day. These reports will be purged after two days.

- Weekly reports are scheduled to run at 2 a.m. every Monday. These reports will be purged after four weeks.
- Monthly reports are scheduled to run at 2 a.m. on the first day of every month. These reports will be purged after two months.

Procedure

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- Step 1** Open ART. See the “[Opening ART — ART Administrators](#)” section on page 1-12 for instructions on how to open ART.
- Step 2** Click **Report Config > Automatic Generation/Alert**.
The automatic Report Generation/Alert window displays.
- Step 3** In the **Reports [Report Generation Interval]** box, click on the report that you want to automatically generate based on the schedule you define in the Scheduler window. (See [Scheduling Reports, page 2-32](#), for more information about scheduling the time that reports are automatically generated.)
- Step 4** In the **Status** field, choose Enabled or Disabled.
- Step 5** To customize the report or have the report e-mailed when it is generated, click **Customize Parameters**. Each report provides different customization options. See the specific instructions for generating the report type for more information about the customization parameters.

Customize the report as desired. Check the **Mailing Option** box to have the report mailed to the interested parties (either individual user, manager, or administrator, depending on the type of report). Click **Update** to save the values you specified and close the Customize Parameters window.
- Step 6** Repeat Steps 3 through 5 to enable or customize other reports.
- Step 7** Click **Update**.
The selected reports have been enabled and/or customized. Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.
- Step 8** If you do not want to use the default schedule, you must next specify a schedule for generating the reports. See [Scheduling Reports, page 2-32](#), for instructions.
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Related Topics

- [Scheduling Reports, page 2-32](#)
- [Starting or Stopping the ART Scheduler, page 2-40](#)

Enabling or Disabling Alerts by Mail

Use the following instructions to enable alerts to be mailed to users specified in the ART or CDR Database Alert window.

Procedure

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- Step 1** Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.
- Step 2** Click **Report Config > Automatic Generation/Alert**.
- The automatic Report Generation/Alert window displays.
- Step 3** In the **Alerts by Mail** box, click on the alert that you want to enable or disable.
- Step 4** In the **Status** field, choose Enabled or Disabled.
- Step 5** Repeat Steps 3 and 4 to enable or disable other alerts.
- Step 6** Click **Update**.

The selected alerts have been enabled and/or customized. Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler, page 2-40](#), for more information.

Related Topics

- [Starting or Stopping the ART Scheduler, page 2-40](#)

Setting Notification Limits for QoS and Daily Charges

You can specify limits for QoS and daily charges so that the administrator(s) are alerted by e-mail when these limits are exceeded. The alerts are sent to all administrators identified in the administration rights window (System > System Parameters > Admin Rights).

Procedure

- Step 1** Open ART. See the [“Opening ART — ART Administrators”](#) section on page 1-12 for instructions on how to open ART.
- Step 2** Click **Report Config > Notification Limits**.
The Set Limits for Notification window displays.
- Step 3** In the **Daily QoS Parameters** area, enter a threshold for good and poor calls, in the form of a percentage of all calls, that must be exceeded to trigger an e-mail alert to the administrator(s). The default for good calls is less than 20%, meaning, when good calls represent less than 20% of all calls, an alert is sent. The default for poor calls is greater than 30%, meaning, when poor calls represent more than 30% of all calls, an alert is sent.
- Step 4** In the **Daily Charge Limit** area, enter the number of monetary units (such as dollars, guilders, pounds, and so on) that, when exceeded by any user in the system, will trigger an e-mail alert to be sent to administrator(s).
- Step 5** Click **Update**.
The notification limits have been established. Changes take effect at midnight. You can force the change to take effect immediately by stopping and restarting the ART Scheduler service. See [Starting or Stopping the ART Scheduler](#), page 2-40, for more information.
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Related Topics

- [Starting or Stopping the ART Scheduler](#), page 2-40