



## **Cisco Unified Communications Express Historical Reporting Client Configuration Guide**

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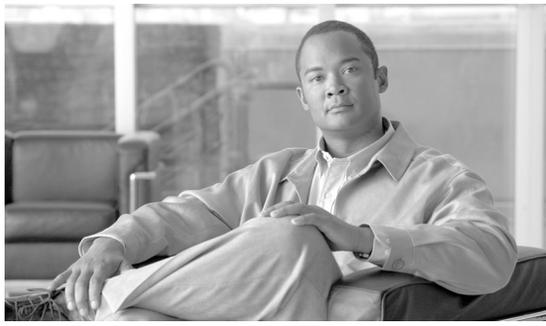
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# CHAPTER 1

## Introduction to the Cisco Unified Communications Express Historical Reporting Client

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The Cisco Unified Communications Express Historical Reporting Client (also referred to as Cisco UCE Historical Reporting Client) is a software system that provides information about past call activities of a Cisco Unified Communications Express (Cisco UCE) system. The Cisco UCE Historical Reporting Client (HRC) runs in a separate window application that is used to view reports from a single Cisco Unity Express application.

Data about past call activities is stored in a database as the Cisco Unified Communications Express system runs. This data is used as a basis for the reports.

To run Cisco Unified Communications Express Historical Reporting Client software:

- You must be logged into the Cisco Unity Express Administration web interface.
- You must have historical reporting (HR) privileges.



### Note

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An Interactive Voice Response (IVR) license is not required to run the Cisco Unified Communications Express Historical Reporting Client.

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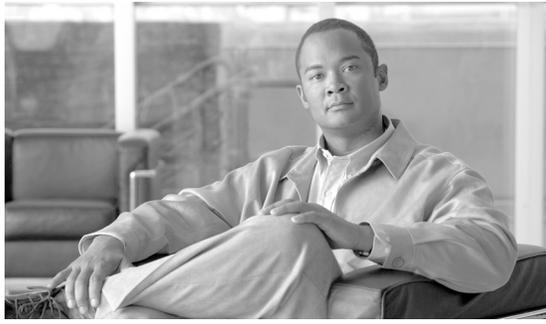
Use the Cisco Unified Communications Express Historical Reporting Client to do the following:

- View, print, and save reports.
- Sort and filter reports.
- Schedule reports and send them to a file or printer.
- Export reports in a variety of formats, including Portable Document Format (PDF), Microsoft Excel (XLS), Rich Text Format (RTF), Extensible Markup Language (XML), and Comma-Separated Values (CSV).
- Prepare custom reports using a variety of generally available third-party applications that are designed to create reports from a database.

When you first start Cisco Unified Communications Express Historical Reporting Client, you will see the Main Window. For more information, go to the following chapters contained in this guide:

- Installation and Configuration, page 2-1
- Main Window, page 3-1
- Report Descriptions, page 4-1

- Generating Historical Reports, page 5-1
- Scheduling Historical Reports, page 6-1



## CHAPTER 2

# Installation and Configuration

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The following topics describe how to install and configure the Cisco Unified Communications Express Historical Reporting Client (Cisco UCE).

- Installing Cisco UCE Historical Reports, page 2-1
- Setting User Permissions to Cisco UCE Historical Reports, page 2-3
- Configuring Cisco UCE Historical Reporting Client, page 2-4

## Installing Cisco UCE Historical Reports

The following sections explain how to install, reinstall, upgrade, or uninstall the Cisco UCE Historical Reporting Client.

- Prerequisites, page 2-1
- Install and Upgrade, page 2-2

## Prerequisites

Ensure that you can access the Cisco UCE server. Do not install the Cisco UCE Historical Reporting Client on the Cisco UCE server. You can install the client software on as many client computers as you like. The client computer must run either of the following operating systems:

- Microsoft Windows 2000 Professional (Service Pack 4 or higher)
- Microsoft Windows XP Professional

The client computer must also have the following software installed:

- Microsoft Internet Explorer 5.5 or higher version.
- Microsoft Data Access Component (MDAC) version 2.7 or higher

Before installing or upgrading the software, perform the following steps. These steps show how to exit the Cisco UCE Historical Reporting Client and the Cisco UCE Historical Reporting Client Scheduler.

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**Step 1** From the Cisco UCE Historical Reporting Client main window, choose **File > Exit**.

From the main window of Cisco UCE Historical Reporting Client, right-click the **Scheduler** icon and choose **Exit**.

The Scheduler unloads and will not execute schedules.

If the Cisco UCE Historical Reporting Client or Cisco UCE Historical Reporting Client Scheduler are running, the following message is displayed in the Cisco UCE Historical Reporting Client Setup dialog box: “Please ensure that the CUCE Historical Reporting Client and CUCE Historical Reporting Client Scheduler are stopped before proceeding.”

**Step 2** Click **OK**.

---

## Install and Upgrade

To install or reinstall, upgrade, or uninstall Cisco UCE Historical Reporting Client, perform the following steps:

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**Step 1** Download the installer from the Cisco Unity Express software download pages on [www.cisco.com](http://www.cisco.com) by going to the following link:

<http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>

Find the file, CUCEHistoricalReportsInstall-X.Y.Z.exe where X.Y.Z is the release version. For example, CUCEHistoricalReportsInstall-3.0.1.exe.

**Step 2** On the client computer, use Microsoft Windows Explorer (or similar file browsing software), to navigate to the installer executable file. Double-click the installer file to execute the installer.

The message “Preparing Setup. Please wait while the InstallShield Wizard prepares the setup” appears.

- If you already have a version of Cisco UCE Historical Reports installed, the message “A previous version <version number> of Cisco Historical Reporting Client is detected on your system. Please select the task to perform:” appears in the Cisco Historical Reporting Client Setup dialog box.
  - reinstall/upgrade or uninstall, go to Step 3.
- If you are installing Cisco UCE Historical Reports for the first time on this computer, and there is not an existing version of the software on the computer, the message “Welcome to the InstallShield Wizard for Cisco Historical Reporting Client” message appears in the Cisco Historical Reporting Client Setup dialog box.
  - install, go to Step 4.

**Step 3** If you are doing a reinstall, upgrade, or uninstall, do one of these two actions:

- a. To upgrade or reinstall the Cisco UCE Historical Reporting Client, click **Upgrade/Reinstall Version**.

The message “Cisco Historical Reporting Client is configuring your new software” appears.

(The remaining steps for upgrade/reinstall are the same as for the final install steps.)

- Click **Next**.

The message “Would you like to create a shortcut for Cisco UCE Historical Reports on your desktop?” appears in the Desktop Shortcut dialog box.

- Click **Yes** to create a shortcut for Cisco UCE Historical Reporting Client on your Windows desktop.

The message “InstallShield Wizard Complete” appears.

- Click **Finish**.

The upgrade/reinstall is complete.

- b. To uninstall the Cisco UCE Historical Reporting Client, choose **Uninstall Version** and click **Next**. The “Confirm Uninstall” dialog box appears.

- Click **OK**.

After a pause, the message “Maintenance Complete” appears.

- Click **Finish**.

The uninstall is complete.

- Step 4** If you are installing In the Cisco Historical Reporting Client Setup dialog box, click **Next**.  
The message “Cisco Historical Reporting Client is configuring your new software installation” message appears.  
The message “Please select the drive where you would like to install CUCE Historical Reporting Client” appears.
- Step 5** Choose a drive and click **Next**.  
The License Agreement appears.
- Step 6** After reading the license agreement, click **Yes**.  
The message “Please enter the CUCE hostname or IP address” appears.
- Step 7** Enter the hostname or IP address of the Cisco Unified Communications Express host, and click **Next**.  
If you do not enter this information now, you can enter it later when you start the Cisco UCE Historical Reporting Client. The IP address/hostname is the address of the Cisco Unity Express module.  
The message “Start Copying Files. Review settings before copying files” appears.
- Step 8** Click **Next**.  
The message “Would you like to create a shortcut for CUCE Historical Reports on your desktop?” appears in the Desktop Shortcut dialog box.
- Step 9** Click **Yes** to create a shortcut for Cisco UCE Historical Reporting Client on your Windows desktop.  
The message “InstallShield Wizard Complete” appears in the Cisco UCE Historical Reporting Client Setup dialog box.
- Step 10** Click **Finish**.  
The install is complete. The computer restarts, if necessary.
- 

## Setting User Permissions to Cisco UCE Historical Reports

This section explains how to set user permissions to access the following reports. These topics are explained in the “Report Descriptions” section on page 4-1.

- Abandoned Call Detail Activity Report, page 4-1
- Application Performance Analysis Report, page 4-3
- Call Custom Variables Report, page 4-2
- Called Number Summary Activity Report, page 4-3
- Traffic Analysis Report, page 4-5

To set up the user to have “ViewHistoricalReports” privilege, perform the following steps.

- 
- Step 1** Access the Cisco Unified Communications Express Administration software and set up the user. (If the user is a member of the “Administrator” group they will automatically have “ViewHistoricalReports” privilege.)
- Step 2** Set privilege “ViewHistoricalReports” for the user.
- 

## Configuring Cisco UCE Historical Reporting Client

To begin configuring Historical reporting, go to **Administration > Historical Reporting**.

Configuring Cisco UCE Historical Reporting Client is explained in the following sections:

- Prerequisites, page 2-1
- Editing a Configuration File, page 2-4
- Configuration File hrcConfig.ini, page 2-5
- Configuration File SCH.ini, page 2-6

To edit configuration files for Cisco UCE Historical Reporting Client, perform the steps as explained in the “Prerequisites” section on page 2-1 and the “Editing a Configuration File” section on page 2-4.

Two configuration files are maintained on each client computer:

- Configuration File hrcConfig.ini: contains general instructions and is stored in the ~\CUCE Historical Reports directory. For example, the directory c:\Program Files\Cisco Systems\CUCE Historical Reports.
- Configuration File SCH.ini: contains instructions on how to run the Scheduler and is stored in the ~\CUCE Historical Reports\Scheduler directory. For example, the directory c:\Program Files\Cisco Systems\CUCE Historical Reports\Scheduler. See also Chapter 6, “Scheduling Historical Reports.”

## Prerequisites

If you plan to edit the hrcConfig.ini file, and the Cisco UCE Historical Reporting Client software is running, first exit the software by choosing File > Exit in the main window.

If you plan to edit the SCH.ini file, and the Cisco UCE Historical Reporting Client Scheduler is running, first exit the Scheduler by right-clicking the **Scheduler** icon that appears in the status area on your Windows task bar and choosing **Exit**. See also Chapter 6, “Scheduling Historical Reports.”

## Editing a Configuration File

Configuration files hrcConfig.ini and SCH.ini are described in the “Configuration File hrcConfig.ini” section on page 2-5 and the “Configuration File SCH.ini” section on page 2-6. To edit a configuration file, follow these steps:

- 
- Step 1** Use any text editor (for example, Notepad) to open the configuration file.



**Note** If you edit the configuration files and make changes that are not recognized by the system, the system may be corrupted.

- Step 2** Make changes to parameters as desired. For example, you can change “NumOfLogFiles = 10” to “NumOfLogFiles = 11.” Commented lines in the configuration files start with a semi-colon ( ; ).
- The parameters you can change are shown in the following sections:
- Configuration File hrcConfig.ini, page 2-5
  - Configuration File SCH.ini, page 2-6
- Step 3** Save the configuration file when you finish with your changes and exit the Editor.
- Step 4** If you are editing the hrcConfig.ini file, start the Cisco UCE Historical Reporting Client or right-click the **Scheduler** icon in the status area of the Windows taskbar and choose **Start Scheduler**. Your changes now take effect.

## Configuration File hrcConfig.ini

The hrcConfig.ini file contains general instructions for the Cisco UCE Historical Reporting Client system. Table 2-1 shows the parameters in this .ini file.

**Table 2-1** hrcConfig.ini file: Parameters

Parameter	Description and Default Value
defaultHost	IP address or hostname that appears in the Server field in the Cisco UCE Historical Reporting Client Login dialog box. <ul style="list-style-type: none"> <li>• IP address or hostname of the server that most recently logged into server. This is the default IP address/hostname.</li> </ul>
defaultExportPath	File path name of the folder to hold scheduled reports to be exported to a file. <ul style="list-style-type: none"> <li>• Installation directory for Cisco UCE Historical Reports.</li> </ul>
showUserNameOnReport	Show the username of the user who is logged in when a report is generated. <ul style="list-style-type: none"> <li>• 0: Name does not appear.</li> <li>• 1: Name appears. (Default: 1.)</li> </ul>
logLevel	Level of detail for recording events in the log file. <ul style="list-style-type: none"> <li>• 1: Record errors only. (Default: 1.)</li> <li>• 2: Record errors and warnings.</li> <li>• 3: Record errors, warnings, and debugging messages.</li> </ul>
NumOfLogFiles	Number of log files being maintained by the system. A new file is created whenever the current file reaches the size specified by MaxSizeOfLogFiles. (See the next parameter, MaxSizeOfLogFiles.) <ul style="list-style-type: none"> <li>• 1 (Integer) or greater. (Default: 10.)</li> </ul>

Table 2-1 hrcConfig.ini file: Parameters (continued)

Parameter (continued)	Description and Default Value (continued)
MaxSizeOfLogFiles	<p>Maximum size of the log file. When the current log file reaches this size in KB, a new log file is created by the Cisco UCE Historical Reporting Client.</p> <ul style="list-style-type: none"> <li>1 (Integer) or greater. (Default: 1000.)</li> </ul> <p><b>Note</b> We recommend the 1000 KB value for this parameter because a log file that is larger than 1000 KB can be difficult to read, and several large log files may occupy a significant amount of disk space.</p>
database (under [SCH])	<p>Database file holding scheduling information in the directory: c:\Program Files\Cisco Systems\CUCE Historical Reports\Scheduler.</p> <p><b>Note</b> If you change this parameter, you must also change the database parameter in the SCH.ini configuration file to the same value. See the “Configuration File SCH.ini” section on page 2-6.</p> <ul style="list-style-type: none"> <li>HistoricalReportsScheduler.mdb.</li> </ul>
Provider (under [SCH])	<i>Display only.</i> Name of the provider.
SERVER (under [CUE_DATABASE])	<i>Display only.</i> IP address or hostname of the server containing historical data for the Cisco UCE Historical Reporting Client.
DATABASE (under [CUE_DATABASE])	<i>Display only.</i> Main historical database on the Cisco UCE server used by the Cisco UCE Historical Reporting Client.
UID (under [CUE_DATABASE])	<i>Display only.</i> User identification used to log in to the Cisco UCE database on the Cisco UCE server.
NETWORK (under [SCH])	<i>Display only.</i> Network library used by the Cisco UCE Historical Reporting Client when connecting to the Cisco UCE scheduler.
MAXCONNECTIONS (under [CUE_DATABASE])	Maximum number of connections.
NODE_ID (under [CUE_DATABASE])	Cisco UCE node ID.

## Configuration File SCH.ini

The SCH.ini file contains general instructions for the Scheduler, including the location of the Scheduler database, the level of detail in which to record log file information, and how to handle missed schedules. If a schedule was missed, when the Scheduler starts a dialog box asks whether you want to execute missed schedules. Table 2-2 shows the parameters in the SCH.ini file.

Table 2-2 SCH.ini File: Parameters

Parameter	Explanation
database	Database containing schedule information in the following directory: Cisco Unified Communications Express Historical Reports \Scheduler. If you change this parameter, you must also change the <b>database</b> parameter in the hrcConfig.ini configuration file to the same value. <ul style="list-style-type: none"> <li>HistoricalReportsScheduler.mdb</li> </ul>
NumOfMissedScheduleRuns	When one or more scheduled reports are missed because the Scheduler is not running, specifies up to how many of the missed reports will be generated. These missed reports will only be generated if one of the parameters such as Missed_daily, Missed_weekly, Missed_monthly are set to 1. <ul style="list-style-type: none"> <li>0 (zero) or greater. (Default: 1.)</li> </ul>
Missed_daily	For reports that are scheduled to run daily, specifies whether the reports should be generated if they are missed and you choose to execute missed schedules. <ul style="list-style-type: none"> <li>1: Generate the report. (Default: 1.)</li> <li>0: Do not generate the report.</li> </ul>
Missed_weekly	For reports that are scheduled to run weekly, specifies whether the reports are generated if they are missed and you choose to execute missed schedules. <ul style="list-style-type: none"> <li>1: Generate the report. (Default: 1.)</li> <li>0: Do not generate the report</li> </ul>
Missed_monthly	For reports that are scheduled to run monthly, specifies whether the reports are generated if they are missed and you choose to execute missed schedules. <ul style="list-style-type: none"> <li>1: Generate the report. (Default: 1.)</li> <li>0: Do not generate the report.</li> </ul>
Missed_once	For reports that are scheduled to run once, specifies whether the reports should be generated if they are missed and you choose to execute missed schedules. <ul style="list-style-type: none"> <li>1: Generate the report. (Default: 1.)</li> <li>0: Do not generate the report.</li> </ul>
logLevel	Level of detail in which the system records events in the Scheduler log files. <ul style="list-style-type: none"> <li>1: Record Scheduler errors only.</li> <li>2: Record Scheduler errors and Scheduler warnings.</li> <li>3: Record Scheduler errors, Scheduler warnings, and schedule information. (Default: 3.)</li> <li>4: Record Scheduler errors, Scheduler warnings, and detailed schedule information</li> </ul>

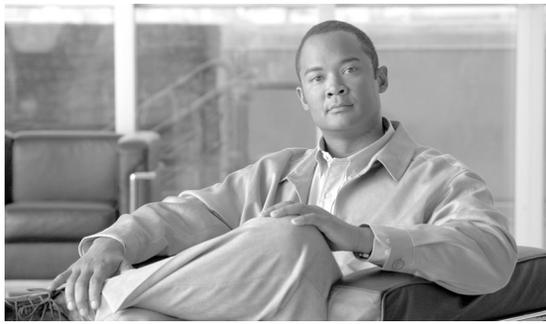
**Related Topics**

- Scheduling Historical Reports, page 6-1

**Where to Go Next**

See Chapter 3, “Main Window.”





# CHAPTER 3

## Main Window

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The Main Window of the Cisco Unified Communications Express (Cisco UCE) Historical Reports Client consists of the following options:

- Menu Bar, page 3-2
- Toolbar, page 3-3
- Reporting Task Pane, page 3-4
- General and Detailed Tabs, page 3-4
- Schedule, View, Reset, Help Buttons, page 3-5

Each of these options are explained in Table 3-1.

**Table 3-1**      **Main Window Options: Descriptions**

Option	Description
Menu Bar	Options for File, View, Settings, and Help.
Toolbar	Quickly access menu options for opening a file, saving a file, changing login username and password, and viewing the scheduled log files.
Reporting Task Pane	Radio buttons for generating, viewing, scheduling, and loading a report.
General and Detailed Tabs	Options for specifying the type, sorting, and filtering of a report.
Schedule, View, Reset, Help Buttons	<p><b>View Button</b> (The View Button is only visible if the Generate option is selected in the Reporting Task Pane). Clicking the <b>View</b> button generates a report and allows you to view the report.</p> <p><b>Schedule Button</b> (The Schedule button is only visible if Schedule future reports is selected in the Reporting Task Pane). Clicking the <b>Schedule</b> button schedules a report and shows the historical data within a date range.</p> <p><b>Reset Button:</b> Resets the settings to the original report settings.</p> <p><b>Help Button:</b> Shows online help information.</p>

## Menu Bar

The Menu Bar, which is situated at the top of the main window, consists of options including: File, Edit, Tools, Debug.

The following sections show the menu bar options in the main window of Cisco UCE Historical Reports:

- File Menu, page 3-2
- View Menu, page 3-2
- Settings Menu, page 3-3
- Help Menu, page 3-3

## File Menu

The File Menu allows you to open, or save current report settings files. Table 3-2 lists the options that you can use in the File Menu.

**Table 3-2 File Menu: Descriptions**

Option	Description
Open	Display a list of report settings files.
Save	Save current report settings file.
Save As	Open a Save window to save the current report settings file by entering a filename with a .chc extension.
Exit	Exit the Cisco UCU Historical Reports client.

## View Menu

The View Menu allows you to toggle on/off two areas of the main window: the Toolbar and the Status Bar. The Toolbar is situated towards the top of the main window, below the Menu Bar. The Status Bar is situated at the lowest part of the main window. Table 3-3 lists the options that you can use in the View Menu.

**Table 3-3 View Menu: Descriptions**

Option	Description
Toolbar	Display tools in the Toolbar to use as alternatives to the equivalent options in the Menu Bar.
Status bar	Display current date and time.

## Settings Menu

The Settings Menu allows you to log in as a different user to a different server, or to access the Reports Scheduler. Use the Reports Scheduler to add, change, or delete schedules. Table 3-4 lists the options that you can use from the Settings Menu.

**Table 3-4 Settings Menu: Descriptions**

Option	Description
Login	Log in as a different user or log in to a different server. See <b>Settings &gt; Login</b> in the Menu Bar.
Scheduler	List schedules stored in the Reports Scheduler. See the “Viewing and Deleting Schedules” section on page 6-9.

## Help Menu

Table 3-5 lists the options that you can use in the Help Menu.

**Table 3-5 Help Menu: Descriptions**

Option	Description
Contents	Open the first page of the online help system in a browser window.
Search For Help On	Open the search page of the online help system in a browser window.
Application Logs	List the .log files in the logs directory. The logs directory is located underneath the directory in which you installed the Cisco UCE Historical Reports system. The default system directory is in the ~Program Files directory.
About	Display the version number of Cisco UCE Historical Reports client software, User Name of current session, Apps Server, Database Server.

## Toolbar

An alternative method for choosing the main options in the drop-down list is to use the toolbar.

The toolbar, which contains a series of icons, is situated toward the top of the main window, below the Menu Bar.

When you position the cursor over an active tool, a tooltip appears. For example, if you hover the cursor over the first toolbar icon, “Open” is displayed.

Information about each of the different tools is in Table 3-6.

**Table 3-6 Basic Toolbar: Descriptions**

Option	Description
Open	Display a list of report settings files. Equivalent to <b>File &gt; Open</b> in the Menu Bar.
Save	Save current report settings file. Equivalent to <b>File &gt; Save</b> in the Menu Bar.

**Table 3-6 Basic Toolbar: Descriptions (continued)**

Option	Description
Login	Log in as a different user or log in to a different server. See <b>Settings &gt; Login</b> in the Menu Bar.
Scheduler	List schedules stored in the Reports Scheduler. See the “Viewing and Deleting Schedules” section on page 6-9. Equivalent to <b>Settings &gt; Scheduler</b> in the Menu Bar.
Help	Access the online help system.

## Reporting Task Pane

This is the first area at the top of the Main Menu, below the toolbar and Menu Bar. Table 3-7 lists the options that are available in the Reporting Task Pane.

**Table 3-7 Reporting Task Pane: Descriptions**

Option	Description
Generate and view historical reports	Specify settings including the report type, date and time range. See Chapter 5, “Generating Historical Reports.”
Schedule future reports, including repeat reports	Specify settings including the report type, schedule, and export file type. See Chapter 6, “Scheduling Historical Reports.”
Load existing report setting	Specify settings saved from the last time you generated or viewed a report. See the “Loading Report Settings” section on page 5-5.

## General and Detailed Tabs

The main options of Options of Cisco Unified Communications Express Historical Reports are in the General and Detailed tabs of the main window. Table 3-8 and Table 3-9 list the general and detailed options that are available.

**Table 3-8 General Tab: Descriptions**

Option	Description
Report Type	Specify the type of report to view/generate, which is one of a range of available reports. See Chapter 4, “Report Descriptions.”
Include charts in report	Check the box to include the optional charts along with the main report. See each report described in Chapter 4, “Report Descriptions.”
Time Range	Specify the time range by defining the period between the Report Start Date and the Report End Date.
Reminder	A warning message. For example, generating reports at an off-peak time minimizes impact on the server.

**Table 3-9 Detailed Tab: Descriptions**

Option	Description
Sort Report By	Specify settings including the report type, date, and time range. See the “General Report Settings” section on page 5-1.
Filter Parameter	Specify settings including the report type, schedule, and export file type. See Chapter 6, “Scheduling Historical Reports.”
Parameter Setting area	Available panel contains parameter settings based on the filter parameter.  Selected panel holds the settings chosen from the Available panel.  See the “Specifying a Filter Parameter” section on page 5-3.

## Schedule, View, Reset, Help Buttons

The three buttons in the lower half of the main window are either Schedule|Reset|Help or View|Reset|Help. See Table 3-10 for more information.

The Schedule button is visible if the “Generate and view historical reports” option is selected in the Reporting Task Pane. Clicking the **Schedule** button gives you access to the Scheduler.

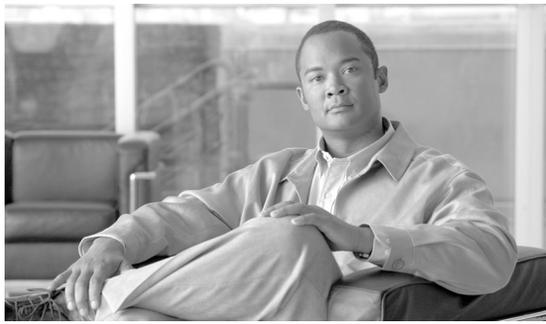
**Table 3-10 Schedule, View, Reset, Help Button: Descriptions**

Option	Description
Schedule	Schedule button: Schedule a report and show the historical data within a specified date range.  <b>Note</b> The Schedule button is only visible if the “Generate and view historical reports” option is selected in the “Reporting Task Pane” section on page 3-4.
View	View button: Generate and view a report.  <b>Note</b> The View button is only visible if “Schedule future reports...” is selected in the “Reporting Task Pane” section on page 3-4.
Reset	Reset the settings to the original report settings.
Help	Show online help.

## Where to Go Next

See Chapter 4, “Report Descriptions.”





# CHAPTER 4

## Report Descriptions

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Table 4-1 lists the reports that can be created by the Cisco UCE Historical Reporting Client.

**Table 4-1 Report Description: Fields**

Report	Description
Abandoned Call Detail Activity Report	Detailed information about each abandoned call during the specified report period.
Application Performance Analysis Report	Summary information about calls received by each application.
Traffic Analysis Report	Calls received by each Cisco UCE system for each day in the report range.
Called Number Summary Activity Report	Numbers dialed by callers.
Call Custom Variables Report	Information about any custom variables.

## Abandoned Call Detail Activity Report

The Abandoned Call Detail Activity Report provides information about calls that are abandoned. A call is abandoned if it does not get past the workflow Set Contact Info step that sets the handled flag. The Abandoned Call Detail Activity Report can include the following chart:

- **Calls Abandoned Each Day**—For each day in the date range, displays the total number of calls abandoned.

Table 4-2 lists the statistics that are produced in the Abandoned Call Detail Activity Report for each abandoned call.

**Table 4-2 Abandoned Call Detail Activity Report: Fields**

Field	Description	Sort Capability
Call Start Time	Date and time that this call started.	Y—Displays the report in order of the date and time that the call started.
Called Number	Telephone number that the caller dialed.	N

**Table 4-2 Abandoned Call Detail Activity Report: Fields (continued)**

Field	Description	Sort Capability
Call ANI (automatic number identification)	Telephone number of the originator of the caller.	Y—Displays the report in order of the telephone number that the caller is calling from.
Call Abandon Time	Date and time that the call was abandoned.	Y—Displays the report in order of the date and time that the call was abandoned.

## Call Custom Variables Report

The Call Custom Variables Report shows information about any custom variables that are set by the Set Session Info step in the workflow that the application has associated with an active call. The Call Custom Variables Report can be used to get peg-counts related statistics for IVR/AA applications. For example, if the customer wants to peg count the number of users who select “Dial by Extension” and “Dial by Name” in the autoattendant application, they can use this report to gather such statistics.

The Call Custom Variables Report can be sorted by the following criteria:

- Call Start Time—Displays the report in order of call start times.

The Call Custom Variables Report can be filtered by any of the parameters found in Table 4-3.

**Table 4-3 Call Custom Variables Report Filter: Fields**

Filter Parameter	Result
Original Called Number	Information about the specified original called number or numbers.
Called Number	Information about the specified called number or numbers.
Calling Number	Information about the specified calling number or numbers.
Application Name	Information about the specified application or applications.
Contact Type	Information about the specified contact type or types (incoming, outgoing, internal).
Duration Greater Than or Equal to T seconds	Calls with duration greater than or equal to the number of seconds specified by T.
Duration Less Than or Equal to T seconds	Calls with duration less than or equal to the number of seconds specified by T.
Custom Variables “_ccdrVar1” through “_ccdrVar10,” Any Custom Variable	Calls with specified variables. Enter a whole string or a substring for which to search. Separate multiple strings with commas.

## Set Session Info

The Set Session Info step stores custom data for use in the Call Custom Variables Report. See the *Cisco Unity Express Guide to Writing and Editing Scripts* for more information about Set Session Info.

## Called Number Summary Activity Report

The Called Number Summary Activity Report shows information about each number dialed by an inside or outside caller. This report includes information for calls to IVR applications.

The Called Number Summary Activity Report can include these charts:

- Total Calls by Called Number—Displays the total number of calls to each number.
- Average Call Duration by Called Number—Displays the average time that each call lasted for each number dialed.

Table 4-4 lists the information found in the Called Number Summary Activity Report for each number called.

**Table 4-4** Called Number Summary Activity Report: Fields

Field	Description	Sort Capability
Called Number	The route point number associated with the application.	Y—Displays the report in order of the number called. This number is the route point number.
Total Calls	Total number of calls to each number.	Y—Displays the report in order of the total number of calls that were originally dialed to each number.
Avg Calls	Average number of calls per day.	N
Avg Call Duration	Average duration of calls to each number.	Y—Displays the report in order of the average duration of calls to each number.

## Application Performance Analysis Report

The Application Performance Analysis Report shows information about calls received by each application and can include the charts listed in Table 4-5.

**Table 4-5** Application Performance Analysis Report: Descriptions

Chart Name	Description
Total Incoming Calls by Application	Displays the total number of calls that each application received.
Calls Handled vs. Calls Abandoned by Application	Displays the total number of calls handled by each application and total number of calls abandoned while in each application.
Average Call Duration by Application	Displays the average length of calls that each application received.

Table 4-6 lists the information found in the Application Performance Analysis Reports fields for each application.

**Table 4-6** Application Performance Analysis Reports: Fields

Field	Description	Sort Capability
Application ID	Identification number that the system assigned to the application.	Y—Displays the report in order of the identification number that the system assigned to each application.
Application Name	Name of the application.	N
Total Incoming Calls	Number of calls received by the application. This number is equal to the number of calls handled by the application plus the number of calls abandoned while in the application.	Y—Displays the report in order of the number of calls that were received by each application
Calls Handled	Number of calls handled by the application. A call is handled when it reaches the workflow step that defines the call as handled.	N
Calls Abandoned	Number of calls abandoned while in the application. A call is abandoned if it does not reach the workflow step that defines the call as handled.	N
Abandon Rate	Average number of calls that were abandoned in each hour while in the application.	Y—Displays the report in order of average number of calls abandoned per hour while in each application.
Avg Call Duration	Average time that elapsed from the time that the call entered this workflow until the call exited this workflow by hanging up or entering another workflow.	N

# Traffic Analysis Report

The Traffic Analysis Report shows information about incoming calls to the system and can include the charts listed in Table 4-7.

**Table 4-7 Traffic Analysis Reports: Descriptions**

Chart Name	Description
Total Incoming Calls by Date	Displays the total number of calls received by the system for each day in the report range.
Peak Calls by Date	For each date, displays the number of calls received in the hour with the most calls.
Average Call Duration by Date	Displays the average length of calls for each day in the report range.

Table 4-8 lists the information that can be found in the Traffic Analysis Report for each date in the report range.

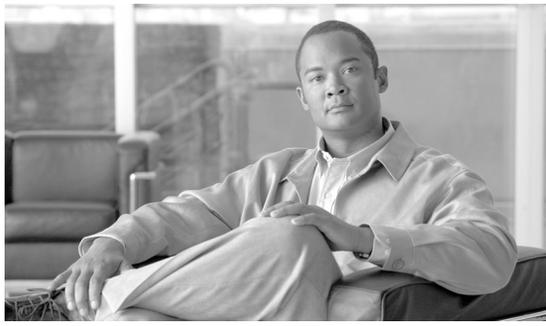
**Table 4-8 Traffic Analysis Reports: Field**

Field	Description	Sort Capability
Date	Date for which information is provided.	Y—Displays the report in order of the date for which information is provided.
Total Incoming Calls	Total number of calls received by the system.	N
Avg Calls	Average number of calls received during each hour.	N
Peak Calls	Number of calls received during the peak hour. (See the next field.)	N
Peak Hour Start, Peak Hour End	Start and end time of the hour during which the largest number of calls were received. This hour is defined as the peak hour.	N
Avg Call Duration	Average call length.	N
Min Call Duration	Length of shortest call.	N
Max Call Duration	Length of longest call.	N

## Where to Go Next

See Chapter 5, “Generating Historical Reports.”





## CHAPTER 5

# Generating Historical Reports

---

To generate a report using the Cisco Unified Communications Express (Cisco UCE) Historical Reporting Client, follow these steps:

1. Choose General Report Settings, including the name of the report, whether to include charts, and the date and time range for which you want information.
2. Choose Detailed Report Settings, including a sort method and a filter parameter.
3. Use the Report Viewer to view, print, or save (export) the report.

Generating reports with the Cisco UCE Historical Reporting Client is explained in the following sections:

- General Report Settings, page 5-1
- Detailed Report Settings, page 5-2
- Saving and Loading Report Settings, page 5-4
- Report Viewer, page 5-6

## General Report Settings

The general report settings are shown in the General Tab of the main window, beneath the text that reads, “Select the options for historical reports below.” Table 5-1 lists the available general report settings.

**Table 5-1**      **General Report Settings: Descriptions**

Setting	Description
Report Type	Name of the report to generate.
Include charts in report	Radio button to indicate that charts are included with the report. Each historical report contains one or more charts that display specific information in the report.
Time Range	Start/End date and time that specifies a period to use for the data in this report.

You can return report settings to their default values at any time by clicking **Reset** in the Cisco UCE Historical Reports main window. This action resets both general report settings and detailed report settings.

To choose the report that you want to generate, follow these steps:

- 
- Step 1** In the Reporting Task area of the main window, choose the Generate and View Historical Reporting Client radio button.
- The window displays tabs for general and detailed report settings.
- Step 2** Click the **General** tab.
- The General Report Settings area appears.
- Step 3** From the Report Type drop-down list, choose a report.
- If you have already generated this report in this Cisco UCE Historical Reporting Client session, any information that you previously entered in the general or detailed fields for this report appears in these fields again.
- Now you can choose additional general report settings and choose detailed report settings. You also must specify a date and time range for the report before you can view it.
- 

## Detailed Report Settings

Optionally choose detailed report settings to present information in a particular order and to include only specific information.

The settings include:

- **Sorting method:** Order in which information appears in a report. For further information see the “Specifying a Sorting Method” section on page 5-2.
- **Filter parameter:** To limit the information in a report. For further information see the “Specifying a Filter Parameter” section on page 5-3.

To return report settings to their default values, click **Reset** in the main window. If a Report Settings file is loaded, clicking **Reset** returns both report settings to values specified in the file.



### Note

Automated maintenance periodically purges old records from the database to make room for new records. See the *Cisco Unity Express 3.0 GUI Administrator Guide* for more information on setting purge options.

---

## Specifying a Sorting Method

Use a sorting method to order the information in a report. To specify a sorting method for the report:

- 
- Step 1** In the Reporting Task area of the main window of Cisco UCE Historical Reporting Client, click **Generate and View Historical Reports**.
- The window displays tabs for general and detailed report settings.
- Step 2** Click the **Detailed** tab.
- The Detailed Report Settings area appears.
- Step 3** From the Sort Report By drop-down list, choose the sort method that you want to use.
-

## Specifying a Filter Parameter

Use a filter parameter to reduce the amount of information presented in a report.

For example, if you are generating a Custom Variables Report, you can use a filter parameter to include information for specific agents only.

**Note**

---

Some reports do not have a filter parameter available: the Parameter Setting area displays “No Parameter Detailed Settings Available.”

---

To specify a filter parameter:

---

**Step 1** In the Reporting Task area of the main window, click the **Generate and View Historical Reports** radio button.

The window displays tabs for general and detailed report settings.

**Step 2** Click the **Detailed** tab.

The Detailed Report Settings area appears.

**Step 3** From the **Filter Parameter** drop-down list, choose the filter parameter.

Depending on the filter parameter you choose, the Available pane of the Parameter Setting area displays either a list of available parameter settings or the Enter Parameter Value field. If you previously chose parameter settings for this report and this parameter during this session, the previous settings are displayed in the Selected pane.

You can also customize the detail call records using the Custom Variables included in the detailed filter parameter drop-down list. These variables can be assigned to keep track of things like language, numbers on the keypad that are being pressed, and options that are chosen while navigating the IVR or auto attendant (AA) application. These custom variables are used by the Set Session Info step and are viewed in the Call Custom Variables Report. This data is preserved as part of backup and restore and can also be exported in comma-separated (CSV) format as described in the **copy hrdb** command, for use in other databases or spreadsheets. See the *Cisco Unity Express 3.0 Command Reference* for more information.

If you choose a predefined parameter setting, go to Step 4.

If you choose to customize a parameter setting using one of the Custom Variables, go to Step 5.

**Step 4** From the list of available parameter settings, choose the parameter setting or settings that you want to use:

- To choose a settings from the Available pane, choose the setting and then click >. The setting moves to the Selected pane. To select all of the settings, click >> without choosing any settings.
- To unselect settings from the Selected pane, choose the setting, and then click <. To unselect all of the settings, click << without choosing any settings.

**Step 5** In the Enter Parameter Value field, enter the value that you want to use as *n* in the filter parameter. Use a comma to separate multiple values.

---

## Saving and Loading Report Settings

If you generate specific reports frequently, you may find that it is convenient to save the general and detailed report settings that you choose for these reports. You can recall these settings and make adjustments to them each time that you generate the report.

Save report settings in a Report Settings file. When you load a Report Settings file, the report settings saved in that file appear in the main window of Cisco UCE Historical Reporting Client.

- Saving Report Settings, page 5-4
- Loading Report Settings, page 5-5
- Changing and Saving Report Settings, page 5-5

## Saving Report Settings

By default, the Cisco UCE Historical Reporting Client saves Report Settings files on your computer in the ~CUCES Historical Reports\Reports directory, which is under the directory in which you installed the Cisco UCE Historical Reporting Client system. (The default installation directory is ~Program Files). The Report Settings file defaults to the name reportname.chc. You can change the default name and the directory. However, the Report Settings file must have a .chc extension.

To exit the Report Viewer window, click the **Close** button on the title bar.

To save report settings in a new Report Settings file, perform the following steps.

---

**Step 1** In the main window, choose the general report settings and detailed report settings that you want to save.

**Step 2** Choose **File > Save**, or choose **File > Save As**, or click the **Save** tool.

The Save As dialog box appears.

**Step 3** In the Save As dialog box, to save Report Settings files in a directory other than the default directory, perform one of the following actions:

- From the Save In drop-down list, select a directory.
- In the Folder Name pane, enter a directory/folder name.
- Save In tools.

**Step 4** In the Save As dialog box, to change the filename that appears in the File Name field, perform one of the following actions:

- Enter a new filename.
- Choose a file that already exists by clicking the **File Name** drop-down arrow.

A message appears asking if you want to replace the existing file.

- Click **Yes**.




---

**Note** A report settings filename must have a .chc extension. The system adds this extension to the name in the File Name field automatically.

---

**Step 5** Click **Save**.

The Cisco UCE Historical Reporting Client saves the Report Settings file.

---

## Loading Report Settings

To reuse previously saved report settings, click **Load Existing Report Settings** in the Reporting Tasks area of the main window.

To load report settings from the main window:

**Note**

You cannot load report settings from a file containing settings for a report for which you do not have access. You cannot load report settings from a file created using a different from the current language.

---

**Step 1**

Do one of the following actions:

- In the Reporting Task area of the main window, click **Load Existing Report Settings**.
- Click the **Open** tool or choose **File > Open**.

The Open dialog box appears, showing the File List pane.

**Note**

If the Report Settings file that you want does not appear in the list, use the Look In drop-down arrow, the Folder Name pane, or the Save In tools to specify the directory. Then double-click the name of the file, or click the name of the file and then click **Open**.

---

**Step 2**

From the File List pane, choose the name of the file to be loaded.

**Step 3**

Do one of the following actions:

- Double-click the file.
- Click the name of the file and then click **Open**.

The Cisco UCE Historical Reports main window appears.

The fields in the General and Detailed tabs contain settings from the Report Settings file.

---

## Changing and Saving Report Settings

To change report settings:

---

**Step 1**

Load a Report Settings file as described in the “Loading Report Settings” section on page 5-5.

**Step 2**

Make changes to the report settings as needed.



**Note** If you load and make changes to a Report Settings file without saving the file, and you then try to choose a new report type or exit Cisco Unified Communications Express Historical Reports, the computer displays a dialog box asking if you first want to save the changes that you made to the Report Settings file. Click **Yes** to save the changes in the original Report Settings file or click **No** to continue without saving the changes.

**Step 3** Do one of the following actions:

- If you want to save the changes in the Report Settings file that is currently loaded, choose **File > Save**.
- If you want to save the changes in a new Report Settings file, choose **File > Save As**. Enter the new filename in the Save As dialog box, and then click **Save**.

## Report Viewer

The Report Viewer window appears automatically when you click **View** in the main window of Cisco Unified Communications Express Historical Reports to generate a report. The Report Viewer window contains the report you have generated.

Table 5-2 lists the available tools and fields that are found in the Report Viewer toolbar.

**Table 5-2** *Report Viewer Toolbar: Options*

Tool/Field	Reference
<b>Close Current View</b>	Displaying Group Information Using the Group Tree
<b>Print Report</b>	Printing Reports
<b>Export Report</b>	Exporting Reports
<b>Toggle Group Tree</b>	Displaying Group Information Using the Group Tree
Display Size field	Changing the Display Size
<b>Go to First Page</b>	Moving Through the Report
<b>Go to Previous Page</b>	Moving Through the Report
Page Number field	Moving Through the Report
Page Count field	Moving Through the Report
<b>Go to Next Page</b>	Moving Through the Report
<b>Go to Last Page</b>	Moving Through the Report
<b>Stop Loading</b>	Moving Through the Report
<b>Search Text</b>	Finding and Moving to Specific Text
<b>Help</b>	Show online help

To view a report, follow these steps:

---

**Step 1** In the main window of Cisco Unified Communications Express Historical Reports, choose the report settings that you want.

**Step 2** Click **View**.

The report generates and appears in the Report Viewer window.

Some reports can take a few minutes to generate and another few minutes to load into the Report Viewer window. To cancel a report while it is generating, click **Cancel** in the main window or click the **Stop Loading** tool in the Report Viewer window.

---

For further information on the Report Viewer, see the following sections.

- Changing the Display Size, page 5-7
- Moving Through the Report, page 5-7
- Finding and Moving to Specific Text, page 5-8
- Displaying Information About Groups, page 5-8
- Printing Reports, page 5-10
- Exporting Reports, page 5-10
- Where to Go Next, page 5-11

## Changing the Display Size

To change the size of the report display, do one of the following actions:

- From the Display Size drop-down list, choose the size.
- In the Display Size field, enter a value between 25 to 400%.

## Moving Through the Report

The Cisco Unified Communications Express Historical Reports client loads pages on demand as you move through the report, which is an efficient use of system resources.

The Page Number field in the Report Viewer window shows the number of the currently displayed page. The Page Count field (Display only) shows the number of pages in the report. The number of pages in the report is not shown until all the pages of a report have been loaded. The number of pages is shown as the current page followed by a plus sign (+) to indicate that the report contains additional pages.

Move through a report one page at a time or jump to any specific page. Table 5-3 shows how to move through a report.



**Note**

---

Moving directly to the first page or last page in a long report can take a few minutes. To stop these move actions, click the **Stop Loading** tool in the Report Viewer window.

---

**Table 5-3 Moving Through Reports: Descriptions**

Move	Action
Move forward one page	Click the <b>Go To Next Page</b> tool.
Move backward one page	Click the <b>Go To Previous Page</b> tool.
Move to the last page	Click the <b>Go To Last Page</b> tool.
Move to the first page	Click the <b>Go To First Page</b> tool.
Move to a specific page	Select the number that appears in the Page Number field, enter the page number that you want, and then press <b>Enter</b> .

## Finding and Moving to Specific Text

To find and move to specific text in a report that appears in the Report Viewer window, perform the following steps:

- 
- Step 1** On the Report Viewer toolbar, click the **Search Text** tool.  
The Search dialog box appears.
- Step 2** In the Find What field, enter the text that you want to find, and then click **Find Next**.




---

**Caution** Wildcard searches are not allowed in this field.

---

The display moves to the next occurrence of the text that you entered.

You can continue to click **Find Next** to display subsequent occurrences of the same text.

- Step 3** Click **Cancel** to close the Search dialog box.
- 

## Displaying Information About Groups

Most historical reports have a specific set of information that has been designated as a *group*. For example, a group may contain the names of variable or dates. A report displays information arranged in group order.

Table 5-4 shows the historical report names and the group to which each report is associated.

**Table 5-4 Historical Reports: Names and Groups**

Report Name	Group
Abandoned Call Detail Activity Report	Call Start Time
Call Custom Variables Report	—
Called Number Summary Activity Report	Called Number
Application Performance Analysis Report	Application ID
Traffic Analysis Report	Date

When you view a report, you can display information for any particular item in its group. For example, in the Call Custom Variables Report, you can display information for any single variable.

You display group information using the Group Tree. For many reports, you can also display group information directly from the charts that appear with the reports. For further information, see:

- Displaying Group Information Using the Group Tree, page 5-9
- Displaying Group Information from a Report Chart, page 5-9

## Displaying Group Information Using the Group Tree

A Group Tree lists the group names available for a report. Most reports have a Group Tree.

To display the group tree for a report:

- 
- Step 1** Click the **Toggle Group Tree** tool on the Report Viewer toolbar.
- The Preview pane appears, displaying a list of groups.
- Step 2** To display information for a group in the Preview pane, click the name of the group.
- The group information appears in a new pane called a Group Information pane. This pane has a tab that shows the name of the group.
- If several Group Pane tabs appear, you can display the information that you want by clicking its tab.
- To display the Group Tree when you are viewing information in a Group Information Pane, click the **Preview** tab.
- Step 3** To close the Preview pane any time it is displayed, click the **Toggle Group Tree** tool.
- To close a Group Information pane when it is displayed, click the **Close Current View** tool.
- 

## Displaying Group Information from a Report Chart

In many reports, moving the mouse pointer over information displayed in the charts causes the pointer to change to a magnifying glass. The magnifying glass indicates that you can display group information from that chart.

To display group information from a chart:

- 
- Step 1** Make sure that the mouse pointer has changed to a magnifying glass, and then double-click the group name or its associated data.
- The Group Information pane appears.
- Step 2** Do one of the following actions:
- To return to the chart, click the **Preview** tab.
  - To close the Group Information pane, click the **Close Current View** tool.
-

## Printing Reports

You can print a report while viewing any part of the report. If you are viewing information in a Group Information Pane, only the Information Pane information is printed.

The report is printed on the default printer that has been designated for your computer.

To print a report:

---

**Step 1** In the main window, choose the report settings that you want, and click **View**.

The report appears in the Report Viewer window.

**Step 2** Click the **Print** tool.

The Print dialog box appears.

**Step 3** In the Print dialog box, choose the settings that you want.

**Step 4** Click **OK**.

The Printing Records dialog box appears while the file is being printed and shows how the printing is progressing.

---

## Exporting Reports

Exporting a report means saving the report in a file. You can specify the name and location of the file and the format in which the report is saved. After a report is exported to a file, you can view, print, and manipulate the data in the file with another program.

When you export a report, you can save it in any of the formats shown in Table 5-5.

**Table 5-5 Exporting Reports: Descriptions**

Format	File Extension	Description
Acrobat Format (PDF)	.pdf	File that can be read with Adobe Acrobat Reader.
Comma-separated values (CSV)	.csv	Comma-separated text file that can be opened in Microsoft Excel or a text editor.
Microsoft Excel (XLS)	.xls	Microsoft Excel file.
Rich Text Format (RTF)	.rtf	File that can be opened with Microsoft Word or another word processor.
Extensible Markup Language (XML)	.xml	File that can be opened with a text editor or more specialized XML editor.

To export a report:

---

**Step 1** In the main window, choose the report settings that you want, and then click **View**.

The report appears in the Report Viewer window.

**Step 2** Click the **Export Report** tool.

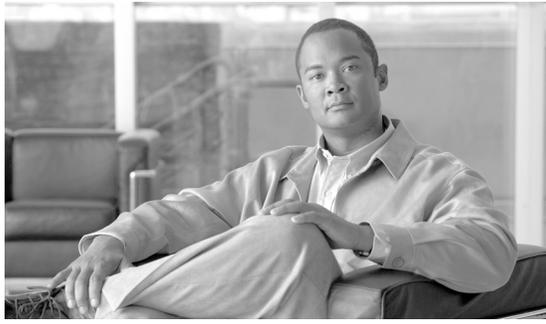
The Export dialog box appears.

- Step 3** Click the **Format** drop-down list, and then choose the format in which you want to save the report. A series of dialog boxes appear. The specific dialog boxes depend on the format that you chose.
- Step 4** Set the desired exporting options and specify the name and location for the export file by enter information in the dialog boxes that appear.
- When you are finished, the system exports the report and displays the Exporting Records dialog box, which shows the progress of the export operation.
- To cancel the export operation at any time, click **Cancel Exporting**.
- 

## Where to Go Next

See Chapter 6, “Scheduling Historical Reports.”





## CHAPTER 6

# Scheduling Historical Reports

---

When you schedule a historical report, you are instructing the Cisco UCE Historical Reporting Client to automatically generate the report at some time in the future. Although you can schedule a report to generate once, the report scheduling function is particularly useful for preparing reports that you require regularly. For example, you can schedule an Abandoned Call Detail Activity Report to generate every Monday at midnight and a Called Number Summary Activity Report to generate on the first Sunday of every month at noon.

The following steps are used to schedule a report:

1. Choose general settings for the report, including the name of the report, whether to include charts, and whether to save (export) or print the report.
2. Choose detailed settings for the report, if necessary, including a sort method and a filter parameters.
3. Choose scheduling settings, including how often and when the report is generated.
4. Save the scheduling information.

The following sections include these topics:

- Information in Scheduled Reports, page 6-1
- Scheduling Recommendations, page 6-2
- The Scheduler, page 6-2
- General Settings for Scheduled Reports, page 6-3
- Detailed Settings for Scheduled Reports, page 6-7
- Selecting Schedule Settings, page 6-7
- Saving a Schedule, page 6-9
- Viewing and Deleting Schedules, page 6-9
- Handling Missed Schedules, page 6-11

## Information in Scheduled Reports

Table 6-1 shows the types of schedules that you can specify for historical reports and the information that is contained in each type of report.

The time and date for data in scheduled reports is always the time and date of the Cisco UCE server.

Table 6-1 Scheduled Historical Reports: Descriptions

Schedule Type	Recurrence Options	Information Contained in the Report
Daily	<ul style="list-style-type: none"> <li>Every day (Sunday to Saturday)</li> <li>Every weekday (Monday to Friday)</li> <li>Every <i>n</i> days (for example, every 3 days)</li> </ul> <p><b>Note</b> A report that is scheduled to recur every weekday runs every Tuesday to Saturday so that it can include information for Monday to Friday.</p>	A daily report always contains data from 12:00 midnight (0000) to 11:59:59 p.m. (1159:59) for the day <i>before</i> the report runs. For example, a daily report that runs on Tuesday contains data for the preceding Monday.
Weekly	<ul style="list-style-type: none"> <li>Every week on a certain day (for example, every Monday)</li> <li>Every <i>n</i> weeks on a specific day (for example, every two weeks on Friday)</li> </ul>	A weekly report always contains data from Sunday at 12:00 midnight (0000) to Saturday at 11:59:59 p.m. (1159:59) for the week before the report runs, regardless of the day of the week on which the report runs. For example, a weekly report that runs on Monday, on Wednesday, or on Friday contains data for Sunday to Saturday of the previous week.
Monthly	<ul style="list-style-type: none"> <li>Every month on a specific date (for example, the 15th of every month)</li> <li>Every month on a certain day (for example, the first Friday of every month)</li> </ul> <p><b>Note</b> If a monthly report is scheduled to run on a date that does not occur in some months, for example the 30th or 31st, the report runs on the last day of a month that does not contain the date.</p>	A monthly report always contains data from the first day of the previous month at 12:00 midnight (0000) to the last day of the previous month at 11:59:59 p.m. (1159:59). For example, a monthly report that runs on any day in February contains data for all of January.
Once	Any single date and time that you specify	A report that runs once contains data for the date and time range that you specify.

## Scheduling Recommendations

When a scheduled report generates, it can use significant resources on the Cisco UCE server. To help keep the server running most efficiently, schedule reports to generate at times when the Cisco UCE server is least busy, for example, late at night or early in the morning.

## The Scheduler

The Cisco UCE Historical Reporting Client includes a program called the Scheduler. The Scheduler resides on each client computer and performs the following functions:

- Maintains information about each schedule, including when each schedule should execute and what information the scheduled report should contain. The next run time information is based on the frequency or recurrence of each job and is stored in the NextRunTime field of the Scheduler database.

- Executes schedules at their scheduled times, based on the time and date of the Cisco UCE Historical Reporting Client computer and marks their status in the database as **Cached** so that modification or deletion of these schedules cannot occur. New lists of schedules cycle through each hour, ensuring that any updates to the Scheduler database by the Cisco UCE Historical Reporting Client are available to the Scheduler.

The Scheduler runs automatically and unattended in the background on the Cisco UCE Historical Reporting Client computer. This does not affect other activities that you perform on the client computer. The Scheduler should always be left running, even when you exit the Cisco UCE Historical Reports main window. If the Scheduler is not running when a schedule should execute, the schedule will not execute.

If a schedule does not execute because the Scheduler is not running, the **Missed Report** dialog box appears when the Scheduler restarts. For more information, see the “Handling Missed Schedules” section on page 6-11.

You can control the Scheduler using the Scheduler icon. To verify that the Scheduler is running, right-click the **Scheduler** icon and look at the **Run Scheduler** option in the Scheduler menu. If **Run Scheduler** is dimmed (that is, unavailable), the Scheduler is running.

**Note**

The Scheduler icon does not appear in the Windows status bar under a terminal service session. If you need to access features from the Schedule icon, you must do so from the computer on which the Scheduler is installed.

## Running the Scheduler

To run the Scheduler, follow these steps:

**Procedure**

- Step 1** Right-click the **Scheduler** icon and choose **Run Scheduler**.
- Step 2** Or, choose **Start > Programs > Cisco UCE Historical Reports > Cisco UCE Historical Reports Scheduler**.
- Step 3** To stop the Scheduler, right-click the **Scheduler** icon and choose **Stop Scheduler**. The Scheduler remains loaded, but it will not execute schedules.
- Step 4** To exit the Scheduler, right-click the **Scheduler** icon and choose **Exit**. The scheduler unloads and will not execute schedules.

**Note**

If you change the system time on the Cisco UCE Historical Reporting Client computer, stop and then restart the Scheduler that is running on that computer.

## General Settings for Scheduled Reports

General settings for scheduled reports include the following:

- Name of the report to schedule
- Whether to include charts with the report

- Whether to print the report or export it to a file

You can return the report settings you choose for a scheduled report to their default values at any time by clicking **Reset** in the Cisco UCE Historical Reports main window.

If you have saved report settings in a Report Settings file, you can load the Report Settings file and use it as a basis for a scheduled report. See the “Saving and Loading Report Settings” section on page 5-4 for information about saving and loading a Report Settings file.

If you have already made settings for a report in this Cisco UCE Historical Reports session, any information that you entered in the general or detailed fields for that report appears in those areas when you schedule reports. In addition, if the report is set to occur once, date and time information that you entered when you set up the report appears in the Cisco UCE Historical Reports Schedule menu. You can use the information that appears in the general and detailed fields and in the Schedule menu as a basis for your scheduled report, or you can click **Reset** to return the report settings their default values.

#### Related Topics

- Choosing the Report to Schedule, page 6-4
- Including Charts with a Scheduled Report, page 6-4
- Choosing Whether to Print or Export a Scheduled Report, page 6-5

## Choosing the Report to Schedule

To select the report that you want to schedule, follow these steps:

#### Procedure

- 
- Step 1** In the Cisco UCE Historical Reports main window, click the **Schedule Future Reports, Including Repeat Reports** radio button.
  - Step 2** Click the **General** tab, if it is not selected already.
  - Step 3** Click the Report Type drop-down arrow to view a list of available reports, and then choose the report that you want to generate.
  - Step 4** Choose your schedule settings. Specify whether to include charts with the report, choose whether to print or export the report, and choose detailed report settings. Once this step is complete, the schedule will execute.
- 

#### Related Topics

- Including Charts with a Scheduled Report, page 6-4
- Choosing Whether to Print or Export a Scheduled Report, page 6-5
- Detailed Settings for Scheduled Reports, page 6-7
- Selecting Schedule Settings, page 6-7

## Including Charts with a Scheduled Report

Each historical report can contain one or more charts that summarize information in the report. If you want to include charts with a scheduled report, follow these steps:

### Procedure

---

**Step 1** In the Cisco UCE Historical Reports main window, click the **Schedule Future Reports, Including Repeat Reports** radio button.

**Step 2** Click the **General** tab, if it is not selected already.

**Step 3** Check the **Include Charts in Report** check box.

If you do not want to include charts, uncheck this check box.

You can choose whether to print or export the report, and choose detailed report settings. You also must choose schedule settings before the schedule will execute.

---

### Related Topics

- Choosing the Report to Schedule, page 6-4
- Choosing Whether to Print or Export a Scheduled Report, page 6-5
- Detailed Settings for Scheduled Reports, page 6-7
- Selecting Schedule Settings, page 6-7

## Choosing Whether to Print or Export a Scheduled Report

When a schedule executes, the Cisco UCE Historical Reporting Client either prints the report or exports it (saves it in a file). After choosing this setting, you can choose detailed report settings. You also must choose schedule settings before the schedule will execute.

### Related Topics

- Printing a Scheduled Report, page 6-5
- Exporting a Scheduled Report, page 6-6
- Detailed Settings for Scheduled Reports, page 6-7
- Selecting Schedule Settings, page 6-7

## Printing a Scheduled Report

Scheduled reports print on the default printer that has been designated for your computer. To print a scheduled report when it generates, click the **Export Type** drop-down arrow in the Cisco UCE Historical Reports main window and choose Export to Printer.

Now you can choose detailed report settings. You also must choose schedule settings before the schedule will execute.

### Related Topics

- Exporting a Scheduled Report, page 6-6
- Detailed Settings for Scheduled Reports, page 6-7
- Selecting Schedule Settings, page 6-7

## Exporting a Scheduled Report

The Cisco UCE Historical Reporting Client saves scheduled reports in files. You can view, print, and manipulate the data in these files with other programs. Unless you have changed the defaultExportPath parameter in the hrcConfig.ini file, the Cisco UCE Historical Reporting client stores these files on the client computer in the Cisco UCE Historical Reports\Reports directory, which is under the directory in which you installed the Cisco UCE Historical Reporting system. (By default, the system installs in the Program Files directory.)

By default, the client saves scheduled reports in a PDF file. Also by default, the client gives saved reports a descriptive filename that indicates the name of the report, its language, its date and time of creation, the login identification of the user who scheduled it, its scheduled recurrence, its date range, and the format of the file. If desired, you can specify another format, location, and filename. (If you change the filename, the client automatically adds descriptive information to the new filename when it creates the file.)

When you specify that a generated report is to be saved, you can designate any of the formats shown in Table 5-5 in Chapter 5, “Generating Historical Reports.”

To save a scheduled report in a file when the report runs, follow these steps:

### Procedure

---

**Step 1** Make sure that Export to File appears in the Export Type field in the Cisco UCE Historical Reports main window. If Export to File does not appear, click the **Export Type** drop-down arrow, and then choose Export to File from the list that appears.

**Step 2** Change the default format, location, or filename for exported files by clicking **Export Location**. (The **Export Location** button appears as “...” in the window.)

The Save As dialog box appears. The Cisco UCE Historical Reporting Client adds information to the default filename shown in the filename field when the report is generated.

**Step 3** Make changes in the Save As dialog box by doing the following:

- To change the location, use the Save In drop-down arrow, the Folder Name pane, or the Save In tools to specify the directory in which to save the exported report.
- To change the filename, enter the new name in the File Name field, or click the drop-down arrow and then choose it from the list of existing names. If you specify a filename that includes an extension shown in Table 5-5 in Chapter 5, “Generating Historical Reports.” The system creates a file in that format, regardless of the format that you select in the Save As field.
- To change the format, click the Save As Type drop-down arrow, and then choose the format in which you want to save the report.

**Step 4** Click **Save**.

Now you can choose detailed report settings. You also must choose schedule settings before the schedule will execute.

---

### Related Topics

- Printing a Scheduled Report, page 6-5
- Detailed Settings for Scheduled Reports, page 6-7
- Selecting Schedule Settings, page 6-7

## Detailed Settings for Scheduled Reports

When you use detailed report settings, you can cause scheduled reports to include only specific information or to display information in a particular order. Detailed report settings include a sorting method and a filter parameter.

Detailed settings are optional. If you do not choose a detailed setting, the report contains all relevant information presented in a default order.

To specify a sorting method and a filter parameter for a scheduled report, follow these steps:

### Procedure

- 
- Step 1** In the Cisco UCE Historical Reports main window, click the **Generate and View Historical Reports** radio button.
- Step 2** Click the **Detailed** tab.
- Step 3** Choose detailed settings just as you do when you generate a report. See the “Detailed Report Settings” section on page 5-2 for complete instructions.

After choosing these settings, you must choose schedule settings before the schedule will execute.

---

### Related Topics

- Detailed Report Settings, page 5-2
- Specifying a Sorting Method, page 5-2
- Specifying a Filter Parameter, page 5-3
- Selecting Schedule Settings, page 6-7

## Selecting Schedule Settings

After you choose general and detailed settings for a report, you are ready to choose schedule settings. You can make changes to any of the report settings later if you want.

When you choose schedule settings, specify:

- How often the schedule executes
- Date and time range of schedule recurrences (if the schedule is to execute more than once)

To choose schedule settings, follow these steps:

### Procedure

- 
- Step 1** In the Cisco UCE Historical Reports main window, click the **Schedule Future Reports, Including Repeat Reports** radio button.
- Step 2** Click the **General** tab, if it is not selected already.
- Step 3** Click **Change**.
- Step 4** In the Occurs area, choose how often the schedule executes, as explained in Table 6-2.

Table 6-2 Scheduling Settings for Historical Reports: Fields

If You Want the Schedule to Execute This Often	Click	Then
Every day	<b>Daily</b>	Click <b>Every</b> button, and then enter <b>1</b> in the Every <i>n</i> Day(s) field.
Every specific number of days (for example, every 3 days)	<b>Daily</b>	Click <b>Every</b> button, and then enter the number of days in the Every <i>n</i> Day(s) field.
Every weekday (Monday to Friday) <b>Note</b> This report runs every Tuesday to Saturday so that it can include information for Monday to Friday.	<b>Daily</b>	Click <b>Every weekday</b> .
Every week on a certain day (for example, every week on Friday)	<b>Weekly</b>	Enter <b>1</b> in the Every <i>n</i> Week(s) On field, then click the desired day.
Every specific number of weeks on a certain day (for example, every 2 weeks on Monday)	<b>Weekly</b>	Enter the number of weeks in the Every <i>n</i> Weeks(s) On field, then click the desired day.
Every month on a specific date, (for example, the 15th of every month)	<b>Monthly</b>	Click the <b>Day <i>n</i> of calendar month</b> . Then enter the date in this field, or you can click the drop-down arrow and click the scroll arrow to display the date that you want and then click the date. (If you enter a date that does not occur in some months, for example 30 or 31, the system uses the last day of that month.)
Every month on a certain day (for example, the second Friday of every month, or the last Sunday of every month)	<b>Monthly</b>	Click <b>The number day of calendar month</b> . Click the drop-down arrow in the first field and choose the number of the day. Then click the drop-down arrow in the second field and choose the name of the day.
One time	<b>Once</b>	In the Report Start Date and Report End Date fields, specify the dates and times of the first and last data that you want to include in the report.

**Step 5** Set Range of Recurrence options as follows:

For a schedule that is set to occur once, choose these settings in the Range of Recurrence area:

- In the Start Date field, specify the date that you want the schedule to execute.
- In the Start Time field, specify the time that you want the schedule to execute.

For a schedule that is set to occur daily, weekly, or monthly, make these settings in the Range of Recurrence area:

- In the Start Date field, specify the first date on or after which you want the schedule to generate.
- In the Start Time field, specify the time at which you want to execute the schedule when the schedule occurs.
- Specify how often you want the schedule to recur:
  - If you want the schedule to recur indefinitely, click the **No end date** radio button.
  - If you want the schedule to recur a specific number of times, click the **End after** radio button and enter the number of occurrences in the End After field.
  - If you want to specify the last date of a range during which you want the schedule to execute, click the **End by** radio button and enter the date in the End By field.

**Step 6** Click **OK** to save your schedule settings.

---

#### Related Topics

- Information in Scheduled Reports, page 6-1
- General Settings for Scheduled Reports, page 6-3
- Detailed Settings for Scheduled Reports, page 6-7
- Saving a Schedule, page 6-9

## Saving a Schedule

After choosing general, detailed, and schedule settings, you are ready to save the scheduling information. When you save scheduling information, the system stores the information you have specified as a schedule in the Scheduler database.

To save a schedule, follow these steps:

#### Procedure

---

**Step 1** In the Cisco UCE Historical Reports main window, click **Schedule**.

The Report Scheduled Successfully dialog box appears.

**Step 2** Click **OK**.

---

#### Related Topics

- Information in Scheduled Reports, page 6-1
- General Settings for Scheduled Reports, page 6-3
- Detailed Settings for Scheduled Reports, page 6-7
- Selecting Schedule Settings, page 6-7
- Viewing and Deleting Schedules, page 6-9

## Viewing and Deleting Schedules

To see a list of schedules that you created and that are stored in the Scheduler, choose **Settings > Scheduler** from the Cisco UCE Historical Reports main window, or click the **Scheduler** tool. The Scheduled Reports window appears.

To exit the Scheduled Reports window, click **Close**.

The Scheduled Reports window lists each stored schedule that you created when you were logged into the Cisco UCE Historical Reports system using the current login information. This window displays each schedule on a row and arranges information about each schedule in the columns shown in Table 6-3.

**Table 6-3 Viewing and Deleting Schedules: Descriptions**

Column	Description
Report Name	Name of the scheduled report
Date Created	Date and time that the schedule was created
Recurrence Type	How often the schedule executes
Export Type	Printer, or format of the export file
Apps Server	IP address or host name of the Cisco UCE server
Schedule Description	Detailed description of the schedule

To expand a column if you cannot see its entire contents, drag the left or right border next to its title.

#### Related Topics

- Arranging Order of Display, page 6-10
- Deleting Schedules, page 6-10

## Arranging Order of Display

When you open the Scheduled Reports window, the window displays schedules in alphabetical order by Report Name. You can change the display order by arranging the schedules in ascending or descending order by the information displayed in any column.

To change the order of displayed schedules, click the desired column name. The schedule appears in ascending alphabetical or numerical order by the information in that column. Click the same column name again to display the information in descending order.

For example, to display the list of schedules in the order that each schedule was created, click the **Date Created** column title. Similarly, to display schedules by recurrence type, click the **Recurrence Type** column title.

## Deleting Schedules

When you delete a schedule, the schedule is permanently removed from the Scheduler and will no longer be run.

To delete a schedule, follow these steps:

#### Procedure

- 
- Step 1** From the Scheduled Reports window, click anywhere in the row that contains the schedule you want to delete.
- An arrow appears to the left of the name of the report, indicating that the schedule has been selected.
- Step 2** Click **Delete**.
- The Confirmation dialog box appears.
- Step 3** Click **OK** to permanently delete the schedule.

If you decide not to delete the schedule, click **Cancel** instead.

---

## Handling Missed Schedules

In order for a schedule to execute:

- The Cisco UCE server, (or its standby server, if deployed) must be running.
- At least one server on which the Database component is installed must be running.
- The Scheduler must be running on the Cisco UCE Historical Reporting Client computer.

If schedules do not execute because a server is not running, you can generate the reports manually when the server is running again.

If schedules do not execute because the Scheduler is not running, the Scheduler identifies missed schedules. When the Scheduler restarts, the client computer displays a dialog box that shows the number of missed schedules and asks if you want to execute missed schedules. Click **Yes** to execute missed schedules, or click **No** to continue without executing the schedules. If you click **Yes**, the reports that generate depend on the parameters specified in the Sch.ini configuration file and the scheduling options for the reports.

For example, assume that you have set up a schedule to run daily, and that the schedule has no end date. In addition, assume that five of these schedules were missed, and that the Sch.ini file instructs the system to execute up to three missed daily schedules. When you execute missed schedules, the system generates the three most recent daily reports.

As another example, assume that you have set up a schedule to run weekly and to end after four occurrences. In addition, assume that all of these schedules were missed, and that the Sch.ini file instructs the system to execute up to three missed weekly schedules. When you execute missed schedules, the system generates three of the missed weekly reports. The first report will be the one that was scheduled to be the final report. The other reports are the two previous reports.

### Related Topic

- Configuration File SCH.ini, page 2-6.

