Using Avaya Aura® Contact Center Reports and Displays

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Contents

Chapter 1: Introduction

Purpose

This document describes how to generate performance management reports for Avaya Aura® Contact Center.

Intended audience

This document is intended for people who want to learn how to use the reporting features in Avaya Aura® Contact Center.

Related resources

Avaya Aura® Contact Center Documentation

The following table lists the documents related to Avaya Aura® Contact Center. Download the documents from the Avaya Support website at https://support.avaya.com.

Title	Use this document to:	Audience
Overview		
Avaya Aura® Contact Center Overview and Specification	This document contains technical details you need to set up your Contact Center suite. The document contains the background information you need to plan and engineer your system (server preparation information, routing options, licensing configurations, and hardware configuration). The document also contains background information you require to install all software	Customers and sales, services, and support personnel

Table continues…

Title	Use this document to:	Audience
	components that are part of and work with Contact Center. General information about considerations for upgrading your existing suite of Contact Center is also included. This document contains strategies and requirements to plan your network configuration and prepare your servers for Contact Center software installations.	
Avaya Aura® Contact Center and Avaya Aura® Unified Communications Solution Description	This document describes the solution architecture, suggested topologies, and capacities for the Avaya Aura® Unified Communications platform. This document also describes the features and functional limitations of certain configurations.	Customers and sales, services, and support personnel
Avaya Aura® Contact Center and Avaya Communication Server 1000 Solution Description	This document describes the solution architecture, suggested topologies, and capacities for the Avaya Communication Server 1000 platform. This document also describes the features and functional limitations of certain configurations.	Customers and sales, services, and support personnel
Avaya Aura® Contact Center Documentation Catalog	This document describes available Avaya Aura® Contact Center documentation resources and indicates the type of information in each document.	Customers and sales, services, and support personnel
Avaya Aura® Contact Center Terminology	This document contains definitions for the technical terms specific to Contact Center.	Customers and sales, services, and support personnel
Contact Center Performance Management Data Dictionary	This document contains reference tables that describe the statistics and data in the historical and real-time reports generated in Contact Center.	System administrators and contact center supervisors
Implementing		
Avaya Aura® Contact Center and Avaya Aura® Unified Communications Integration	This document contains information and procedures to integrate the Avaya Aura® Unified Communications platform with Contact Center.	Implementation personnel
Avaya Aura® Contact Center and Avaya Communication Server 1000 Integration	This document contains information and procedures to integrate the Avaya Communication Server 1000 platform with Contact Center.	Implementation personnel

Table continues…

Title	Use this document to:	Audience
Deploying Avaya Aura® Contact Center DVD for Avaya Aura® Unified Communications	This document contains information about Contact Center DVD installation, initial configuration, and verification for the Avaya Aura® Unified Communications platform.	Implementation personnel
Deploying Avaya Aura® Contact Center DVD for Avaya Communication Server 1000	This document contains information about Contact Center DVD installation, initial configuration, and verification for the Avaya Communication Server 1000 platform.	Implementation personnel
Deploying Avaya Aura® Contact Center Software Appliance for Avaya Aura® Unified Communications	This document describes how to deploy the Avaya Aura® Contact Center Software Appliance for the Avaya Aura® Unified Communications platform.	Implementation personnel
Avaya Aura® Contact Center Commissioning for Avaya Aura® Unified Communications	This document contains information for Contact Center preparation, process, initial configuration, and verification of the installation on the Avaya Aura® Unified Communications platform.	Implementation personnel
Avaya Aura® Contact Center Commissioning for Avaya Communication Server 1000	This document contains information for Contact Center preparation, process, initial configuration, and verification of the installation on the Avaya Communication Server 1000 platform.	Implementation personnel
Avaya Aura® Contact Center and Proactive Outreach Manager Integration	This document provides conceptual and procedural information on the integration between Avaya Aura® Contact Center (AACC) and Avaya Proactive Outreach Manager (POM); it describes the tasks required for AACC and POM integration.	Implementation personnel
Upgrading and patching Avaya Aura® Contact Center	This document contains information and procedures to upgrade from previous releases to Contact Center, migrating the databases, and information and procedures to download and install service packs.	Implementation personnel and system administrators
Administering		
Avaya Aura® Contact Center Server Administration	This document contains information and procedures for day-today maintenance of all servers in the Contact Center suite, including server maintenance tasks, administrative tasks, managing data, configuring data	System administrators

Table continues…

Title	Use this document to:	Audience
	routing, performing archives, and backing up data. It also describes the optional configuration procedures for server configuration.	
Avaya Aura® Contact Center Client Administration	This document contains information and procedures to configure the users and user access, skillsets, server management, and configuration data in the Contact Center database.	System administrators and contact center supervisors
Using Contact Center Orchestration Designer	This document contains information and procedures to configure script and flow applications in Contact Center Orchestration Designer.	System administrators
Maintaining		
Maintaining Avaya Aura® Contact Center	This document contains routine maintenance procedures such as installing service packs, and maintaining the databases for the Contact Center system.	System administrators and support personnel
Troubleshooting Avaya Aura® Contact Center	This document contains system-wide troubleshooting information and procedures for Contact Center hardware, software, and network.	System administrators and support personnel
Contact Center Event Codes	This document contains a list of errors in the Contact Center suite and recommendations to resolve them. This document is a Microsoft Excel spreadsheet.	System administrators and support personnel
Using		
Using Avaya Aura® Contact Center Reports and Displays	This document contains procedures to generate performance reports, and to monitor and analyze performance data and performance measurements.	System administrators and contact center supervisors
Using Agent Desktop for Avaya Aura® Contact Center	This document provides information and procedures for agents who use the Agent Desktop application to accept, manage, and close contacts of all media types in Contact Center.	Contact center agents and supervisors
Using the Contact Center Agent Browser application	This document provides information and procedures for agents who use the Agent Browser application to log on to Contact Center and perform basic tasks.	Contact center agents

Finding documents on the Avaya Support website

Procedure

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2. At the top of the screen, type your username and password and click **Login**.
3. Click **Support by Product** > **Documents**.
4. In **Enter your Product Here**, type the product name and then select the product from the list.
5. In **Choose Release**, select an appropriate release number.
6. In the **Content Type** filter, click a document type, or click **Select All** to see a list of all available documents.

   For example, for user guides, click **User Guides** in the **Content Type** filter. The list displays the documents only from the selected category.
7. Click **Enter**.

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Procedure

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  - In **Search**, type the product name. On the Search Results page, select **Video** in the **Content Type** column on the left.
- To find the Avaya Mentor videos on YouTube, go to www.youtube.com/AvayaMentor and perform one of the following actions:
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  - Scroll down Playlists, and click the name of a topic to see the available list of videos posted on the website.

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Chapter 2: New in this release

The following sections detail what is new in *Using Avaya Aura® Contact Center Reports and Displays* Release 7.0.

Features

New features in the Release 7.0 base build

See the following sections for information about new features in the Release 7.0 base build:

- Crystal Reports replacement with Microsoft SQL Server Reporting Services on page 16

New features in Release 7.0 Feature Pack 1

See the following sections for information about new features added by Feature Pack 1:

- Automatic refreshing of non-staffed skillsets for Real-time Reporting on page 16
- Skillset list sorted when creating a billboard display on page 17

Automatic refreshing of non-staffed skillsets for Real-time Reporting

From Release 7.0 Feature Pack 1, Contact Center Manager Administration Real-Time Reporting automatically refreshes every 20 seconds the list of non-staffed skillsets with the most recent information.

Crystal Reports replacement with Microsoft SQL Server Reporting Services

In Avaya Aura® Contact Center Release 7.0, Microsoft SQL Server Reporting Services (SSRS) replaces Crystal Reports as the historical reporting presentation engine. Avaya Aura® Contact Center Release 7.0 retains the full set of historical report templates previously available.

Avaya Aura® Contact Center Release 7.0 supports Report Creation Wizard (RCW), and customers can migrate existing RCW generated reports based on Crystal Reports to Avaya Aura® Contact Center Release 7.0 SSRS-based templates.

Custom reports built outside of RCW, for example using Crystal Designer, cannot be migrated to Avaya Aura® Contact Center Release 7.0. You can either manually recreate these custom reports in SSRS format, or use an external Crystal instance, which you provide, with the AACC database views.

Skillset list sorted when creating a billboard display

From Release 7.0 Feature Pack 1, Contact Center sorts the skillset list alphabetically when you create a billboard display. The skillset drop-down list is grouped by contact type and then sorted alphabetically within the contact type group.

Other changes

There are no other changes in this release.

Chapter 3: Performance management fundamentals

This section provides an overview of performance management reporting tools and utilities.

Filters

In Avaya Aura® Contact Center, you can create filters for real-time and historical reporting. Historical Reporting filters can be assigned to the Network Consolidated historical reports only. Each Historical Reporting filter can contain only one of the following types of data:

- skillsets
- applications
- route numbers
- route names
- DNIS numbers
- DNIS names

For Real-time Reporting, you can configure skillset, application, and agent filters. You can also configure filters with a combination of the three data types.

Use filters to specify the skillset, application, and agent data that you want to see in the real-time displays. In the Filters window, configure the filters from all elements in the partition assigned to you. After configuring filters, you can assign the filters to your private real-time displays.

The real-time displays show subtotals of data for each filter, which are further divided into subtotals for each site that belongs to the filter. For network consolidated real-time displays, the system calculates the network total for each of the two types of statistics:

- for raw statistics, such as the number of calls answered, the network total is the sum of all filter subtotals.
- for calculated statistics, such as the average answer delay, the network total is the amount reached after applying the appropriate formula to the sum of all individual statistics in the column. The system does not use the subtotal values in this calculation.

Note:

Some statistical fields cannot be accumulated.

With the filters feature you select the sites and site resources to include in a network consolidated report, for example, the Network Consolidated Skillset Performance Report. After you create a filter, you can include the filters whenever you generate a report. You can create multiple filters, by selecting different sets of sites and resources for reporting.

Thresholds

You can assign threshold alerts to real-time and graphical displays. Assign colors to threshold settings to highlight text when a threshold level is exceeded.

You can define threshold values for system activity. These values result in three operational levels:

- Below level 1: Based on the type of statistic, this level can mean normal contact center operation and no action required (that is, the lower the number of calls waiting, the better), or it can signify an alert situation that requires attention (that is, the lower the service level percentage, the worse the situation).
- Between level 1 and level 2: This level can indicate a required action to prevent contact center performance to move beyond acceptable operating levels.
- Above level 2: Based on the type of statistic, this level can mean normal contact center operation and no action required (that is, the higher the service level percentage, the better), or it can signify an alert situation that requires attention (that is, the greater the number of calls waiting, the worse the situation).

Historical statistics

Use the Historical Reporting component to generate reports detailing the past performance of a contact center. In the Historical Reporting window, you can select the server in Contact Center Manager Server from which you want to run and schedule performance, configuration, and network reports (if you work in a networked environment). These reports can help you to monitor system performance by providing information about system activity.

You must have Historical Statistics access to configure the Historical statistics. You can configure historical statistics collection options, such as the values for general system parameters, the types of call flow, agent, and Interactive Voice Response (IVR) historical statistics to be collected, and the applications for which call-by-call data gets collected.

Real-time statistics

The Contact Center Manager Administration Real-Time Reporting displays provide up-to-date statistics for your contact center and resources. You can view changes in call activity in real time, such as the number of calls waiting to be answered, the number of agents assigned to each skillset, and the number of abandoned calls.

You must have Real-Time Statistics access to configure these statistics. You can configure collection options, the data collection interval, and the minimum refresh rate. Network-consolidated and Nodal are the two types of real-time statistics available.

Network-consolidated displays

You can view the network-consolidated displays only if you have the networking feature enabled and you have access to a Network Control Center (NCC) server. These displays provide an overall, real-time view of contact center activities across a network linked by multiple servers in Contact Center Manager Server.

Nodal displays

Nodal displays provide a real-time view of contact center activities for a specific contact center.

Access and partition management

Contact Center Manager Administration (CCMA) includes four main components that help administrators control the data that users can access in the contact center. The administrator can use these components to tailor access rights to suit every user in the contact center. The following four components are available:

- basic access rights to each component in Contact Center Manager Administration
- partitions
- supervisor-reporting agent combinations
- access classes

The first level of security is the overall right to access the applications within Contact Center Manager Administration. When an administrator defines Contact Center Manager Administration users in Access and Partition Management, the administrator specifies the applications that the user can access from the CCMA Launchpad.

The next level of security involves partitions, supervisor-reporting agent combinations, and access classes. The administrator can use partitions and supervisor-reporting agent combinations to specify the data that Contact Center Manager Administration users can view and manage. The administrator can use access classes to control the actions that users can perform in Contact Center Manager Administration Management, Scripting, Historical Reporting, Real-Time Reporting, and Configuration components.

Chapter 4: Filter management

You can use filters to specify the skillsets, the applications, and the agents that you want to see in the real-time display grids, and the agents that you want to see in the agent map graphical displays.

Prerequisites to filter management

Procedure

- Ensure that you have access to Filters.
- Ensure that you do not log on as webadmin.

Creating a filter in Real-time reporting

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.
- Ensure that you have access to filters.
- Ensure that you do not log on as the webadmin.

About this task

Create filters to specify the skillsets, applications, and agents that you want to see in the real-time display grids, and the agents that you want to see in the agent map graphical displays.

Procedure

1. From the **Filters** menu, select **Manage Filters**.
2. Right-click on the **Filters** folder and select **Add Filter**.
3. In the **New Filter Name** box, type the name of the filter. You can use only alphanumeric characters. Do not use special characters.
4. Click **Submit** to save the filter.

Creating a filter in Historical reporting

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

You must configure networking in each of the Contact Center Manager Server (CCMS) servers for the Historical Reporting to list all CCMS servers.

Create and use the filters in the Historical Reporting application for Network Consolidated reports.

Procedure

1. From the **Filters** menu, select **Manage Filters**.
2. Select **Add Filter**.
3. In the **New Filter Name** box, type the name of the filter. You can use only alphanumeric characters. Do not use special characters.
4. Click **Submit**.
5. Click the required resource tab.
6. Select the required resource.
7. Click **Submit**.

Adding skillset elements to a filter

Before you begin

- Log on to Real-Time Reporting or Historical Reporting. See Logging on to Real-Time reporting on page 29 or Logging on to Historical reporting on page 79.
- Create at least one filter. See Creating a filter in Real-time reporting on page 21.
- Ensure that you have access to filters.
- Ensure that you do not log on as the webadmin.

About this task

Add skillset elements to a filter to view the required statistics.

Procedure

1. From the **Filters** menu, select **Manage Filters**.
2. In the left pane, select the filter to edit.
3. Select the Contact Center Manager Server on which to add the elements.
4. Select the **Skillsets** tab.

5. Click the **Assign Skillsets** heading.
6. From the list, select **contains**, **is equal to**, or **start with**.
7. In the box, type the skillset name.
8. Click **Search**.
9. In the list of available skillsets, select the check box for each skillset to add to the filter.

   OR

   To select all available skillsets, select the **Select All** check box.
10. Click **Submit** to save your changes.

Adding application elements to a filter

Before you begin

- Log on to Real-Time Reporting or Historical Reporting. See Logging on to Real-Time reporting on page 29 or Logging on to Historical reporting on page 79.
- Create at least one filter. See Creating a filter in Real-time reporting on page 21.
- Ensure that you have access to filters.
- Ensure that you do not log on as the webadmin.

About this task

When you select an application element to filter in billboards and charts, your new application element appears in the **Filter Selection** list under **Available**.

Procedure

1. From the **Filters** menu, select **Manage Filters**.
2. In the left pane, select the filter to edit.
3. Select the Contact Center Manager Server on which to add the elements.
4. Select the **Application** tab.
5. In the list of available applications, select the check box for each application to add to the filter.

   OR

   To choose all available applications, select the **Select All** check box.
6. Click **Submit** to save your changes.

Adding agent elements to a filter

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

  Note:

  You cannot add agents to a Historical Reporting filter.
- Create at least one filter. See Creating a filter in Real-time reporting on page 21.
- Ensure that you have access to filters.
- Ensure that you do not log on as webadmin.

About this task

Include statistics for specific agents by adding agent elements.

When you select an application element to filter in billboards and charts, the new application element appears in the **Filter Selection** list under **Available**.

Procedure

1. From the **Filters** menu, select **Manage Filters**.
2. In the left pane, select the filter to edit.
3. Select the Contact Center Manager Server on which to add the elements.
4. Select the **Agents** tab.
5. Click the **Assign Agents** heading.
6. From the first list, select **Last Name**, **First Name**, **Department**, **Comment**, or **Login ID**.
7. From the second list, select **contains**, **is equal to**, or **start with**.
8. In the box, type a value to search.

   You can search for up to five levels by selecting **And** or **Or** from the last list.
9. Click **Search**.

   Agents that match your criteria appear in a table.
10. In the list of available agents, select the check box for each agent to add to the filter.

    OR

    To choose all available agents, select the **Select All** check box.
11. Click **Submit** to save your changes.

Removing elements from a filter

Before you begin

- Log on to Real-Time Reporting or Historical Reporting. See Logging on to Real-Time reporting on page 29 or Logging on to Historical reporting on page 79.
- Create at least one filter. See Creating a filter in Real-time reporting on page 21.
- Ensure that you have access to filters.
- Ensure that you do not log on as the webadmin.

About this task

To modify the report display, remove elements from a filter.

Procedure

1. From the **Filters** menu, select **Manage Filters**.
2. In the left pane, select the filter from which to remove applications, skillsets, or agents.
3. Clear the check boxes for each skillset, application, or agent to remove from the filter.
4. Click **Submit** to save your changes.

Deleting a filter

Before you begin

- Log on to Real-Time Reporting or Historical Reporting. See Logging on to Real-Time reporting on page 29 or Logging on to Historical reporting on page 79.
- Create at least one filter. See Creating a filter in Real-time reporting on page 21.
- Ensure that you have access to filters.
- Ensure that you do not log on as the webadmin.

About this task

If you need to rename a filter, you must delete the filter and create a new one with a new name.

Procedure

1. From the **Filters** menu, select **Manage Filters**.
2. In the left pane, select the filter to delete.
3. In the right pane, click **Delete Filter**.
4. In the message box that appears asking you to confirm your choice, click **OK**.

Applying filters to real-time tabular displays

Before you begin

- Log on to Real-Time Reporting or Historical Reporting. See Logging on to Real-Time reporting on page 29 or Logging on to Historical reporting on page 79.
- Create at least one filter. See Creating a filter in Real-time reporting on page 21.
- Ensure that you have access to filters.
- Ensure that you are logged on as a standard Contact Center Manager Administration (CCMA) user. Administrator users do not have access to filters.

About this task

Use the Filters page to apply filters to customize your real-time tabular displays. You can apply a filter, a supervisor-reporting agent combination, or both.

Procedure

1. In the left pane, under the server containing the real-time display to which to apply filters, select the **Private Tabular Displays** folder.
2. Click the private display to customize.
3. Click the **Filters** tab.
4. From the list of available filters, select the check box for each filter to assign to the real-time display.

   OR

   To assign all of the available filters (and supervisor-reporting agent combinations listed, if you customize the **Standard Agent Display**), click **Select All**.
5. Click **Submit** to save your changes.
6. Click **Launch Display** to start the display and view your changes

Applying filters to graphical displays

Before you begin

- Log on to Real-Time Reporting or Historical Reporting. See Logging on to Real-Time reporting on page 29 or Logging on to Historical reporting on page 79.
- Create at least one filter. See Creating a filter in Real-time reporting on page 21.
- Ensure that you have access to filters.
- Ensure that you are logged on as a standard Contact Center Manager Administration (CCMA) user. Administrator users do not have access to filters.

About this task

Filters on real-time displays provide a mechanism for a supervisor to group together a number of agents, applications, or skillsets. Real-time reporting is capable of providing summary statistics for filters when they are added to a display. Filters are available for selection as an alternative to skillsets or applications on a number of the real-time reporting billboards and charts. The following displays support filters:

- Application Billboards
- Skillset Billboards
- Application Chart (statistics per application)
- Skillset Chart (statistics per skillset)
- Time Line Chart (statistics per skillset)
- Time Line Chart (statistics per application)
- Agent Map

Note:

Filters are not supported on dashboard displays.

Procedure

1. In the left pane, under the server containing the real-time graphical display to which you require to apply filters, select the **Private Tabular Displays** folder.
2. Click the private display to customize.
3. From the drop-down list of **Applications** or **Skillsets**, select the filter to assign to the real-time display.

   The filters are grouped together at the end of the **Applications** list or the **Skillsets** list.
4. Click **Submit** to save your changes.
5. Click **Launch Display** to start the display and view your changes.

Applying supervisor-reporting agent combinations to real-time displays

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Create at least one filter.

About this task

You can apply supervisor-reporting agent combinations to the **Standard Agent Display**.

Procedure

1. In the left pane, select the server containing the Standard Agent real-time display to which you require to apply supervisor-reporting agent combinations.
2. Select the **Private Tabular Displays** folder.

3. Click the private agent display to customize.
4. Click the **Filters** tab.
5. From the list of available supervisor-reporting agent combinations, select the check box for each supervisor to assign to the real-time display.

   OR

   To assign all the available supervisor-reporting agent combinations and all filters, click **Select All**.
6. Click **Submit** to save your changes.
7. Click **Launch Display** to start the display and view your changes.

Removing filters from a real-time display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Create at least one filter.

About this task

You can remove a filter that you do not require, to modify a real-time display.

Procedure

1. In the left pane, select the server that contains the real-time display from which to remove filters.
2. Select the **Private Tabular Displays** folder.
3. Click the display to customize.
4. Click the **Filters** tab.
5. From the list of assigned filters, clear the check box for each filter to remove from the real-time display.

   OR

   To remove all of the filters from the real-time display, click **Clear All**.
6. Click **Submit** to save your changes.

Chapter 5: Real-time reporting

The Contact Center Manager Administration (CCMA) Real-Time Reporting displays provide up-to-date statistics for your contact center and resources. With access to statistics that update in real-time, such as the number of contacts waiting to be answered, the number of agents assigned to each skillset, and the number of abandoned calls, you can view changes in contact activity as they occur.

If you use Agent Desktop Displays from CCMA, the status of an agent is different for each display.

Prerequisites to real-time reports

Procedure

Ensure that you have access to the Real-Time Reporting (RTR) component and associated access class elements.

Logging on to Real-Time reporting

Before you begin

- Ensure that you have access to Real-Time Reporting.

About this task

To access Real-Time Reporting, log on to the Real-Time Reporting component in Contact Center Manager Administration.

Procedure

1. Log on to Contact Center Manager Administration.

   Contact Center Manager Administration (CCMA) displays the date and time of your last login and also the number of failed login attempts before a successful login.

2. On the **Launchpad**, click **Real-Time Reporting**.

   The Real-Time Reporting window appears.

Creating a private real-time display

Before you begin

- Create a copy of a public display template. See Making a public copy of a private real-time display on page 30.
- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

Create a private real-time display to customize real-time displays.

For more information about customizing real-time displays. See Real-time report customization on page 66.

Procedure

1. In the left pane, click the server on which to create a private real-time display.
2. Select the **Public Tabular Displays** folder.
3. From the expanded **Public Tabular Displays** folder, select the display to copy.
4. In the Public Display window, type the name of your new private display. You can use only alphanumeric characters in the display name; do not use special characters.

   When you copy a display, the system gives the new display a default name in the format `[server name]_[display name]`. Since each private display must have a unique name, you must type a new name, if you save a public display with the same default name. If you do not type a new name, the system overwrites the existing display.
5. To save the display in the **Private Tabular Displays** folder, click **Make Private Copy**.
6. On the Properties page, you can change the colors, font size, and the refresh rate.

Making a public copy of a private real-time display

About this task

After you customize a real-time display and save it in your **Private Tabular Displays** folder, you can share the display with other users by making a public copy. You can copy the display to the **Public Tabular Displays** folder on the currently selected server or across all servers on the network to which you have access.

Important:

Contact Center saves filters only for private real-time displays. Contact Center does not save filters on public copies of your private real-time displays. Supervisors and agents using public copies can apply filters when they view the displays, but Contact Center does not save these filters on the public copy.

For information about making public copies of graphical displays, see Making a public copy of a graphical display on page 48 or Creating a public collection or public billboard collection on page 62.

Procedure

1. Log on to the **Real-Time Reporting** component.
2. In the left pane, click the Contact Center Manager Server on which to create a public copy of a private real-time display.
3. Select the **Private Tabular Displays** folder.
4. From the expanded **Private Tabular Displays** folder, select the display to copy.
5. At the bottom of the Properties page, type the name of the display as you want it to appear in the **Public Tabular Displays** folder.

   Note:

   You can use only alphanumeric characters in the display name; do not use special characters. You cannot type the same name used by one of the Standard Public displays as you cannot overwrite these displays. If you type the same name as an existing copied display, then you overwrite the existing display.
6. Select the servers on which you want the public copy of your private display to appear. You can choose the current server on which you save the private display or all servers to which you have access.

   If you have access to an NCC server and you copy a nodal display across all servers, you do not see the nodal display on the NCC server. You can copy nodal real-time displays to every server on the network except the NCC server. Likewise, you can copy private network-consolidated displays to the **Public Tabular Displays** folder only on the NCC server (that is, you cannot copy these displays across all servers in the network).
7. Click **Make Public Copy** to save the private display in the **Public Tabular Displays** folder.
8. In the Public Display window, you can view the public display, make a new private copy of it, or, if you are an administrator logged on as webadmin, you can delete the display.

Deleting public displays

Before you begin

- Ensure that you log on to Contact Center Manager Administration as the webadmin administrator.
- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

If required, you can delete custom public displays. You cannot delete standard public displays (the displays that come with the Contact Center Manager Administration software).

Procedure

1. In the left pane, navigate to the public display to delete.
2. In the Public Display window, click **Delete Public Display**.
3. In the message box that asks you to confirm your choice, click **OK**.

   Note:

   The same public display can exist on multiple servers, if the user who saved it chose to copy it to all servers on the network. If you delete the display on one server, you do not delete all copies.

Applying custom formulas to real-time displays

About this task

After you create custom formulas in the Formula Editor, apply them to your private real-time displays in the Real-Time Reporting component.

You can customize only the columns in private displays. If you choose a public display, you must first copy and save it in your Private Displays folder before you can customize the columns. See Creating a private real-time display on page 30.

Procedure

1. In the Real-Time Reporting main window, select the **Private Tabular Displays** folder under the server containing the display to customize.
2. Click the display to customize.
3. Click the **Columns** tab.
4. From the **Available Fields** list, select the formula to add to the real-time display.
5. Click **Add Field**.
6. Click **Submit** to save your changes.
7. Click **Launch Display** to view your changes.

Starting a network summary

About this task

You can start a performance summary chart in bar format for all sites in the network (if you work in a networked environment). The chart updates at the same refresh rate as the real-time display grid.

Procedure

1. Log on to **Real-Time Reporting**.
2. In the left pane, click the NCC server.
3. Navigate to the network summary chart.
4. Click **Network Summary**.

   The chart appears approximately after a 5-second delay.

Printing a summary chart

Before you begin

- Ensure that a NCC server is available.

About this task

If you require a hard copy, you can print a summary chart.

Procedure

1. Log on to **Real-Time Reporting**.
2. In the left pane, click the server on which the summary chart is stored.
3. Navigate to the summary chart.
4. Click **Print**.
5. In the Print dialog box, select the printer you want to use.

   To view the summary chart in color, select a color printer.
6. Click **OK**.

Printing a real-time display

About this task

If you require a hard copy, you can print a real-time display.

Procedure

1. Log on to **Real-Time Reporting**.
2. In the left pane, click the server on which the real-time display is stored.
3. Navigate to the real-time display and click **Launch Display**.
4. Click **Print**.

5. In the Print dialog box, select the printer you want to use.
6. Click **Print**.

Deleting a private display

Before you begin

- At least one private display must exist.

About this task

Delete private tabular displays and private graphical displays.

Note:

Once you delete a display, you cannot recover it.

Procedure

1. Log on to the **Real-Time Reporting** component.
2. In the left pane, click the server that contains the private display to delete.
3. Click the **Private Tabular Displays** folder to delete a private tabular display.

   OR

   Click the **Private Graphical Displays** folder to delete a private graphical display.
4. In the selected folder, click the private display to delete.
5. In the right pane, click **Remove Private Display** to delete a private tabular display.

   OR

   Click **Remove Display** to delete a private graphical display.
6. In the Confirmation dialog box, click **OK**.

   The system permanently deletes the display.

Deleting an exported real-time display grid

About this task

You can delete real-time display grids from the Contact Center Manager Administration server that you export as HTML files.

Important:

You must carefully manage exported displays. Exported displays consume disk space on the Contact Center Manager Administration server.

Procedure

1. Log on to the **Real-Time Reporting** component.
2. From the **Displays** menu, click **Manage Exported Displays.**
3. In the right pane, select the check box for each exported file to delete.

   OR

   To delete all files, click **Select All**.
4. Click **Delete** to remove the selected files from the Contact Center Manager Administration server.

Logging out an agent from a real-time display

Before you begin

- Log on to CCMA. For more information, see Logging on to Real-Time reporting on page 29.
- Ensure you have an Access Class that allows you to force agent state changes.
- Customize a private real-time display to include the Log Out column, or select a display customized by another user. For more information, see Real-time report customization on page 66.

About this task

Use this procedure to log out an agent from a real-time display.

Procedure

1. In the left pane, select an Agent Display that has the Logout column and shows the agent you want to log out.
2. In the right pane, click **Launch Display**.

   CCMA opens the real-time display window.
3. Scroll to the agent that you want to log out.
4. Click the **Force Log out** button ( ).
5. On the **Logout Confirmation** dialog, click **Yes**.

   Contact Center logs out the agent, and displays a message on the agent's Agent Desktop interface informing them that a supervisor has logged them out.

Changing an agent's Ready status from a real-time display

Before you begin

- Log on to CCMA. For more information, see Logging on to Real-Time reporting on page 29.
- Ensure you have an Access Class that allows you to force agent state changes.
- Customize a private real-time display to include the Change State column, or select a display customized by another user. For more information, see Real-time report customization on page 66.

About this task

Use this procedure to change an agent's status from a real-time display.

Procedure

1. In the left pane, select an Agent Display that has the Change State column and shows the agent whose status you want to change.
2. In the right pane, click **Launch Display**.

   CCMA opens the real-time display window.
3. Scroll to the agent for whom you want to change the ready status.
4. Click the **Change State** button (/).

   CCMA displays the **Change Agent State** dialog.
5. If you changed the agent's status from Ready to Not Ready, on the **Change Agent State** dialog, enter a Not Ready Reason code, and click **Yes**.

   Contact Center displays a message on the agent's Agent Desktop interface informing them of the state change.
6. If you changed the agent's status from Not Ready to Ready, on the **Change Agent State** dialog click **Yes**.

   Contact Center displays a message on the agent's Agent Desktop interface informing them of the state change.

Viewing the non-staffed skillsets

About this task

Use the Non-Staffed Skillsets window to view a list of all the skillsets within your partition, without logged-on agents. The list of non-staffed skillsets automatically refreshes every 20 seconds with the most recent information.

Procedure

1. Log on to the **Real-Time Reporting** component.

2. In the left pane, click the relevant server and then click the folder that contains the skillset display.
3. Click the skillset display that you want to launch.
4. In the right pane click **Launch Display**

   The display launches.
5. In the display, click **Non-Staffed Skillsets**.

   The Non-Staffed Skillsets window appears, listing all of the skillsets within your partition, without logged-on agents.

Chapter 6: Exported displays

The procedures in this section describe how to work with exported real-time displays.

Prerequisites to exported displays

Procedure

Ensure that you have access to the Real-Time Reporting (RTR) component and associated access class elements.

Exporting summary charts

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can export site summary charts as a bitmap or a jpeg file.

Procedure

1. In the left pane, under the relevant server, click the folder that contains the display.
2. In the expanded list, click the desired real-time display or chart graphical display.
3. In the right pane, click **Launch Display**.
4. On the real-time display, click **[site name] Summary** to view the real-time display site summary chart.
5. If you view a site summary from a network consolidated real-time display, in the **Site** column, click the desired site name
6. On the summary chart, click **Export BMP**.

   OR

   Click **Export JPG**.

   A message box appears with the name of the exported file and the export time.

For example, if you export the Agent display site summary chart for the Winnipeg site as a .bmp file on June 29, 2000 at 2:23 p.m., the exported file name is `StandardAgent_Winnipeg_20000629_142307.bmp`.

7. Click **OK**.

Exporting network summary charts

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.
- Ensure that you have an NCC server.

About this task

You can export network summary charts as a bitmap or a jpeg file.

Procedure

1. In the left pane, under the Network Control Center (NCC) server, open the desired public or private network consolidated real-time display.
2. From the display, click **Network Summary**.
3. On the network summary chart, click **Export BMP**.

   OR

   Click **Export JPG**.

   A message box shows the exported file name and the export time. For example, if you export the Network Consolidated Agent Position Status Count network summary chart as a .bmp file on June 29, 2000 at 2:23 p.m., the exported file name is `Ntwk_AgentPositionCount_20000629_142307.bmp`.
4. Click **OK**.

Viewing an exported real-time display

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You must view an exported real-time display, to print the display.

Procedure

1. From the **Displays** menu, select **Manage Exported Displays**.

2. In the right pane, from the list of HTML files, click the name of the file to view.

   The snapshot of the real-time display grid appears in a new Internet Explorer window.
3. To print the exported grid, in **Internet Explorer**, from the **File** menu, select **Print**.
4. To view the colored rows of the real-time display, in the Print dialog box, select a color printer.
5. Click **Print**.

Exporting real-time display grids

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can export real-time displays to open the file in a new Internet Explorer window. Exporting real-time displays creates a snapshot file in HTML format.

Important:

You must carefully manage exported displays. Exported displays consume disk space on the Contact Center Manager Administration server.

Procedure

1. In the left pane, double-click the real-time display grid to export.
2. On the real-time display grid, click **Export**.
3. To open the file in a new Internet Explorer window, click **View**.

Changing the file name prefix of exported real-time display grids

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can choose the prefix to appear in the file name when you export the real-time display grids to the Contact Center Manager Administration server as HTML files. An example of the prefix for the Consolidated Skillset Display is ConsolidatedSkillSet.

The exported file name includes your user name, the prefix that you select, the date and time you save the file. For example, if your user name is John, your prefix is ConsolidatedSkillSet, and you chose to export the Consolidated Skillset Display as an HTML file on April 10, 2000 at 2:45:28

p.m., the system saves it on the server as `John_ConsolidatedSkillSet_20000410_144528.htm`.

Procedure

1. In the left pane, under the server containing the display to customize, click the **Private Tabular Displays** folder.
2. Click the display name.
3. On the Properties page, in the **Grid export prefix** box, type the prefix to appear in the HTML file name.

   Note:

   Do not include spaces in the prefix.
4. Click **Submit** to save your changes.

Changing the path to export a summary chart

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can choose the folder in which to save summary charts that you export as .bmp or .jpg files. The folder that you choose can be on the application server or on your computer.

If you leave this field blank, the system saves the files on your desktop.

Procedure

1. In the left pane, under the server containing the display to customize, click the **Private Tabular Displays** folder.
2. Click the display name.
3. On the Properties page, in the **Summary chart export path** box, type the folder where you want to save snapshots of the network or site summary charts (as .bmp or .jpg files).

   For example, to save the summary chart in the My Documents folder on the C drive of your computer, type `C:\My Documents` in this box.
4. Click **Submit** to save your changes.

Printing a real-time display grid

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

If you require a hard copy of a real-time display, print a real-time display grid.

Procedure

1. In the left pane, navigate to the display.
2. Double-click the display.
3. In the real-time display grid, click **Print**.
4. In the Print dialog box, select a printer, or accept the default printer.
5. Click **OK**.

Chapter 7: Graphical displays

In the Graphical Display window, you can configure one of seven types of graphical displays:

- Billboard displays
- Chart displays
- Time Line displays
- Agent maps
- Collections
- Billboard collections
- Dashboard displays

Prerequisites to graphical display management

Procedure

Ensure that you have access to the Real-Time Reporting (RTR) component and associated access class elements.

Adding a graphical display

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

Create a graphical display.

Procedure

1. From the **Displays** menu, select **Add Graphical Display**.
2. In the **Name** box, type the name of the new graphical display.

   The system displays this name on the system tree.
3. From the **Server** list, select the server on which to create the graphical display.

4. In the Element Type area, select the type of element corresponding to the type of graphical display that you want to create, from the following list:
    - **Agent**: Create an agent map.
    - **Application**: Create an application billboard, chart, or time line.
    - **IVR**: Create an IVR billboard, chart, or time line.
    - **Skillset**: Create a skillset billboard, chart, or time line.
    - **Agent Position Count**: Create an agent position count billboard or chart.
    - **All**: Create a dashboard, a private or public collection, a private billboard or public billboard collection.

    Note:

    The system does not display **Agent** in the list of element types if you are logged on to Contact Center Manager Administration using the webadmin account. The system does not display **Agent** and **IVR** in the list of element types if you are creating the graphical display on a Network Control Center server. The system displays **Agent Position Count** in the list of element types only if you are creating the graphical display on a Network Control Center server.
5. In the Presentation area, select the type of graphical display to create.

    The type of chart you can create varies according to the selection you made in the Element type area.
6. Click **Edit Properties** to configure the graphical display.

    The system displays the corresponding properties window.

Opening a graphical display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Create at least one graphical display.

About this task

View a graphical display.

Procedure

1. In the left pane, click the folder containing the graphical display to view.
2. Click the graphical display to view.
3. In the right pane, review the current settings for the graphical display.
4. If you change the settings, click **Submit** to save your changes.

5. Click **Launch**.

   While you view an agent map or billboard graphical display, the display can change color. This change alerts you when the statistic values exceed the configured threshold values. For agent map displays, text flashes when a threshold value is reached, while you view the display in the box view (if you configure the display with this feature).

   If you select **Pop to front**, the display appears in front of all open windows. On each refresh, the display continues to pop to the front of all open windows, until the data on the display falls below the threshold level.

Deleting a graphical display

Before you begin

- If you logged on as the administrative user, or the webadmin, you can open the **Public Graphical Displays** folder and delete the displays.
- If you log on as a user, other than the administrative user, or the webadmin, you can delete only the graphical displays that you save in your **Private Graphical Displays** folder.
- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

When you no longer require a graphical display, you can delete the display.

Procedure

1. In the left pane, click the **Private Graphical Displays** folder.

   Note:

   When you delete a graphical display, you cannot restore it. Instead, you must create a new graphical display.

2. In the list of displays, click the graphical display to delete.
3. In the right pane, click **Remove Display**.
4. In the message box that appears asking you to confirm your choice, click **OK**.

Creating a Real-time Dashboard display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.

About this task

You can create a Real-time Dashboard display to provide you with multiple views of up-to-date statistics for your contact center and its resources.

Procedure

1. From the **Displays** menu, select **Add Graphical Display**.
2. From **Element Type**, select **All**.
3. From **Presentation**, select **Dashboard**.
4. In the Name box, type the new display name.

   Note:

   You can use only alphanumeric characters in the display name; do not use special characters. The display name must be unique; if you type the same name as an existing display, then you overwrite the existing display.
5. Click **Edit Properties** to configure the display.
6. Click **Submit** to save your changes.

   The new display appears under **Private Graphical Displays**.

Adding charts to the Real-time Dashboard

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Create a Real-time Dashboard display.

About this task

You can add charts to the Real-time Dashboard to view them.

Procedure

1. In the left pane, click the **Private Graphical Displays** folder.
2. Click the Real-time Dashboard display.
3. Click **Launch**.
4. From the **Displays** menu, select a display chart.
5. From the display chart menu, select the data to display on the chart.

   The data appears on the chart in the Real-time Dashboard display.

Changing chart properties in the Real-time Dashboard display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Create a Real-time Dashboard display.
- Add a display chart to the Real-time Dashboard.

About this task

You can change the items that appear on the charts in the Real-time Dashboard to meet your requirements.

Procedure

1. Click the **Properties** tab of the chart to change.
2. Select the skillsets, applications, and statistics to display on the chart.
3. Click the **Display** tab to display the updated chart.

   Note:

   If you choose **None** from the **Color Palette** drop-down list, in the **Display** > **Options** menu, the chart is displayed in its default color.

Removing display charts from the Real-time Dashboard display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Create a Real-time Dashboard display.
- Add a display chart to the Real-time Dashboard.

About this task

You can remove display charts from the Real-time Dashboard display.

Procedure

1. In the left pane, click the **Private Graphical Displays** folder.
2. Select the Real-time Dashboard display.
3. Click **Launch**.
4. Click the **X** button beside the display to remove the display.

Saving the Real-Time Dashboard display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Create a Real-time Dashboard display.
- Add a display chart to the Real-time Dashboard.

About this task

Save the Real-time Dashboard display window size and the following attributes of each Real-time Display chart:

- size and position of the window
- display type
- list of selected statistics
- list of selected skillsets or applications

Procedure

Close the Real-time Dashboard display window and select **Yes** on the Save dialog.

OR

Select **Save** from the **File** menu.

Making a public copy of a graphical display

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

Make a public copy of a billboard, or chart, or time line graphical display. After you customize a display, you can save it in your **Private Graphical Displays** folder. You can share the saved display with other users by making a public copy of it.

Note:

You can make public copies of all types of graphical displays, except agent maps and Real-time Dashboard displays. Public graphical displays do not support filters. Contact Center does not save filters on public copies of your private graphical displays.

You can copy only the display to the **Public Graphical Displays** folder on the currently selected server. You cannot copy graphical displays across all servers on the network to which you have access (unlike real-time tabular displays).

After you make a public copy of a private display, only the administrator (logged on as webadmin) can delete the display. To modify the display, you or another user must first make a private copy. For details about creating public collections and billboard collection displays, see Creating a public collection or public billboard collection on page 62.

Procedure

1. In the left pane, under the server containing the display to copy, click the **Private Graphical Displays** folder.
2. In the list of displays, select the chart or billboard or time line display to copy.
3. At the bottom of the right pane, type the name of the display to appear in the **Public Graphical Displays** folder.

   You can only use alphanumeric characters in the display name; do not use special characters. If you type the same name as an existing copied display, you overwrite this display.

   When you copy a private display, the system gives the new display a default name in the format `[server name]_[private display name]`. Since each public display must have a unique name, you must type a new name, if you save a public display with the same default name. If you do not type a new name, the system overwrites the existing display.
4. Click **Make Public Copy** to save the private display in the **Public Graphical Displays** folder under the same server.

Assigning threshold alerts to a nodal real-time display

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.
- Create at least one private display. You can customize only the columns in private displays. If you choose a public display, you must first copy and save it in your Private displays folder before you can customize the columns. See Making a public copy of a graphical display on page 48.

About this task

An administrator can use two threshold values, the low value (level 1) and the high value (level 2), to define system activity. These values result in three operational levels:

- Below level 1: Based on the type of statistic, this level can mean normal contact center operation and no action required (that is, the lower the number of calls waiting, the better), or it can signify an alert situation that requires attention (that is, the lower the service level percentage, the worse the situation).
- Between level 1 and level 2: This level can indicate a required action to prevent contact center performance to move beyond acceptable operating levels.
- Above level 2: Based on the type of statistic, this level can mean normal contact center operation and no action required (that is, the higher the service level percentage, the better), or it can signify an alert situation that requires attention (that is, the greater the number of calls waiting, the worse the situation).

Procedure

1. In the left pane, under the server that contains the private display to customize, navigate to the private display.
2. In the right pane, click the **Columns** tab.
3. From the sample table, select the statistic for which to define the threshold colors.
4. From the threshold colors boxes, select the colors for the statistic if it is below the level 1 threshold value, if it reaches a value between level 1 and level 2, and if it exceeds level 2.
5. Click **Submit** to save your changes.

Configuring an agent map

Before you begin

- You must create the agent filter before you can assign it to the map display and save the display. See Creating a filter in Real-time reporting on page 21 and Adding agent elements to a filter on page 24.
- Log on to CCMA as a standard user. Administrators cannot create agent maps.

About this task

You can configure an agent map to view a representation of all the agents to whom you have access in your contact center.

Note:

Supervisors cannot log out an agent, or change an agent's status, from an agent map; these actions are possible only from tabular displays.

Procedure

1. In the Real-Time Reporting main window, from the menu, select **Displays** > **Add Graphical Display**.
2. In the **Name** box, type the name of the new agent map. This is the name that appears in the system tree. You can only use alphanumeric characters in the agent map name; you cannot use special characters.
3. From the **Server** list, select the server on which to configure the agent map. You cannot create agent map displays on the Network Control Center (NCC) server.
4. In the **Element Type** area, select **Agent**.
5. In the **Presentation** area, confirm that **Agent Map** is selected.
6. Click **Edit Properties** to configure the new agent map.

   The Agent Map Properties dialog box appears.

7. In the **Agent map** title box, type the agent map name to appear at the top of the agent map display, or accept the default name. Do not include spaces, special characters, punctuation, or the ampersand (&) in the agent map title.
8. Under **Display arranged by**, select either **Agent ID** or **Position ID**.

   Note:

   In SIP-enabled contact centers, the **Position ID** option is not available.
9. From the **Data collection mode** list, select **Moving window** or **Interval-to-date**.
10. From the **Optional field** list, select **Position ID** or **Personal DN** to see either in the agent map.
11. From the **Agent Name** list, select how you want the agent name and login ID to appear in the header of each icon in the Icon view. You can choose from the following options:
    - agent first name, followed by last name
    - agent last name, followed by first name
    - agent first name and login ID
    - agent last name and login ID
12. From the **Linked Display** list, select the display.

    You can choose from all the private, public, and standard displays (both tabular and graphical) to which you have access on the currently selected server. If you choose nothing from the **Linked Display** list when you configure the agent map, the **Standard Agent Display** appears for the same server on which you configure the agent map when you click **Linked Display**.
13. From the **Associated filter** list, select the agent filter to assign to the agent map.

    Only filters containing agents on the selected server appear. If your filters contain no agents on the selected server, no filters appear in this list.
14. In the **Threshold settings** area, click the colors to which the text in the box view agent map change, when a threshold level is exceeded.

    In the icon view, the agent icon changes to these colors when a threshold level is exceeded.

    When you choose the threshold colors, select colors that make the text easy to view against the agent state background colors in box view.

    If you do not use a mouse, press **Tab** until the status bar indicates that you have reached the desired color. After reaching the desired color, press the **Spacebar** to select the color.
15. Select the **Pop to front on threshold** check box to move the agent map to the front of your desktop when a threshold level is exceeded.

    The agent map appears in front of all open windows. On each refresh, the agent map continues to pop to the front of all open windows, until the data on the display falls below the threshold level.

16. Select the **Text Flash on threshold** check box to view the text in the launched box view.

    The agent map flashes when a threshold level is exceeded. (This option is not applicable to the **View Agent Map Displays** icon.)

17. Select the **Hide logged out Agents** check box to view logged on agents only when you activate the agent map.

    If you do not select this check box, you see all agents in the filter that you attach to the display, both logged on and logged off.

18. In the **Agent State Colors** area, select the appropriate check boxes to choose the colors to shown for each agent state.

19. Click **Submit** to save your changes.

    The new agent map appears in the system tree under **Graphical Displays**.

Adding agents to an agent map

Before you begin

- Ensure you have agent elements in a filter. See Adding agent elements to a filter on page 24.

About this task

You cannot add an agent directly to an agent map. Instead, you must add the agent to the filter that you assign to the agent map.

Procedure

1. On the main menu, click **Filters** > **Manage Filters**.
2. On the **Filters** tree, click the filter that is assigned to the agent map.
3. Click the **Agent** tab.
4. Select the agents to add to the agent map.
5. Click **Submit** to save the changes.
6. On the main menu, click **Displays** > **View Displays**.
7. On the system tree, click the **Graphical Displays** folder under the server containing the agent map.
8. Double-click the agent map, and then view the added agent.

Arranging agents in an agent map using drag and drop

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Launch an agent map display.

About this task

Position an agent within the agent map.

Procedure

1. On the agent map display, click the agent block to move within the display.
2. While pressing the left mouse button on the agent, drag the agent to the new position within the agent map.
3. Release the mouse button to leave the agent in the new position.
4. Click **Save Layout** to save the new arrangement.

Arranging agents in an agent map automatically

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Launch an agent map display.

About this task

Arrange agents in alphabetical order within the agent map.

Procedure

1. On the agent map display, click **Tile Agents**.
2. Click **Save Layout** to save the new arrangement.

Customizing the agent map layout

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Launch an agent map display.

About this task

Adapt an agent map layout to meet your requirements.

Procedure

1. In the agent map, click and drag the agent icons to the desired position.
2. To change the size of the window, place your cursor on the edge of the window until a two-headed arrow appears.
3. Click the edge of the window, and then drag it to the desired size.
4. Click **Save Layout** to save your changes. The next time you open the agent map, your custom layout appears.
5. To rearrange the icons automatically in the window, click **Tile Agents**.

Resizing an agent map

Before you begin

- You must have an agent map. See Configuring an agent map on page 50.

About this task

When you resize an agent map, you can save the size. Your settings remain in effect until you resize the agent map again.

Procedure

1. Place your cursor on the edge of the agent map display until it becomes a double-headed arrow.
2. Right-click and drag the edge of the agent map to the required size.
3. Release the mouse button.
4. Click **Save Layout**.

Changing the header format of icons in an agent map

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can specify how the agent name and login ID appear in the icon headers when you look at an agent map in the icon view.

You can choose from the following options:

- agent first name, followed by last name
- agent last name, followed by first name

- agent first name and login ID
- agent last name and login ID

Procedure

1. In the Real-Time Reporting main window, click the server containing the agent map to edit.
2. The server expands to reveal a series of folders. On the system tree, click the **Public Graphical Displays** or **Private Graphical Displays** folder containing the agent map that you want to configure.
3. The folder expands to reveal the graphical displays that you save under this server.
4. Click the agent map to configure.

   The Agent Map Properties window appears in the right pane.
5. From the **Agent Name** list, select how you want the agent name and login ID to appear in the header of each icon in the Icon view.
6. Review all other properties for the agent map.
7. After you approve the agent map properties, click **Submit** to save your changes.

   The next time you view this agent map in the Icon view, the header for each icon appears in the format that you selected.

Zooming in or out on an agent map display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Launch an agent map display.

About this task

While you look at the agent map in the box view, you can resize the display to 50, 75, 125, 150, 200, or 300 percent of normal size when you use the zoom feature. The resizing option does not apply to agent maps that appear in the icon view. When you resize an agent map, the text within the agent blocks are also resized, and the relative position of the icons are maintained. To return the display to the normal size, select 100 percent from the list.

If you resize an agent map to 50 percent of the normal size, the spacing between the agent map icons is halved.

Procedure

From the **Zoom** list, select a value to resize the agent map.

Activate a display from an agent map

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Configure an agent map.

About this task

On the agent map graphical display, you can view a grid display. When you customize the agent map, you can choose which display to view when you click the **Linked Display** button. You can choose from all the private, public, and standard displays (both tabular and graphical) to which you have access.

If you do not configure which display to view with the Linked Display feature, the **Standard Agent Display** becomes the default display when you click the **Linked Display** button.

Procedure

On the agent map display, click **Linked Display**.

The display that you chose from the **Linked Display** list activates.

Activate an agent details window from an agent map

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Configure an agent map.

About this task

When you look at an agent map in box view, you can double-click the agent icons to view a separate window that lists details about the agent. The window displays the name, login ID, supervisor, position ID, and personal DN of the agent. You can double-click the agent icons in the display, for both logged on and logged off agents, to activate this details window.

Procedure

1. Launch the required agent map display.
2. Double-click an agent icon in the agent map display.

   A new window appears that lists the agent details.

Configuring a billboard display

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can configure a billboard display to select a statistic to monitor closely.

Some agent statistics give misleading totals on a Skillset billboard display, because typically agents have more than one skillset assignment. These statistics are:

- Agent Staffed
- Agent Active
- Agent Not Ready
- Agent Idle
- Agent on DN Call
- Agent on Network Skillset Call
- Agent on Other Skillset Call
- Agent Unavailable
- Agent on ACD-DN Call
- Agent on NACD-DN Call

If you select one of these statistics for a Skillset billboard display, and choose the Summary option, when you launch the display Contact Center displays a message that the statistic is not available.

Procedure

1. In the Real-Time Reporting main window, from the menu, select **Displays** > **Add Graphical Display**.
2. In the **Name** box, type the name of the new billboard graphical display. This is the name that appears in the system tree. You can use alphanumeric characters only.
3. From the **Server** list, select the server on which to create and save the billboard.
4. If you select the **NCC** server, in the **Element Type** area, select **Agent Position Count** > **Application**, or **Skillset**.
5. If you select a nodal server, in the **Element Type** area, select **Application** > **IVR**, or **Skillset**.
6. In the **Presentation** area, select **Billboard**.
7. Click **Edit Properties** to configure the new billboard display.
8. In the **Billboard title** box, accept the default name provided, or delete the default name and type a custom name to appear at the top of the billboard display.

   Do not include spaces, special characters, punctuation, or the ampersand (&) in the billboard title.

9. From the **Data collection mode** list, select either **Moving window** or **Interval-to-date**.
10. For nodal billboards, from the **Application** or **Skillset** list, select the application or skillset to monitor, or select **Summary**.
11. For IVR or NCC billboards, you can select only **Summary**. When you select **Summary**, you can monitor the statistic across all the applications or skillsets in your partition on the selected server and across all the applications or skillsets in your partition on all servers on the network across all IVR queues on the selected server.
12. From the **Statistic** list, select the statistic to monitor in the billboard. The name of the statistic that you monitor appears in the title bar of the billboard display window when you activate it.
13. From the **Font color** boxes, select the color for the statistic.

    The background color of the billboard display is black until a threshold value is reached, at which time it changes to either of the threshold colors you selected, and the font color changes to black.

    If you do not use a mouse, press **Tab** until the status bar indicates that you have the selected color. After reaching the desired color, press the **Spacebar** to select the color.
14. From the **Threshold settings** boxes, click to select the colors for the thresholds below level 1, between level 1 and level 2, and above level 2, or accept the default colors shown.

    You can view the current Level 1 and Level 2 threshold values configured for this statistic in the Value boxes beside the threshold settings boxes.
15. Select the **Pop to front** check box to move the activated billboard to the front on your desktop when a threshold level is reached.

    The billboard display appears in front of all open windows. On each refresh, the billboard display continues to pop to the front of all open windows, until the data on the display falls below the threshold level.
16. Click **Submit** to save your changes.

    The new billboard appears in the system tree under **Private Graphical Displays**.

Configuring a chart display

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can configure a chart display for skillsets, applications, or statistics to monitor in a customized chart.

Procedure

1. In the Real-Time Reporting main window, from the menu, select **Displays** > **Add Graphical Display**.
2. In the **Name** box, type the name of the new chart graphical display.

   This is the name that appears in the system tree. You can use alphanumeric characters only.
3. From the **Server** list, select the server on which to create and save the display.
4. If you select the **NCC** server, in the **Element Type** area, select **Agent Position Count** > **Application**, or **Skillset**.
5. If you select a nodal server, in the **Element Type** area, select **Application** > **IVR**, or **Skillset**.
6. If you select **Application** on an NCC server, in the **Presentation** area, select the **Chart (choose statistics per application)**.
7. If you select **Application** on a nodal server, in the **Presentation** area, select the **Chart (choose statistics per application)** or the **Chart (choose applications per statistic)**.
8. If you select **Skillset** on an NCC server or **Agent Position Count**, in the **Presentation** area, select **Chart (choose statistics per skillset)**.
9. If you select **Skillset** on a nodal server, in the **Presentation** area, select the **Chart (choose statistics per skillset)** or the **Chart (choose skillsets per statistic)**.
10. If you select **IVR**, in the **Presentation** area, select **Chart (choose statistics for IVR summary)**.
11. In the **Chart title** box, accept the default name, or delete the default name and type a custom name to appear at the top of the chart display.
12. From the **Chart type** list, select the type of chart to configure. You can choose from **Horizontal Bar**, **Vertical Bar**, or **Pie**.
13. From the **Chart fill** list, select **Color** or **Pattern (Black & White)**.
14. If you select **Chart (choose applications per statistic),** or **Chart (choose skillsets per statistic)** from the **Statistics** list, select a statistic.
15. From the **Application** list, select an application to monitor. Choose **Summary** to view a summary of all applications in your partition on the selected server.
16. For **Chart (choose statistics per skillset)** on a nodal server, from the **Skillset** list, select a skillset to monitor.
17. Choose **Summary** to view a summary of all skillsets in your partition on the selected server.

    If you select **Summary**, the total for statistics such as Agents Staffed, Agents Active, Agents Not Ready, or Agents Idle is shown as 0 because one agent is typically assigned to more than one skillset, which results in misleading totals.

18. From the **Data Collection Mode** list, select the **Moving window** or **Interval-to-date**.
19. In the **Export path** box, type the path in which to save a copy of the chart that you export as a BMP or JPG file (for example, `C:\My Documents`). If you leave this field blank, the file is exported to your desktop.
20. If you select **Chart (choose statistics per application)**, **Chart (choose statistics for IVR summary)**, or **Chart (choose statistics per skillset)**, in the **Statistic** area, select the check box for each statistic to view in the chart display.
21. If you select **Chart (choose applications per statistic)**, in the **Applications** area, select the check box for each application to view in the chart display.
22. If you select **Chart (choose skillsets per statistic)**, in the **Skillsets** area, select the check box for each application to view in the chart display.
23. To select all check boxes, click **Select All**. To clear all check boxes, click **Clear All**.
24. Click **Submit** to save your changes.

    The new chart appears in the system tree under **Graphical Displays** and the Graphical Display window refreshes.
25. To create a public copy of your custom display, in the **Type in the name of your public display** box, type a name for the public display, and then click **Make Public Copy**.

    A copy of your display appears in the **Public Graphical Displays** folder.

Creating a private collection

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can configure and save your favorite combination of data windows.

Procedure

1. In the Real-Time Reporting main window, from the menu, select **Displays** > **Add Graphical Display**.
2. In the **Name** box, type the name of the new collection.

   This is the name that appears on the system tree. You can use only alphanumeric characters in the collection name; you cannot use special characters.
3. From the **Server** list, select the server on which to create and save the collection.
4. In the **Element Type** area, select **All**.
5. In the **Presentation** area, select **Private Collection**.
6. Click **Edit Properties** to configure the new collection.

The Private Collection Properties window appears.

7. From each display list, select a display to include in this collection.

   The display lists include all of the public displays and private displays saved on the selected server. You can choose a maximum of six different displays.

   You must configure the graphical displays on the server before you can include them in your collection.

8. Click **Submit** to save your changes.

   The new collection appears on the system tree under **Private Graphical Displays**.

Creating a private billboard collection

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can configure and save your favorite combination of billboards.

Procedure

1. In the Real-Time Reporting main window, from the menu, select **Displays** > **Add Graphical Display**.
2. In the **Name** box, type the name of the new collection or billboard collection.

   This is the name that appears on the system tree. You can use only alphanumeric characters in the collection name; you cannot use special characters.

3. From the **Server** list, select the server on which to create and save the private billboard collection.
4. In the **Element Type** area, select **All**.
5. In the **Presentation** area, select **Private Billboard Collection**.
6. Click **Edit Properties** to configure the new collection.

   The Private Billboard Collection Properties window appears.

7. In the **Available** box, highlight each public or private billboard to include in your billboard collection, and then click the right arrow (**>**) to move the billboard to the **Selected** box.

   Private billboards are marked with an asterisk (*). You can choose from all public or private billboards to which you have access on the current server, up to a maximum of 25 billboards.

8. Click **Submit** to save the private billboard collection.

The new billboard collection appears on the system tree under your **Private Graphical Displays** folder on the currently selected server.

Creating a public collection or public billboard collection

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

When you save a public display, you share it with all users that have access to public graphical displays on the selected server.

Procedure

1. In the Real-Time Reporting main window, from the menu, select **Displays** > **Add Graphical Display**.
2. In the **Name** box, type the name of the new collection or billboard collection.

   This is the name that appears on the system tree. You can use only alphanumeric characters in the collection name; you cannot use special characters.
3. From the **Servers** list, select the server on which to create and save the public collection.
4. In the **Element Type** area, select **All**.
5. In the **Presentation** area, select either **Public Collection** or **Public Billboard Collection**.
6. Click **Edit Properties**.

   The Public Collection Properties or Public Billboard Collection Properties window appears.
7. If you create a public billboard collection, proceed to step 10 on page 62.
8. From each display list, select a display to include in this collection.

   The lists include all the public grid and graphic displays that you save on the selected server. You can choose maximum six different displays.
9. Click **Submit** to save the public collection.
10. In the **Available** box, highlight each public billboard to include in your billboard collection, and then click the right arrow (**>**) to move the billboard to the **Selected** box.

    You can choose from all public billboards on the current server, up to a maximum of 25 billboards.
11. Click **Submit** to save the public billboard collection.

    The new collection or billboard collection appears on the system tree under the **Public Graphical Displays** folder on the currently selected server.

Arranging the billboards in a billboard collection

About this task

When you first activate a public or private billboard collection, the billboards appear in a default order. However, you can change this order by dragging and dropping the individual billboards within the billboard collection.

Procedure

1. To rearrange the billboards back in the original layout, click **Tile Billboards**.
2. Click **Save Layout**.

Configuring a Time Line display

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can configure a time line display for skillsets, applications, or IVR statistics to monitor in a customized chart.

Procedure

1. In the Real-Time Reporting main window, from the menu, select **Displays** > **Add Graphical Display**.
2. In the **Name** box, type the name of the new time line graphical display.

   This is the name that appears in the system tree. You can use alphanumeric characters only.
3. From the **Servers** list, select the server on which to create and save the display.
4. If you select the **NCC** server, in the **Element Type** area, select **Agent Position Count**, **Application** or **Skillset**.
5. If you select a nodal server, in the **Element Type** area, select **Application**, **IVR**, or **Skillset**.
6. If you select **Application** on an NCC server, in the **Presentation** area, select **Time Line (choose statistics per application)**.
7. If you select **Application** on a nodal server, in the **Presentation** area, select **Time Line (choose statistics per application)** or **Time Line (choose applications per statistic)**.
8. If you select **Skillset** on an NCC server or **Agent Position Count**, in the **Presentation** area, select **Time Line (choose statistics per skillset)**.
9. If you select **Skillset** on a nodal server, in the **Presentation** area, select **Time Line (choose statistics per skillset)** or **Time Line (choose skillsets per statistic)**.

10. If you select **IVR**, in the **Presentation** area, select **Time Line (choose statistics for IVR summary)**.
11. Click the **Edit Properties** button.
12. In the **Chart title** box, accept the default name, or delete the default name and type a custom name to appear at the top of the time line display.
13. From the **Chart fill** list, select **Color** or **Pattern (Black & White)**.
14. If you select **Time Line (choose applications per statistic)**, or **Time Line (choose skillsets per statistic)** from the **Statistics** list, select a statistic.
15. From the **Application** list, select an application to monitor.
16. Choose **Summary** to view a summary of all applications in your partition on the selected server.
17. For **Time Line (choose statistics per skillset)** on a nodal server, from the **Skillset** list, select a skillset to monitor.
18. Choose **Summary** to view a summary of all skillsets in your partition on the selected server.

    If you select **Summary**, the total for statistics such as Agents Staffed, Agents Active, Agents Not Ready, or Agents Idle is shown as 0 because one agent is typically assigned to more than one skillset, which results in misleading totals.
19. From the **Data Collection Mode** list, select the **Moving window** or **Interval-to-date**.
20. From the **Refresh Rate (seconds)** list, select from the available refresh rates of **1**, **5**, **10** or **30** seconds.
21. From the **Display History (minutes)** list, select from the available history values of **1**, **5**, **10** or **15** minutes.
22. In the **Export path** box, type the path in which to save a copy of the chart that you export as a BMP or JPG file (for example, `C:\My Documents`). If you leave this field blank, the file is exported to your desktop.
23. If you select **Time Line (choose statistics per application)**, **Time Line (choose statistics for IVR summary)**, or **Time Line (choose statistics per skillset)**, in the **Statistic** area, select the check box for each statistic to view in the chart display.
24. If you select **Time Line (choose applications per statistic)**, in the **Applications** area, select the check box for each application to view in the time line display.
25. If you select **Time Line (choose skillsets per statistic)**, in the **Skillsets** area, select the check box for each application to view in the time line display.
26. To select all check boxes, click **Select All**. To clear all check boxes, click **Clear All**.
27. Click **Submit** to save your changes.

    The new chart appears in the system tree under **Graphical Displays** and the Graphical Display window refreshes.

28. To create a public copy of your custom display, in the **Type in the name of your public display** box, type a name for the public display, and then click **Make Public Copy**.

    A copy of your display appears in the **Public Graphical Displays** folder.

Configuring a Dashboard display

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can configure a dashboard display which consists of a set of graphical charts to monitor skillset or application statistics.

Procedure

1. In the Real-Time Reporting main window, from the menu, select **Displays** > **Add Graphical Display**.
2. In the **Name** box, type the name of the new dashboard.

   This is the name that appears in the system tree. You can use only alphanumeric characters in the collection name, you cannot use special characters.
3. From the **Servers** list, select the server on which to create and save the collection.
4. In the **Element Type** area, select **All**.
5. In the **Presentation** area, select **Dashboard**.
6. Click **Edit Properties** to configure the new collection.
7. The Collection Properties window appears.
8. In the **Dashboard title** box, accept the default name, or delete the default name and type a custom name to appear as the title of the window when the dashboard display is launched.
9. The **Install** button is enabled if the prerequisite software required to run the dashboard is not found on your computer. Click the **Install** button download and install the relevant .Net Framework.
10. Click **Submit** to save your changes.

    The new dashboard appears on the system tree under Graphical Displays.

Chapter 8: Real-time report customization

The procedures in this section describe how to customize your real-time reports. You can customize real-time report displays and real-time report summary charts.

Prerequisites to real-time reporting customization

Procedure

At least one real-time report must exist. See Adding a graphical display on page 43.

Adding a new column to a real-time display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.

About this task

When you customize your private real-time display grids, you can add new columns by choosing from a list of available statistics.

Procedure

1. In the left pane, click the **Private Tabular Displays** folder.

   The folder expands to show a list of private displays.
2. Click the display to customize.
3. Click the **Columns** tab.
4. From the **Available Fields** list, select the statistic to add to the real-time display.
5. Click **Add Field**.

   The column appears in the sample display table.
6. Click **Submit** to save your changes.

Customizing display properties

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Create a private real-time display.

About this task

You can customize private display properties to meet your requirements.

Procedure

1. In the left pane, click the **Private displays** folder.
2. Click the real-time display to customize.
3. On the Properties page, select your customized settings.
4. Click **Submit** to save your changes.

Changing the refresh rate of a real-time display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Create a private real-time display.

About this task

A slight delay occurs between the events in the contact center and the statistics that you see in the displays. The length of the delay depends on the refresh rate settings in the Real-time Statistics Multicast (RSM) component and on the application server.

The refresh rate that you specify applies to both the private real-time displays and summary charts.

Procedure

1. In the left pane, click the **Private Tabular Displays** folder.
2. Click the display name.
3. In the right pane, click the **Properties** tab.
4. In the **Refresh rate** box, type the rate at which to refresh data in the real-time display.

   You can specify a minimum value of 0.5 seconds or a number from 1 to 99 (seconds).
5. Click **Submit** to save your changes.

Changing the font size in a real-time display grid

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Create a private real-time display.

About this task

You can select the font size for the column headings and the column data in your private real-time displays.

Procedure

1. In the left pane, click the **Private Tabular Displays** folder.
2. Click the display name.
3. In the right pane, click the **Properties** tab.
4. In the **Column font size** boxes, type the size for the column headings and the column data. You can choose a font size from 8 to 14.

   If you make no selection, the system applies the default font size of 8.
5. Click **Submit** to save your changes.

Changing the chart type for a site summary

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.
- Create a private site summary chart.

About this task

You can specify the chart type for the site performance summaries that you view from each real-time display window. You can choose a bar chart or a pie chart.

Procedure

1. In the left pane, under the server that contains the display to customize, navigate to the site summary chart.
2. In the right pane, on the **Properties** tab, from the **Type for site summary** list, select the chart type to use to display the performance summaries of each site in the network.
3. Click **Submit** to save your changes.

Changing the color settings of a real-time display grid

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can configure the color settings for the data, filter and site subtotals, and the summary rows of the real-time display grids. If you choose no custom color, the system applies the default colors to each area.

The summary rows include the Ntwk (Network) Total in the network-consolidated real-time displays, and the [site name] Total in the nodal real-time displays. The subtotal rows contain the statistics subtotals for each site in the network (for network-consolidated displays), and for each filter group.

Procedure

1. In the left pane, under the server that contains the display to customize, navigate to the display.
2. In the right pane, on the **Properties** tab, in the **Color settings** area, choose the color settings to appear in the real-time display grids.
3. Click **Submit** to save your changes.

Changing the fill color of a summary chart

Before you begin

- Log on to Real-Time Reporting. See Logging on to Real-Time reporting on page 29.

About this task

You can specify whether to view the performance summary charts in black and white or color. If you select black and white, the system represents the summary statistics in varying shades of gray with distinct patterns for each type of data. If you select color, the system assigns a different color to represent each type of data.

Procedure

1. In the left pane, under the server that contains the display to customize, navigate to the display.
2. In the right pane, on the **Properties** tab, from the **Site summary fill** and **Network summary fill** lists, select whether to see the charts in color or in a black and white pattern.
3. Click **Submit** to save your changes.

   The option that you choose becomes the default color for all site summary and network summary charts. However, when you view a chart, you can change the fill color instantly by clicking **Color/Pattern** at the bottom of the chart panel.

Changing column names

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.

About this task

You can change the column names of private displays. You can customize the columns of only private displays. If you choose a public display, you must first copy it and save it in your Private Displays folder before you can customize the columns.

Procedure

1. In the left pane, navigate to the real-time display to customize.
2. In the right pane, click the **Columns** tab.
3. To add columns to the display, from the **Available Fields** list, select a column, and then click **Add Field**.
4. In the **Column Name** box, type the new name to appear in the real-time display grid, and then press **Tab**.

   The new column name appears in the sample table.

   You can change as many names as you want.
5. After you change the names, click **Submit** to save your changes.
6. Click **Launch Display** to view the real-time display to see your changes.

Changing the column width in a real-time display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.

About this task

You can customize the columns of only private displays. If you choose a public display, you must first copy it and save it in your private folder before you can customize the columns.

Procedure

1. In the left pane, under the server that contains the real-time display to customize, navigate to the display.
2. In the right pane, click the **Columns** tab.
3. Click the name of the column to resize.
4. In the **Column width** box, type the width of the column in characters.

Note:

You cannot make the column narrower than the column text. To shrink the column to the exact width of the column heading text, type a low number of characters in the **Column width** box (for example, type 5).

5. Click **Submit** to save your changes.
6. Click **Launch Display** to start the real-time display and to view your changes.

Rearranging columns in a real-time display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.

About this task

You can rearrange the columns only of private displays. If you choose a public display, you must first copy it and save it in your Private Tabular Displays folder before you can customize the columns.

You cannot move the Site, Filter, Skillset, or Application column headings. However, you can choose the order in which they appear in the private network-consolidated real-time displays.

Procedure

1. In the left pane, click the **Private Tabular Displays** folder.
2. Click the private display to customize.
3. In the right pane, click the **Columns** tab.
4. Click the name of the column to move.
5. Click **Move Left** or **Move Right** to move the column heading to the desired position.
6. Click **Submit** to save your changes.

Changing the data collection mode of a real-time display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.

About this task

Specify the mode in which you want to view collected contact center data.

Procedure

1. In the left pane, click the **Private Tabular Displays** folder.

2. Click the display name.
3. In the right pane, click the **Properties** tab.
4. From the **Data collection mode** list, select the mode in which to view the collected data.
5. Click **Submit** to save your changes.

Changing the title of a real-time display grid

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.

About this task

Select the title to appear at the top of each private real-time display grid.

Procedure

1. In the left pane, click the **Private Tabular Displays** folder.
2. Click the display name.
3. In the right pane, click the **Properties** tab.
4. In the **Display Title** box, type the title to appear at the top of the real-time display.

   If you do not type a title, the system applies the default title.
5. Click **Submit** to save your changes.

Deleting columns from a real-time display

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- You can customize the columns of only private displays. If you choose a public display, you must first copy it and save it in your **Private Tabular Displays** folder before you can customize the columns.

About this task

When you customize your private real-time display grids, you can delete any column except for the Site, Filter, Skillset, and Application columns.

Note:

If you delete the **Answered Skillset** column, the Contact Type icons do not display in the **Contact Status** column.

Procedure

1. In the left pane, navigate to the private display to customize.
2. In the right pane, click the **Columns** tab.
3. From the sample table, click the statistic to delete from the real-time display.
4. Click **Delete**.
5. Click **Submit** to save your changes.

Moving the chart contents within the window

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.

About this task

You can move the summary chart contents within the window frame to concentrate on specific areas of the chart.

Procedure

1. While viewing the chart, press **Shift**.
2. While pressing **Shift**, hold down both mouse buttons.
3. On the chart, move your mouse to drag the contents to the desired position.
4. Release **Shift** and the mouse buttons.
5. To restore the chart to the original state, press **R** on your keyboard.

Rotating a summary chart

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Open a summary chart.

About this task

Rotate a summary chart to view the complete content.

You cannot rotate network summary charts.

Procedure

1. While viewing the chart, press **Shift**.
2. While pressing **Shift**, hold down both mouse buttons.

3. Move your mouse in a circular direction.

   The chart contents rotate.

Increasing or decreasing the summary chart size

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Open a summary chart.

About this task

Customize the size of the chart contents within the chart frame. You cannot increase the size of the chart frame.

Procedure

1. While viewing the chart, press **Ctrl**.
2. While pressing **Ctrl**, hold down both mouse buttons.
3. On the chart, move your mouse upward to decrease the size of the chart contents or downward to increase the size of the chart contents.
4. After you adjust the size appropriately, release **Ctrl** and the mouse buttons.
5. To restore the chart to the original state, press **R** on your keyboard.

Zooming in on areas of a summary chart

Before you begin

- Log on to Contact Center Manager Administration Real-Time Reporting.
- Open a summary chart.

About this task

Zoom in on a summary chart to view specific information.

Procedure

1. While viewing the summary chart, press **Shift**.
2. While pressing **Shift**, click and drag to select the area of the chart to view more closely.
3. Release **Shift** and the mouse button.

   The area increases in size.
4. To restore the chart to the original state, press **R** on your keyboard.

Chapter 9: Contact Center Multimedia reports

This section provides procedures to generate Contact Center Multimedia (CCMM) reports.

Prerequisites to CCMM reports

Procedure

Ensure you have the Historical Reporting-Report Creation access class, so that you can run Report Creation Wizard (RCW).

Creating a CCMM report template for user-created reports

About this task

To configure the selection criteria in a report, you must create a CCMM report.

Procedure

1. In Contact Center Manager Administration, click **Launchpad** > **Historical Reporting**.
2. In the system tree, click the server to log on to.
3. From the menu, choose **Report** > **Report Creation Wizard**.
4. Select the **Advanced Report (via OBDC)** option.
5. Click **Next**.
6. In the **DSNs Available** list, click **CCMM DSN**.

   Note:

   The OBDC DSN must be `CCMM_<IPaddress>_DSN`.
7. In the **Selected DSN Properties** area, type the user ID and password. If the fields automatically fill in with values, proceed to step 8 on page 75.
8. Click **Next**.

9. From the **Tables Available** list, double-click a table.
10. To add another table, repeat step 9 on page 76; otherwise click **Next**.
11. If you select only one table, skip to step 17 on page 76. If you select multiple tables, continue from step 12 on page 76.
12. From each of the left and right **Tables** lists, select a table.
13. From each of the left and right **Fields** lists, click a field to include.

    Note:

    The selected field on the right **Fields** list must contain the same data as the selected field on the left **Fields** list.
14. From the **Join** list, select a join type.
15. Click **Link**.
16. Click **Next**.
17. In the **Fields** list, double-click a formula or field to add to the report.
18. Use the up and down arrows to change the order of the selected fields.
19. Click the **Configuration** icon.
20. In the report layout section, select **Portrait** or **Landscape**.
21. On the toolbar, click the **Save Report** icon.
22. Select the folder in which to save the report.
23. In the **Report Name** box, type the name of the report.
24. Click **Save**.

Importing a CCMM user-created report

Before you begin

- Install Report Creation Wizard.

About this task

Import a Contact Center Multimedia report into Report Creation Wizard to customize the report layout and to add and delete database tables and database fields.

The following is a list of items and features that you cannot edit, delete, or add to a report:

- Connections
- Formulas
- Record selection formulas
- Subreports

Procedure

1. On the **Report Creation Wizard** tool bar, click the **Import to Historical Reporting** icon.
2. In the **Report Title** box, type the name of the report.
3. Click **Browse**.
4. Navigate to the report to import.
5. Click **Open**.
6. From the **Time Zone** list, select the time zone of the server to which you want to import the report.
7. In the **Comment** box, type additional information about the report.
8. Click the **Report Options** header.
9. Select a **Report Mode**.
10. For advanced reports, from the **Report Type** list, select the report type.
11. From the **Report Group** list, select the folder from which the report is imported.
12. In the **Select Server** list, select the servers to which you want to import the report.
13. Click the **Data Range** header.
14. From the **Table Alias** list, select a table.
15. In the **Table** box, for the data range that matches the selected **Table Alias** time period, type the table name.
16. In the **Timestamp** box, for the data range that matches the selected **Table Alias** time period, type the name of the field.
17. Click **Import**.

Chapter 10: Historical reporting

You can select the server in Contact Center Manager Server from which to run and schedule performance, configuration, and network reports (if you work in a networked environment). Reports help you monitor system performance by providing information about system activity.

You can also designate the Standby Server to generate historical data for the historical reports to reduce the load on the primary servers. For more information about configuring the server from which to draw Historical statistics, see *Avaya Aura® Contact Center Client Administration*.

Note:

Depending on the amount of data in the report, it can take a long time for the report to appear in Contact Center Manager Administration. If this time exceeds the execution timeout value within Internet Information Services (IIS), the report can fail to load. To ensure the report loads with a manageable amount of data, use selection criteria to filter the data or select a shorter data range before you run reports.

Note:

Contact Center blocks historical reports that pull more than 50,000 records from the database. This maximum limit safeguards the memory and CPU usage on the Contact Center server. Avaya recommends that you run reports with selection criteria that reduce the amount of data on the report.

Note:

Contact Center limits the number of items shown in the document map of the Report Viewer to 5000. The document map is the navigation pane that appears on the left side of most reports. Once the limit is reached, Contact Center disables the document map and it is no longer visible in the Report Viewer. However, if there are multiple levels in the document map of a report, Contact Center removes the lowest level first and continues the removal until the number of items falls below 5000. For example, the document map for the Agent Performance report shows two items: Agent Name & ID, and the Date. If removing the Date from the document map reduces the number of items to 5000 or less, the Report Viewer displays the Agent Name & ID only. If Contact Center cannot reduce the number of items in the document map to 5000 or less, the document map is disabled.

The format of exported historical reporting data varies depending on which version of Avaya Aura® Contact Center you are using.

Microsoft SQL Server Reporting Services (SSRS) has limitations when exporting reports. If the report exceeds SSRS limits, the export can fail. For more information about SSRS limitations when exporting to different formats, refer to Microsoft SSRS documentation.

Prerequisites to Historical Reporting

Procedure

- Log on to Contact Center Manager Administration.
- Ensure that you have the required access to work in Historical Reporting.
- Ensure that you understand Historical Reporting.

Logging on to Historical reporting

Before you begin

- Ensure that you have access to Historical reporting.

About this task

To access Historical Reporting, log on to the Historical Reporting component in Contact Center Manager Administration.

Procedure

1. Log on to Contact Center Manager Administration.
2. On the **Launchpad**, click **Historical Reporting**.

   The Historical Reporting window appears.

Applying filters to network-consolidated historical reports

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.
- At least one filter must exist. See Creating a filter in Real-time reporting on page 21.

About this task

When you configure a network-consolidated historical report on the NCC server, you have two choices for adding the selection criteria:

- Network Sites: You can select the network sites to include in the report from those listed in the Available table. To select individual sites, select the check box beside the site names, and then click Update Selection Criteria.
- Filters: Click the Filters heading to choose from the filters that you created and saved. The filter names appear in a table. To select the filters to include in the report, select the check box beside the filter names, and click Save Report or Run Now.

While you can apply more than one filter to a report, the combined total number of filter elements in all filters that you apply to a single report cannot exceed 300. For example, you can apply one filter that includes 200 skillsets, and another filter that includes 100 skillsets to a single network-consolidated report because the total number of filter elements is 300.

Procedure

1. In the right pane, click the NCC server that contains the network-consolidated report to define.
2. Click the **Public Report Templates** folder.
3. Click the **NCC** folder.
4. In the **NCC** folder, select the report to use.
5. Click the **Selection Criteria** heading.
6. Click the **Filters** heading.
7. In the table, select the check box for each filter to apply to the report.
8. Click **Run Now** to generate the report.
9. To save your changes, in the **Save As** box, type a name for the report, choose a save location, and then click **Save Report**.

Defining the selection criteria

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

Users of the Avaya Aura® Contact Center can create filters. However, each of these filters contains only one of the following types of data:

- skillsets
- applications
- route numbers
- route names
- DNIS numbers
- DNIS names

An administrator can use the Contact Center Manager Server filter-importing utility to import filters (that were created and saved in the Avaya Aura® Contact Center) into Contact Center Manager Administration. While each of the classic client filters contains only one type of data— skillsets, applications, route numbers, route names, DNIS numbers, or DNIS names—you can add various types of data to these filters, after the administrator imports them by using the filter tabs in Historical Reporting. For more information on filters, see Filter management on page 21.

You can select the elements to include in your reports by assigning filter elements to your reports. For example, in an agent performance report, you can choose the agents for whom to generate the report. You can define the selection criteria for public, private, and shared reports that you schedule or run on demand.

If you connect to an NCC server and run a network-consolidated report, you can choose from the saved configured filters. Use filters to select the sites and resources to include in a network-consolidated report. For more information, see Creating a filter in Real-time reporting on page 21.

By default, if you do not define the selection criteria, the system applies partition rules to generate the report. However, if you select a filter element, you see only that element in the report. You can select a maximum of 300 elements from the available list to run the report. For example, you choose a skillset report and see a list of 20 skillsets in the Available filter elements box. If you select no skillsets, you see all 20 skillsets in the report, whereas if you select 3 skillsets, you see only 3 skillsets in the report. For two table reports, for example, Skillset By Agent Performance report, you can select 300 agents and 300 skillsets to run the Skillset by Agent Performance report.

The number of elements defined in a users partition profile is an important consideration when running historical reports. If the combined number of a particular element is greater than 300, then it is necessary for the user to select a subset of 300 elements or less in order to run that report. If no selection criteria is selected, all available elements to that user are applied to the report – Contact Center supports only 300 elements or less. Consider the following example:

A user is assigned three user defined partitions, configured as follows:

Partition Name	Elements
Sales Agents	Contains 200 agents from CCMS1
Support Agents	Contains 80 agents from CCMS1
Service Agents	Contains 50 agents from CCMS1

If the user runs the standard Agent Performance report against CCMS1, the report fails to run and displays this error: “The maximum number of elements supported by the SQL Query is 300. Select up to 300 elements to save/run this report or leave the selection criteria blank to report on all data.” This error appears because the user did not define any selection criteria and the maximum element limit is reached. In a user defined partition, the number of elements must not exceed 300. If the number of elements exceeds 300, it has the same effect as defining a selection criteria of more than 300 elements. To avoid this, assign less partitions to the user or use standard partitions to allow reports to be run for all elements.

The filter elements available depend on the type of statistics included in the report. If you select multiple filter elements, only those that satisfy all filter criteria appear in the report. For example, if you choose to report on five agents and three activity codes, if one agent uses no activity code, the agent does not appear in the report.

Procedure

1. In the left pane, click the server that contains the report to define.
2. Expand the folder that contains the report template to use.
3. Click the folder containing the type of report to change.
4. Select the report to use.
5. In the right pane, click the **Selection Criteria** heading.

6. In the **Selection Criteria** area, enter information in the following boxes:
    - **Available** heading: Click this heading to view the available filter elements for this report. A table appears, listing the available elements. If multiple filters exist for this report, more than one **Available** table appears. Select the check box for each filter element to apply to the report, and then click **Update Selection Criteria**. The selected filter elements appear in the **Selected** table.
    - **Selected** heading: Click this heading to view the filter elements selected for the report. A table appears, listing the selected elements. To remove selected filter elements, clear the check box for each filter element, and then click **Update Selection Criteria**. The element appears in the **Available** table.
    - **Filters** heading: This heading is visible only if you connect to the NCC server and work with a network-consolidated report. Click this heading to view the available filters for this report. A table appears with a list of the available filters. To add a filter to this report, select the check box beside the filter name, and then click **Update Selection Criteria**. The selected filters appear in the **Selected** table.
7. Click **Run Now** to generate the report.
8. To save your changes, click **Report Details**, in the **Save As** box, type a name, choose a save location, and then click **Save Report**.

Opening a public, private, or shared report

Before you begin

- Ensure that you have access to public report groups in Access and Partition Management.
- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

Open a public, private, or shared report to view a historical report.

Procedure

1. In the left pane, select the server on which to view the list of reports.
2. Select one of the following folders:
    - **Public Report Templates**: This folder contains the standard report templates in Contact Center Manager Server. Run public reports on demand basis, or you save them in your Group or Private Report Templates folders and schedule them. The Public Report Templates folder can contain template folders corresponding to the following types of reports:
        - Agent Performance reports
        - Call-by-Call reports

- Configuration reports
- Contact Summary reports
- Multimedia reports
- Networking reports
- Other reports
- Outbound reports

The template folder displays depend on the version and features available on the server. In addition to these folders, the Network Control Center (NCC) server includes one public report templates folder, the NCC folder.

- **Private Report Templates**: This folder contains the report templates that you create by modifying an existing public, shared, or private report template, and saving your changes in your Private Report Templates folder. You can modify report information, schedule the report, and apply filters. For more information about creating private reports, see Creating a shared or private report on page 85.
- **Group**: This folder contains shared report templates. When you customize a public or private report template and save it in your Group folder, all other users who have access to your group can run and schedule the group report templates.

Note:

In the Group folder, you can modify a report template only if you are the owner of the report template.

3. From the expanded list, select a report template to modify or schedule the template, or run the report on demand.

   The report properties appear in the right pane.

Running an Ad hoc report

Before you begin

- Ensure that you have access to the report folder that contains the report to run.
- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

You can specify the amount of data to include in an Ad hoc report by choosing the data range and applying selection criteria. After you customize your report, click **Run Now** to generate the report immediately. In the resulting Ad-hoc Report Viewer window, you can choose to print or save the report.

You can select the data range for agent performance, call-by-call, and some networking reports before you generate them. You cannot select the data range for configuration reports.

Procedure

1. In the left pane, select the server that contains the report to run.
2. In the expanded list, select the folder that contains the report template to run.
3. Click the folder containing the report to run.
4. Select the report template to run.
5. To view the current report properties, in the right pane, click the following headings:
    - **Report Details**
    - **Selection Criteria**
    - **Data Range**
    - **Schedule**
    - **Output Options**: This section appears only if you previously scheduled the report.
6. To run the report with the current properties, proceed to step 9 on page 84.

    Note:

    If you do not define the selection criteria, the system enforces partition rules to generate the report.
7. To define the selection criteria and the data range, see Defining the selection criteria on page 80.
8. To save your properties, in the **Save As** box, type a report name, choose a save location, and then click **Save Report**.
9. Click **Run Now** to generate the report.

Exporting an Ad hoc report

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

Export a report to convert the visual display to a required format.

Procedure

1. In the left pane, click the server that has the report to print.
2. Double-click the folder with the report to print.
3. From the expanded folder, select the report.
4. In the right pane, click **Run Now** to generate the report with the specified properties.

The Ad-Hoc Report Viewer appears and displays the generated report.

5. Click the **Export** drop-down menu and select an export type. Choose from Excel, PDF, or Word.
6. After you select the export type, you can choose to open or save the report in the chosen exported format.

Creating a shared or private report

Before you begin

- Ensure that you have access to the folder that contains the report to use.
- If you schedule the report, activate the schedule. See Activating a scheduled report on page 95.
- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

You can create custom reports if you change existing public, shared, or private report templates to suit your needs. Save them in your Group or Private Report Templates folders. When you save a report in your Group folder, you save a shared report; that is, you share the report with other users who have access to your Group folder.

If you do not want to use an existing report as the basis for your custom report, you must create a new report using Microsoft Report Designer and import it into the Contact Center Manager Administration Historical Reporting application. See Importing a report on page 88.

Procedure

1. In the left pane, select the server on which to create the report.
2. Navigate to the folder that contains the report template to use.
3. Click the report to change.
4. In the right pane, click the following headings:
    - **Selection criteria**.
    - **Data range** (not applicable for configuration reports)
    - **Schedule**
5. Click **Report Details**.
6. In the **Report Title** box, type the name to appear at the top of the generated report. If you do not type a new report title, the default title in this box appears at the top of the generated report.

> **Note:**
>
> If you save multiple copies of the same public report in your Group or Private report templates folders, change the report title to distinguish between reports when you generate them. If you do not change the report title, all copies of the same public report have the same standard title when you generate the reports.

7. In the **Save As** box, type the new report name.

   > **Note:**
   >
   > If you choose a Public report template as the basis for your custom report, and you want to save the new properties that you enter, you must type a new name in the **Save As** box and specify whether to save it in your Private or Group folder. If you use an existing private or shared template as the basis for your custom report, you can choose to make a copy of the report by changing the report name in the **Save As** box, or you can leave the report name and overwrite the existing template with your changes.

8. From the **Location** list, select the save location for your custom report. You can choose between your Private and Group folders (if you have access to a group folder).
9. In the **Comment** box, type comments about the report.
10. From the **Time Zone** list, select the time zone in which you want to define the data range for this report, or accept the default time shown (the system defaults to the Contact Center Manager Server time zone). The data range depends on Contact Center Manager Server time since the server stores the data. Therefore, the system always converts the data range times that you enter to Contact Center Manager Server time.
11. Click **Save Report** to save your changes.

    The report appears in the Group or Private Report Templates folder on the server that you select.

Defining the report output

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

You can specify whether to print the scheduled report when it generates, save it as a file, or both. You can also specify one or more email addresses where the system can send a notification after the report generates.

If you save the report to a file, you must specify a shared folder to which the Contact Center Manager Administration server sends the output file. This folder can be on your computer, on another computer in the network, or on the application server. To send the file to a folder on a computer in the network, the network computer must be accessible from the Contact Center Manager Administration server.

Procedure

1. In the left pane, click the server containing the report whose output options you want to define.

   The server expands to reveal a choice between **Public**, **Private**, and **Group** folders (if you have access to a group folder).
2. Expand the folder containing the report template to use.
3. Navigate to the report to edit.

   The report properties appear in the right pane.
4. Click the **Report Details** heading.
5. In the **Report Title** box, type the name to appear at the top of the generated report.

   If you do not type a new report title, the default title in this box appears at the top of the generated report. Do not include apostrophes (') in the report title.

   Note:

   If you save multiple copies of the same public report in your Group or Private report templates folders, change the report title to distinguish between reports when you generate them. If you do not change the report title, all copies of the same public report have the same standard title when you generate the reports.
6. In the **Save As** box, type the new report name.

   The name appears in the system tree. This name cannot contain apostrophes (') and it must be unique, if you save the report in the same folder.
7. From the **Location** list, select the folder in which to save your report. You can choose either **Private** or **Group** (if you have access to a group folder).
8. From the **Time zone** list, select the time zone in which to schedule your report, or accept the system default (the default time zone is time zone of the selected server).

   Note:

   When you select the schedule time for your report, the system converts the time that you choose to the Contact Center Manager Administration server time, and gives the generated report the Contact Center Manager Administration server timestamp (if you choose a time zone other than the one in the Contact Center Manager Administration server.)
9. Click the **Schedule** heading.

   The heading expands to reveal a series of boxes.
10. In the schedule area, enter the report schedule.
11. Click the **Output Options** heading.

The heading expands to reveal a series of boxes.

The **Output Options** heading is disabled until you schedule the report.

12. In the **Output Options** area, choose the report output type:
    - **Print**: When you select this option, you can choose the printer, or accept the default printer shown. You can also select the paper size for the report from the **Paper Size** list.
    - **Output to file**: When you select this option, you must type the location where the report is saved in the **Output** box in the format `\\[computer name]\[shared folder name]\[file name]`. You can then choose the report file format or accept the default format.
    - **Email Notification**: When you choose this option, you must enter an email address in the box provided. The system notifies you by email when the report run is finished and report is generated. To enable multiple users to receive notification that a report is generated, you can type multiple email addresses in the box, each address is separated by a semicolon (;). You can type a maximum of 255 characters in the email address box.
13. Click **Save Report** to save your changes.
14. To activate the schedule, in the left pane, select the **Scheduled Events** folder.
15. In the expanded folder, select the report that you just scheduled.
16. Click **Activate**.

    The system activates the schedule and outputs the report to the location that you specify.

Importing a report

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

You can use the Report Template Importing Wizard to import report templates into Contact Center Manager Administration that you create using Microsoft Report Designer. When you import a report template, you save it on the Contact Center server. However, you access the report template by opening your Private Report Templates folder on the same server to which it is imported.

You can also use the Report Template Importing Wizard to import existing, custom Contact Center Manager Server report templates, one at a time into Contact Center Manager Administration.

To share the report template with other users, you must save your private report in your Group folder (if you have access to a group folder). For more information, see Creating a shared or private report on page 85.

You can import two types of reports: Historical or Configuration.

Note:

For imported reports, characters are limited to the English language and characters supported by the server code page only. A code page is an internal table that the operating system uses to map symbols (letters, numerals, and punctuation characters) to a number. For more information about server code pages and language support for Contact Center Manager Administration, see *Avaya Aura® Contact Center Server Administration*.

Procedure

1. In the left pane, click the server to which to import the new report template.
2. From the **Report** menu, select **Import**.
3. In the **Template Importing Wizard**, follow the prompts to import your report template to the server.

Editing a report

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.
- Ensure that you are familiar with defining selection criteria. See Defining the selection criteria on page 80.
- Ensure that you are familiar with scheduling reports. See Scheduling a report on page 91.
- For network-consolidated reports, you can choose the network sites or filters that you created and saved. See Selecting the network sites for a network-consolidated report on page 96 and Applying filters to network-consolidated historical reports on page 79.
- If you edit a scheduled report, you must deactivate the schedule before you can save your changes. See Deactivating a scheduled report on page 95.

About this task

You can edit the properties of private reports or shared reports that you create and save in your Group folder. You can change properties such as the data range, the selection criteria, the schedule, and the report title. You must click **Save Report** to save the new properties.

You can change the properties of a public report template only if you save a copy of the template as a shared or private report. See Creating a shared or private report on page 85.

Procedure

1. In the left pane, click the server containing the report to edit.
2. Navigate to the report to edit.

   The system loads the report properties, and a series of headings appears in the right pane.
3. Click the **Report Details** heading.

   The heading expands to reveal a series of boxes.

4. In this section, you can change information in the following boxes:
    - **Report Title**: The title that appears at the top of the generated report. Do not include apostrophes (’) in the report title.
    - **Comment**: Type comments about the report.
    - **Save As**: The name of the report. All reports saved in the same folder must have unique names. This name cannot include apostrophes (’). You must enter a name in this box when you save the report in a different folder. If you save the report in the same folder and do not change this name, the system overwrites the existing report with your new properties.
    - **Save Location**: Select the folder in which to save the custom report. If you select Group, all members of your group have access to the report. If you select Private, only you have access to the report.
    - **Time Zone**: Select the time zone in which to schedule or define the data range for this report, or accept the default time shown (the system defaults to the Contact Center Manager Server time zone). The data range depends on Contact Center Manager Server time since the server stores the data. Therefore, the system always converts the data range times that you enter to the Contact Center Manager Server time.
5. Click the **Selection Criteria** heading.

    The heading expands to reveal a series of boxes.
6. Specify the information to include in your report by assigning filter elements (or filters if you work with a network-consolidated report).
7. Click the **Data Range** heading.

    The heading expands to reveal a series of boxes.
8. Change the time range, during which the data collects, to specify the amount of data to include in your report.

    If the data range is None and disabled, the report does not require a data range.
9. Click the **Schedule** heading.
10. Indicate when and how often to generate your report.
11. Click the **Output Options** heading (only if you schedule the report). The heading expands to reveal a series of boxes.
12. Specify whether to save or print the report.

    You can enter email addresses on which the system sends a notification to indicate if the report generates successfully.
13. Click **Save Report**.

    Note:

    If you click **Run Now** to generate an on-demand report, property changes are not saved.

Printing an Ad hoc report

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

You can print an on-demand report from the Ad-Hoc Report viewer.

Before you can print the report, you must run it. You can run the report with the current properties, or you can define the selection criteria and the data range, and then run the report. See Defining the selection criteria on page 80.

By default, if you do not define the selection criteria, all available data is included in the report when you run it. When you define the selection criteria, you can choose the data that you want to see.

For information about printing scheduled reports, see Defining the report output on page 86.

Procedure

1. In the left pane, click the server containing the report to print.
2. Double-click the folder containing the report to print.
3. From the expanded folder, select the report.
4. In the right pane, click **Run Now** to generate the report with the properties specified.

   The system displays the Ad-Hoc Report Viewer and the generated report.
5. Click the printer icon to print the report to the default printer configured on your computer.

Scheduling a report

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.
- Ensure that you are familiar with defining selection criteria. See Defining the selection criteria on page 80.

About this task

You can schedule reports in your group and private folders to send a report to a file or to print a report, or both. You can also specify one or more email addresses where you can receive notification that the report generated, or if problems occurred that prevented it from generating successfully.

You can change the properties of a public report template only by saving a copy of the template as a shared or private report. See Creating a shared or private report on page 85.

If you choose to send the report to a file, you must specify a shared folder where the Contact Center Manager Administration server sends the file. This folder can be on your computer, on another computer in the network, or on the application server. To send the file to a folder on a computer on the network, the network computer must be accessible from the Contact Center Manager Administration.

Avaya recommends that you select a start time that does not exactly match an interval start time. If the scheduled report start time matches the start of an interval, it is possible that the report does not contain data for the previous interval. This happens when Contact Center does not complete writing interval data to the database before the scheduled report starts. This can occur because of , for example, the database size, or the volume of contacts processed in the interval. Avaya recommends that you avoid starting reports on the hour, or on fifteen, thirty, or forty-five minutes after the hour. Instead, schedule reports five minutes after intervals, for example 07:05 or 16:20.

Note:

The report schedule that you define cannot start in the p.m. range and end in the a.m. range. After the system converts your selected time to Contact Center Manager Administration server time, if the converted start time is in the p.m. range and the converted end time is in the a.m. range, an error message appears. In this case, you must re-enter the schedule start and end times, taking into account the time difference with the application server.

Procedure

1. In the left pane, click the server containing the report to schedule.
2. Expand the folder containing the report template to use.
3. Click the folder containing the report type to schedule.
4. In the expanded folder, select the report to schedule.
5. In the right pane, click the **Report Details** heading.
6. In the **Report Title** box, type the name to appear at the top of the generated report.

   Note:

   If you do not type a new report title, the default title in this box appears at the top of the generated report. Do not include apostrophes (’) in the report title.
7. If you save multiple copies of the same public report in your Group or Private report templates folders, change the report title to distinguish between reports.

   Note:

   If you do not change the report title, all copies of the same public report have the same standard title when you generate the reports.
8. In the **Save As** box, type the new report name.

   The name appears in the system tree. This name cannot contain apostrophes (’) and it must be unique, if you save the report in the same folder.
9. From the **Location** list, select the folder in which to save the report.

   You can choose either **Private** or **Group** (if you have access to a group folder).

10. From the **Time zone** list, select the time zone in which to schedule your report, or accept the system default (the time zone defaults to the time zone of the selected server).
11. Click the **Selection Criteria** heading.
12. In the **Selection Criteria** area, click the **Available and Selected** headings to choose the selection criteria for the report.
13. Click the **Schedule** heading.
14. In the **Schedule** area, select the report schedule criteria.

    Note:

    If you select dates for the report to generate, the report generates for the selected dates each year for as long as the report is scheduled. For this reason, you cannot select to generate the report on February 29 in a leap year, as the following year is not a leap year.
15. Click the **Output Options** heading.
16. In the **Output Options** area, choose the report output:
    - **Report output**: Choose whether to print the report, send it to a file, or both.
    - **Printer**: Select the printer.
    - **Paper Size**: Choose the paper size.
    - **Output**: Type the path to the shared network folder in which to save the report.
    - **Format**: Select the report format.
    - **Save the file under a different name each time**: Save each report with a unique name. If you do not choose this option, the system overwrites the existing report.
    - **Email Notification**: Select this option to receive an email notification after the report generates, or if the report does not generate successfully. Enter an email address in the box provided. The system notifies you by email when the report run is finished and the report is generated. To enable multiple users to receive notification that a report generated, you can type multiple email addresses in the box, each address is separated by a semicolon (;). You can type a maximum of 255 characters in the email address box.
17. Click **Save Report** to save your schedule.
18. Click **Activate** to activate the schedule.
19. To verify that the report schedule is active, select the **Scheduled Events** folder, and then locate the scheduled and activated report to view the status and properties.

Variable definitions

Variable	Definition
start time	The time in the selected range in which to generate a report. If you select the schedule time for your report, the system converts the time that you choose to the Contact Center Manager Administration server time and gives the generated report the Contact Center Manager Administration server timestamp (if you choose a time zone other than the one in the Contact Center Manager Administration server). Avaya recommends that you avoid starting reports on the hour, or on fifteen, thirty, or forty-five minutes after the hour. Instead, schedule reports five minutes after intervals, for example 07:05 or 16:20.

Printing a report schedule

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

If you are an administrator logged on as webadmin, you can use the Scheduled Events window to print the schedules of all reports scheduled by you and all other users. Otherwise, you can use this window to print only the reports that you schedule.

Procedure

1. In the left pane, click the **Scheduled Events** folder. The list of scheduled reports appears.
2. In the right pane, select a report, and then click **Print**.
3. In the message box that appears, select one of the following options:
   - **Print**: Click **Print** to print the entire list of scheduled reports shown in the window.
   - **Page Setup**: Use the **Page Setup** option to select the paper size of the printed schedules. If you choose **A4** or **Letter** size, the **Schedule Type** and **Status** columns do not appear on the print preview or the printed copy. If you choose **Legal** size, you can preview and print all the displayed grid columns.
   - **Print Preview**: You can preview the report schedule.

Activating a scheduled report

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.
- Schedule at least one report.

About this task

When you first schedule a report, or when you deactivate a scheduled report, you must activate it to schedule the report again. You can activate a report in one of two ways:

- Click **Activate** in the Report Properties window while you view a saved, scheduled, but inactive report.
- Click **Activate** in the Scheduled Events window. If you log on as the administrative user webadmin, you can activate reports that another user schedules; if you log on as a user other than webadmin, you can activate only the reports that you schedule.

Procedure

1. In the left pane, click the **Scheduled Events** folder.
2. In the right pane, select the report to activate.
3. Click **Activate**.

   The scheduled report activates and runs according to the specified schedule.

Deactivating a scheduled report

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.
- Schedule and activate at least one report.

About this task

You must deactivate the report to pause the report run for an active scheduled report.

You must deactivate a report schedule before you change the report properties, or before you delete the scheduled report. To resume the report on schedule, you must reactivate the scheduled report after you make the changes.

You have two options to deactivate a scheduled report:

- In the Report Properties window while viewing a saved, scheduled, and activated report.
- In the Scheduled Events window. If you log on as the administrative user, webadmin, you can deactivate reports that another user schedules; if you log on as a user other than webadmin, you can deactivate only those reports that you schedule.

This procedure shows you how to deactivate a report from the Scheduled Events window.

Procedure

1. In the left pane, click the **Scheduled Events** folder.
2. In the right pane, select the scheduled report to deactivate.
3. Click **De-Activate**.

Selecting the network sites for a network-consolidated report

Before you begin

- You must select at least one network site to run a network nodal consolidated report. You see only the selected sites data in the report.

About this task

When you generate reports on the Network Control Center (NCC), you must specify the sites in the network to include in the report output by choosing them in the **Selection Criteria** area in the Report Properties window. You can define the selection criteria for public, private, and shared reports that you schedule or generate on demand.

Procedure

1. In the left pane, click the NCC server that contains the report for which to define selection criteria.
2. Expand the folder that contains the report template to use.

   Note:

   If you click the **Public Report Templates** folder, you can see only the NCC folder.
3. In the expanded folder, select the report to use.
4. In the right pane, click the **Selection Criteria** heading.
5. Click the **Available** heading.
6. In the **Available** table, select the check box for each site to include in the report, and then click **Update Selection Criteria**.

   The sites move to the **Selected** table.
7. To remove sites from the report, clear the check boxes for each site to remove, and then click **Update Selection Criteria**.

   The sites move back to the **Available** table.
8. Click **Run Now** to generate the report.
9. To save your changes, in the **Save As** box, type a report name, choose a save location, and click **Save Report**.

Running a report from a different time zone

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

You can select the time zone to run an on-demand report or schedule a report. The time zone that you select applies to the data range of the report and the report schedule. You can choose the time zone to appear in:

- the current computer time zone
- the Contact Center (server) time zone
- any other time zone

Procedure

1. In the left pane, select the server that contains the report to run.
2. In the expanded list, double-click the folder that contains the report to run.
3. Select the report to run.
4. In the right pane, click **Report Details.**
5. In the **Time Zone** field, select a time zone.
6. Click **Run Now** to generate the report.

Deleting a report

Before you begin

- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.
- Deactivate the schedule. See Deactivating a scheduled report on page 95.

About this task

You can delete reports from your private report templates folder and reports in your group folder that you create. You cannot delete public reports or shared reports that other users in your group create.

Your CCMA administrator can delete reports of other users from the shared report groups. Deletions appear in the in the Audit Trail log.

Procedure

1. In the left pane, click the server from which to delete the report.

   The server appears to reveal a choice of Public, Private, and Group folders (if you have access to a group).

2. Navigate to the report to delete.
3. Right-click the report, and then click **Delete**.
4. In the confirmation dialog box, click **Yes**.

Chapter 11: Expert reports

You can create custom or expert reports in an ODBC or JDBC compliant application. This section describes how to create basic reports using Microsoft SQL Server 2012 Report Builder 3.0. The section also provides general instructions to create reports in other applications.

You can create and import reports to run in Contact Center Manager Administration using only Microsoft SQL Server 2012 Report Builder.

Before you create custom reports, ensure that you have an understanding of SQL SELECT statements, the Contact Center database schema, and Contact Center Historical Reporting.

Note:

Contact Center supports only the Microsoft Report Definition Language (RDL) 2010 format. To build report files in this format, the preferred software package is Microsoft SQL Server 2012 Report Builder 3.0.

Installing the Caché ODBC driver CCMS

Before you begin

Ensure you have the most recent version of the Contact Center DVD.

About this task

To run custom reports or SQL queries from client computers you must first install an Intersystems Caché ODBC driver on the client computer. This Intersystems Caché ODBC driver is available on the Avaya Aura® Contact Center Installation DVD.

You can either install 32–bit or 64–bit driver, depending on the operating system of your client computer or the application using the ODBC driver. Microsoft SQL Server 2012 Report Builder 3.0 is a 32–bit application. If you plan to access the Contact Center databases using a 64–bit application, you must also install the 64–bit driver.

Note:

Install this driver only on client computers. Do not install this driver on Contact Center servers.

Procedure

1. Insert the Contact Center DVD into your client computer.

2. Navigate to the `ThirdPartySoftware\IntersystemsCache\CacheODBCDrivers\` folder.

   This folder contains 64–bit and 32–bit drivers.
3. Double click Intersystems Caché ODBC driver application:

   `cache.2015.1.0.ODBCDriver_x86.exe`

   This starts the InstallShield Wizard for Intersystems ODBC driver.
4. Click **Next** on the InstallShield Wizard for Intersystems ODBC driver.
5. Click **Install** to install the driver.
6. When the driver is installed, click **Finish**.

Defining the Caché ODBC DSN for CCMS

Before you begin

Make sure the Intersystems Caché port 1972 is open in the client computer firewall.

Select a desktop user account that the DSN uses to log into the Contact Center Manager Server database. If needed, ask an administrator for the account details. For more information on adding desktop user accounts, see *Avaya Aura® Contact Center Server Administration*.

About this task

To access the Contact Center Manager Server database, you must define a connection to the server and define the Caché ODBC DSN. The name of the Caché ODBC DSN for CCMS must begin with `CCMS_`.

Procedure

1. On the client computer, click **Start** > **Run**.
2. In the **Open** box:
   - If the operating system and ODBC driver are both 32–bit or 64–bit, type `C:\Windows\System32\odbcad32.exe`
   - If the operating system is 64–bit and the ODBC drivwer is 32–bit, type `C:\Windows\SysWOW64\odbcad32.exe`
3. Click **OK**.
4. Click the **System DSN** tab.
5. Click **Add**.
6. Select **Intersystems ODBC**.
7. Click **Finish**.

   The system displays the Intersystems Cache ODBC Data Source Setup dialog.

8. In the **Name** box, enter the required name of the DSN. For example, type `CCMS_PREVIEW_DSN`.
9. In the **Description** box, enter a description of the DSN.
10. In the **Host** box, enter the IP address or computer name of the Contact Center server.
11. In the **Port** box, confirm that the port number is 1972.
12. In the **Cache Namespace** box, enter `CCMS_STAT`.
13. In the **User Name** box, type the user name of the desktop user account.
14. In the **Password** box, type the password of the desktop user account.
15. Click **Test Connection** to test the connection.
16. Click **OK**.

Defining the DSN for CCMM

Before you begin

Ensure the Intersystems Caché port 1972 is open in the client computer firewall.

Ensure that you know the reporting credentials of the CCMM reporting user. You configure this account using CCMM Administration.

About this task

To access the Contact Center Multimedia database from a report writer application, you must install the Caché ODBC driver and define the DSN. The name of the Caché ODBC DSN for CCMM must begin with `CCMM_`.

Procedure

1. On the client computer, click **Start** > **Run**.
2. In the **Open** box:
   - If the operating system and ODBC driver are both 32–bit or 64–bit, type `C:\Windows\System32\odbcad32.exe`
   - If the operating system is 64–bit and the ODBC drivwer is 32–bit, type `C:\Windows\SysWOW64\odbcad32.exe`
3. Click **OK**.
4. Click the **System DSN** tab.
5. Click **Add**.
6. Select **Intersystems ODBC**.
7. Click **Finish**.

   The system displays the Intersystems Cache ODBC Data Source Setup dialog.

8. In the **Name** box, enter the required name of the DSN. For example, type `CCMM_PREVIEW_DSN`.
9. In the **Description** box, enter a description of the DSN.
10. In the **Host** box, enter the IP address or computer name of the Contact Center Multimedia server.
11. In the **Port** box, confirm that the port number is 1972.
12. In the **Cache Namespace** box, enter `MULTIMEDIA`.
13. In the **User Name** box, type the user name of the desktop user account. For example, type `mmReport`.
14. In the **Password** box, type the password of the desktop user account. For example, type `mmRep`.
15. Click **Test Connection**.
16. Click **OK**.

Installing the Caché JDBC driver

About this task

Contact Center supports JDBC connectivity to the CCMS database.

Procedure

1. Log on to the server with CCMS installed.
2. Navigate to the CCMS installation directory. If you select the default installation options then CCMS is normally installed at: `D:\avaya\Contact Center`.
3. Navigate to the following default folder: `D:\avaya\Contact Center\Common Components\Cache\lib\`.
4. Copy the `cacheDB.jar` file from this location to the client computer.
5. The JDBC url is `jdbc:Cache://127.0.0.1:1972/CCMS_STAT` on the server. When accessing this URL from the client computer, replace `127.0.0.1` with the IP address of the server.
6. Use the database user name and password to connect to the server.

Running the Database View Definition report

About this task

Before you create a customized report, run the Database View Definitions report to display all the database views available. This report lists all of the field names available for use in your report.

The Database View Definition report does not include views from the Contact Center Multimedia database.

Procedure

1. On the CCMA launchpad, click on **Historical Reporting.**
2. Select the Contact Center Manager Server from which to run the report.
3. Select the **Configuration** folder in **Public Report Templates**.
4. Select **Config - Database View Definitions**.
5. Click **Run Now** to generate the report.
6. Click the **Printer** icon if you require a printout, or the **Export** icon to save the report.

Creating a new report

Before you begin

- Ensure you know how to use Microsoft SQL Server 2012 Report Builder 3.0. Avaya recommends that you direct your questions about Microsoft SQL Server 2012 Report Builder to your Microsoft vendor.
- You must have a user ID and password for the Contact Center Manager Administration server. Contact your system administrator for the information.

About this task

You can create new reports using Report Builder. The report must be based on AACC database data. This procedure uses an example to show how to create a new expert report.

The example report in this procedure uses the following details:

- ODBC Connection: CCMS_PREVIEW_DSN
- View: dAgentPerformanceStat
- Fields:
  - Timestamp
  - AgentLogin
  - AgentGivenName
  - AgentSurName
  - CallsOffered

- CallsAnswered
- LoggedInTime
- TalkTime
- HoldTime
- PostCallProcessingTime
- NotReadyTime
- WaitingTime

For more detailed information on the CCMS and CCMM database schemas, and on the standard reports included in Historical Reporting, see *Contact Center Performance Management Data Dictionary*.

For complete details on creating custom reports, see the Custom Reports Application Note on https://support.avaya.com.

Procedure

1. Launch Report Builder.
2. On the **Getting Started** window, select **New Report** and click **Blank Report**.
3. Ensure that the Report Data tree view is visible by selecting **Properties** from the **View** menu.
4. On the Report Data tree view, right-click **Data Sources** and select **Add Data Source**.
5. On the Data Source Properties window, in the **Name** field, type the name for the DSN on which you want to run the report. For example, type `CCMS_PREVIEW_DSN`.
6. Select **Use a connection embedded in my report**.
7. In the **Select connection type** field, enter **ODBC**.
8. Click **Build**.
9. On the Connection Properties window, select **Use user or system data source name**, and from the **Data source specification** field, select the DSN, for example **CCMS_PREVIEW_DSN**.
10. Click **OK**.
11. On the **Data Source Properties** window, select the **Credentials** tab.
12. Select **Prompt for credentials**, and in the **Prompt for credentials** field type appropriate text to display when the report runs. For example, type `Specify credentials for CCMS_PREVIEW_DSN`.
13. Click **OK**.
14. On the **Report Data** tree view, right-click **Datasets** and select **Add Dataset**.
15. On the **Dataset Properties** window, in the **Name** field, type a name for the view, for example `dAgentPerformanceStat`.
16. Select **Use a dataset embedded in my report**.

17. From the **Data source** list, select **CCMS_PREVIEW_DSN**.
18. Under **Query type**, select **Text**.
19. In the **Query** field, type the query that you want to run for this report. For example, type the following:

```
SELECT TOP 100
MIN(dAgentPerformanceStat.Timestamp) AS Timestamp,
MIN(LTRIM(dAgentPerformanceStat.AgentLogin)) AS AgentLogin,
MIN(LTRIM(dAgentPerformanceStat.AgentSurName)) AS AgentSurName,
MIN(LTRIM(dAgentPerformanceStat.AgentGivenName)) AS AgentGivenName,
SUM(dAgentPerformanceStat.CallsOffered) AS CallsOffered,
SUM(dAgentPerformanceStat.CallsAnswered) AS CallsAnswered,
SUM(dAgentPerformanceStat.LoggedInTime) AS LoggedInTime,
SUM(dAgentPerformanceStat.TalkTime) AS TalkTime,
SUM(dAgentPerformanceStat.HoldTime) AS HoldTime,
SUM(dAgentPerformanceStat.PostCallProcessingTime) AS PostCallProcessingTime,
SUM(dAgentPerformanceStat.NotReadyTime) AS NotReadyTime,
SUM(dAgentPerformanceStat.WaitingTime) AS WaitingTime
FROM dbo.dAgentPerformanceStat dAgentPerformanceStat
WHERE (dAgentPerformanceStat.Timestamp>= DateAdd('d', -8, Now()) And
dAgentPerformanceStat.Timestamp<= DateAdd('d', -1, Now()))
GROUP BY dAgentPerformanceStat.Timestamp, dAgentPerformanceStat.AgentLogin
ORDER BY dAgentPerformanceStat.Timestamp, dAgentPerformanceStat.AgentLogin
```

20. Click **OK**.
21. On the Enter Data Source Credentials window, type the user name and password the report uses to access the DSN.
22. Click the **Insert** menu.
23. Click the **Table** icon and select **Table Wizard**.
24. On the Choose a dataset page, select the view you created earlier, for example dAgentPerformanceStat, and click **Next**.
25. On the Arrange fields page, move items from the **Available fields** field as required. For example, move the following to **Row groups**:

    - AgentLogin
    - Timestamp

    and the following to **Values**:

    - LoggedInTime
    - TalkTime
    - HoldTime
    - PostCallProcessingTime
    - NotReadyTime
    - WaitingTime
    - CallsOffered
    - CallsAnswered

26. Click **Next**.
27. On the Choose the layout page, select **Show subtotals and grand totals**.
28. Select **Stepped, subtotal above**.
29. Clear **Expand/collapse groups**.
30. Click **Next**.
31. On the Choose a style page, select a style from the **Styles** list.
32. Click **Finish**.
33. In the Report Data tree view, right-click **Parameters** and select **Add Parameter**.
34. On the Report Parameter Properties dialog, select the **General** tab
35. In the **Name** field, type a name for the filter, for example `report_rowfilter_dAgentPerformanceStat`.
36. In the **Data type** field, select Text.
37. Select **Allow null value**.
38. In the **Select parameter visibility** field, enter **Internal**.
39. Select the **Available Values** tab.
40. In the **Select from one of the following options** field, enter **Specify values**.
41. Click **ADD**, and enter `Default` in both the **Label** field and the **Value** field.
42. Click **ADD**, and enter `TableAlias` in the **Label** field and an asterisk (*) in the **Value** field.
43. Click **ADD**, and enter `FieldName` in the **Label** field and an asterisk (*) in the **Value** field.
44. Select the **Default Values** tab.
45. In the **Select from one of the following options** field, enter **Specify values**.
46. Click **ADD**, and enter `Default` in the **Value** field.
47. Click **OK**.
48. In the Report Data tree view, right-click **Parameters** and select **Add Parameter**.
49. On the Report Parameter Properties dialog, select the **General** tab
50. In the **Name** field, type a name for the report query, for example `report_query_dAgentPerformanceStat`.
51. In the **Data type** field, select Text.
52. Select **Allow null value**.
53. In the **Select parameter visibility** field, enter **Internal**.
54. Select the **Available Values** tab.
55. In the **Select from one of the following options** field, enter **Specify values**.
56. Click **ADD**, and enter `Default` in both the **Label** field and the **Value** field.

57. Click **ADD**, and enter `All` in the **Label** field.
58. Click ***fx*** beside the **Value** field.
59. In the **Set expression for: Value** field, type the query text, for example:

```
SELECT
MIN(dAgentPerformanceStat.Timestamp) AS Timestamp,
MIN(LTRIM(dAgentPerformanceStat.AgentLogin)) AS AgentLogin,
MIN(LTRIM(dAgentPerformanceStat.AgentSurName)) AS AgentSurName,
MIN(LTRIM(dAgentPerformanceStat.AgentGivenName)) AS AgentGivenName,
SUM(dAgentPerformanceStat.CallsOffered) AS CallsOffered,
SUM(dAgentPerformanceStat.CallsAnswered) AS CallsAnswered,
SUM(dAgentPerformanceStat.LoggedInTime) AS LoggedInTime,
SUM(dAgentPerformanceStat.TalkTime) AS TalkTime,
SUM(dAgentPerformanceStat.HoldTime) AS HoldTime,
SUM(dAgentPerformanceStat.PostCallProcessingTime) AS PostCallProcessingTime,
SUM(dAgentPerformanceStat.NotReadyTime) AS NotReadyTime,
SUM(dAgentPerformanceStat.WaitingTime) AS WaitingTime
FROM dbo.dAgentPerformanceStat dAgentPerformanceStat
{?report_rowfilter_dAgentPerformanceStat}
GROUP BY dAgentPerformanceStat.Timestamp, dAgentPerformanceStat.AgentLogin
```

60. Click **OK**.
61. Select the **Default Values** tab.
62. In the **Select from one of the following options** field, enter **Specify values**.
63. Click **ADD**, and enter `Default` in the **Value** field.
64. Click **OK**.
65. Save the report, specifying a name for the report file. For example, save the report as `AgentPerformance.rdl`.

Next steps

Test the report using these steps:

1. Open the report.
2. On the **Home** tab, click the **Run** icon.
3. Type the **User Name** and **Password** for the report connection, if required.
4. When the report loads, navigate the pages and ensure the report is appearing correctly.

Testing exported reports

About this task

Export a report in one of the supported output formats and view the exported report. AACC supports reports in PDF, Microsoft Excel, or Microsoft Word format.

Procedure

1. Open the report.

2. On the **Home** tab, click the **Run** icon.
3. Type the user name and password for the report connection, if required.
4. Click the **Export** icon.
5. Save the file to a known location, using one of the supported output formats.
6. Navigate to the save location and open the exported file.
7. Review the exported report and ensure that the format is correct.

Importing a custom report

Before you begin

- Log on to Historical Reporting. For more information, see Logging on to Historical reporting on page 79.

About this task

You can use the Report Template Importing Wizard to import report templates into Contact Center Manager Administration that you create using Microsoft SQL Server 2012 Report Builder. When you import a report template, you save it on the Contact Center server. However, you access the report template by opening your Private Report Templates folder.

To share the report template with other users, you must save your private report in your Group folder (if you have access to a group folder).

You can import two types of reports: Historical or Configuration.

Procedure

1. In the left pane, click the server to which to import the new report template.
2. On the **Report** menu, click **Import**.

   The system displays the Report Template Importing Wizard dialog box.
3. Click the **Browse** button next to the **Select Your Report template** field, and navigate to the report.
4. In the **Template Name** box, type the name of the report to import.
5. From the **Report is based on the following data** list, select the type of report.
6. If applicable, provide Database alias, timestamp, and report data range details.
7. Optionally, select **Synchronize report template from the network drive** to ensure the server automatically applies any updates made to the imported report.
8. Click **Import**.

   Follow the wizard prompts to import your report template to the server.

Creating reports using Microsoft Excel

About this task

If the application supports importing data using ODBC, use the application, such as Microsoft Excel, for report creation. After creating the report, you can format and print the imported data using features within Microsoft Excel.

Note:

The steps in this procedure refer to Microsoft Excel 2010 only. The steps required can vary for different versions of this application. Refer to the application documentation for details about how to import data.

Procedure

1. Open Microsoft Excel.
2. Click the **Data** > **From Other Sources** > **From Data Connection Wizard**.
3. In the **Data Connection Wizard** window, select **ODBC DSN**.
4. Click **Next**.
5. Select the ODBC entry defined for the server.
6. Click **Next**.
7. Choose the table you want to create.
8. Click **Next**.
9. If you want to save the table, in the **File Name** box, type the name of the file.
10. Click **Finish**.
11. In the **Import Data** dialog box, specify how and where you wish to view the data.
12. Click **OK**.

Variable definitions

Variable	Value
ODBC entry	Server application name and IP address (for example, `CCMS_47.10.25.3_DSN`).

Creating reports using Microsoft Access

About this task

If the application supports importing data using ODBC, use the application, such as Microsoft Excel, for report creation.

Note:

The steps in this procedure refer to Microsoft Access 2010 only. The steps required can vary for different versions of this application. Refer to the application documentation for details about how to import data.

Procedure

1. Open Microsoft Access.
2. Open an existing database file or create a new blank database.
3. Select **External Data** > **ODBC Database**.
4. In the **Get External Data — ODBC Database** window, select **Import the source data into a new table in the current database**.
5. Click **OK**.
6. In the **Select Data Source** window, click on the **Machine Data Source** tab.
7. Select the ODBC entry defined for the server.
8. Click **OK**.
9. If required, enter the Login ID and Password.
10. Click **OK**.
11. From the Import Objects window, select the tables to import into the Microsoft Access database.
12. Click **OK**.

    You can now use the features available in Microsoft Access to format the imported data and to create reports. The time to import the data depends on the amount of data stored in the selected tables.

Variable definitions

Variable	Value
ODBC entry	Server application name and IP address (for example, `CCMS_47.10.25.3_DSN`).

Chapter 12: Statistics configuration

The Report Creation Wizard includes a number of formulas that you can use when you create reports. In addition, you can define custom formulas. After you define a formula, you can use it in multiple reports.

Prerequisites to statistics configuration

Procedure

Ensure that you are familiar with the Formula Editor.

Creating custom formulas

About this task

Use the Formulas window to create custom real-time statistics fields by combining existing statistics fields with mathematical operators. You can then save these custom statistics fields as formulas and use the formulas in your private Real-Time Reporting displays. For example, you can create a custom formula to calculate the service level.

Procedure

1. Log on to the **Configuration** component.
2. In the left pane, click the server on which to create the formula.
3. Select the **Formulas** folder.
4. In the right pane, in **Available Formulas** box, type the name of the new formula.
5. From the **Statistics Group** list, select the statistics group that contains the statistics field to include in your formula.
6. Press **Enter** to display the **Formula Editor**.
7. **(Optional)** In the **Comment** box, type information about the formula.
8. From the **Variables** list, select the variable to use in the formula.

The variable appears in the **Formula** box. When you select a variable, it appears in the **Formula** box with a percent symbol (%) preceding it. The percent symbol identifies it as a variable; it is not a mathematical operator.

9. On the numeric keypad, press a number to apply to the formula.
10. After you select a mathematical operator, you can select another variable to add to the formula.
11. To use the higher or lower of two values in your formula, click **Max** or **Min**.
12. After you create the formula, click **Save**.
13. Click **Close** to close the Formula Editor.

Variable definitions

Variable	Definition
Available Formulas	A list of names for the custom formulas. To edit an existing formula, double-click the formula name in the **Available Formulas** column. The Formula Editor appears, listing the Formula components.
Statistics Group	Statistics groups are sets of related statistics defined in the database, such as agent statistics or skillset statistics.
Formula Name	The name of the formula you enter in the **Available Formulas** box in the Formulas window. You can change formula name in the Formula Editor.
Comment	Type additional information about your custom formula. Click **Save** to save your changes.
Formula	The variables and mathematical operators that you choose for your custom formula. You can add new variables and operators, or edit the existing ones. Click **Save** to save your changes.
Variables	The existing statistics fields that you can combine to create custom formulas. After you create a formula, you can apply it to your private Real-Time Reporting displays to control the type of data that you see. From the **Variables** list, select the variables to add to your custom formula. After you select a variable, you must choose a mathematical operator (/, *, -, or +) before you can select another variable, or before you can enter a numeric value.

Table continues…

<table>
<tr><th>Variable</th><th>Definition</th></tr>
<tr><td></td><td>When you select a variable, it appears in the Formula box with a percent symbol (%) preceding it. The percent symbol identifies it as a variable; it is not a mathematical operator.</td></tr>
<tr><td>Numeric keypad</td><td>Add mathematical operators and numeric values to your custom formulas.
Back Space: Removes the last item that you enter in your formula. To remove more items, you must click C to clear the entire formula.
C: Clears the entire formula from the Formula box.
/: Divides the variables in the formula.
*: Multiplies the variables in the formula.
-: Subtracts the variables in the formula.
+: Adds the variables in the formula.
,: Separates the Max and Min variables in the formula.
After each variable, you must select a mathematical operator before you select another variable.</td></tr>
<tr><td>Max and Min</td><td>Use the higher of two values (Max), or the lower of two values (Min) in your formula.

When you click Max or Min, brackets appear in the Formula box. In these brackets, add the two values to compare, separated by a comma.

The format must be as follows: Max[a,b]: a can be one variable, or two variables separated by an operator, and b can be one variable, or two variables separated by an operator.

For example, for the following formula <code>Max[Agent_Available+Agent_Not_Ready, Agent_In_Service +Agent_On_This_Skillset_Call]</code>, the system calculates the values for <code>Agent_Available +Agent_Not_Ready and for Agent_In_Service +Agent_On_This_Skillset_Call</code>, and uses the higher of the two values in the formula. If you use Min in this example, the system calculates the lower of the two values.</td></tr>
<tr><td>Save</td><td>Save changes you make in the Formula Editor.</td></tr>
<tr><td>Close</td><td>Exit the Formula Editor.</td></tr>
</table>

Table continues…

Variable	Definition
	To save your changes, click **Save** before you close the Formula Editor.

Example of creating a custom formula

About this task

You can create a formula for a service level. The formula can be up to 250 characters.

Procedure

1. In the **Available Formulas** box, type `CallsAnswered`.
2. From the **Statistics Group** list, select **Application**.
3. Press **Enter**.
4. In the Formula Editor, from the **Variables** list, select **Calls_Answered**.
5. On the numeric keypad, click the subraction symbol (**-**).
6. From the **Variables** list, select **Calls_Answswd_Aft_Threshold**.
7. On the numerical keypad, click the division symbol (**/**).
8. From the **Variables** list, select **Calls_Answered**.
9. Click **Save**.
10. Click **Close**.

Modifying custom formulas

About this task

Modify custom formulas to update previously created custom formulas.

Procedure

1. Log on to the **Configuration** component.
2. On the system tree in the **Configuration** component, double-click the server containing the formula to modify.
3. Select the **Formulas** folder.
4. In the **Available Formulas** column, double-click the name of the formula to edit.
5. To add a new variable, in the **Formula Editor**, click an operator (/,*,–,+).
6. In the **Variables** list, select a new variable.
7. To delete an element from the formula, in the **Formula** box, select the element.

8. Press **Delete**.
9. Click **Save**.

Deleting a custom formula

About this task

Delete formulas you no longer require.

If you delete a formula that you use in a real-time display, the column in the display appears blank.

Procedure

1. Log on to the **Configuration** component.
2. On the system tree, in the **Configuration** component, double-click the server containing the formula to delete.
3. Select the **Formulas** folder.
4. In the table, select the formula to delete.
5. Press **Delete**.
6. In the confirmation dialog box, click **Yes**.

Configuring historical statistics data collection

About this task

You can configure the following historical statistics collection options:

- the general system parameter values, such as the number of skillsets
- the type of call flow, agent, and IVR historical statistics to collect
- the collected applications for call-by-call data
- the length of time that historical statistics remain on Contact Center Manager Server

You must calculate the amount of required disk space to run your selected configuration and specify the first business day of the week.

Procedure

1. Log on to the **Configuration** component.
2. In the left pane, click the server on which to configure historical statistics.
3. Select the **Historical Statistics** folder.

4. In the **Parameters** table, for each parameter, type the value to configure, ensuring that the value is less than or equal to the purchased value, and greater than or equal to the measured value.

   You must consider future growth while choosing a value.

5. In the **Collect the following statistics** table, for each statistic type, in the **Collect** column, select the check box for each statistic to collect.
6. In the **Call-by-Call** table, for each application, from the **Statistics Collection Method** list, select the type of calls for which to collect call-by-call statistics.
7. In the **Duration** table, for each type of statistic, enter the amount of time the statistic is stored on the server. Note that the time units vary depending on the statistic. The limit for each statistic, with the exception of the **Length of Business day** and **Business week contains** statistics, is 1825 time units (days, weeks, or months).

   Caution:

   When you reduce the duration of a statistic, Contact Center purges all data for that statistic that is older than the new duration specified.

8. From the **Business week starts** list, select the day on which to accumulate weekly statistics.
9. Click **Calculate** to determine if you have sufficient disk space available for the selected historical statistics collection configuration.

   The disk space requirements for the selected configuration appear in the **Call-by-Call Database**, **CSR Database**, and **System Database Required** boxes. The available disk space appears in the **Call-by-Call Database**, **CSR Database**, and **System Database Actual** boxes.

10. Click **Submit** to save your changes.

    Note:

    If the disk space required is greater than the disk space available, you must lower the number of days the data is stored, or you must change the number of estimated calls for each hour until sufficient disk space exists for your configuration.

Configuring historical statistics collection on the NCC

Before you begin

- Ensure that the number of days to store network call-by-call data is synchronized with the Historical Statistics Configuration for each server in the network. See Configuring historical statistics data collection on page 115.

About this task

You can choose the length of time to store network call-by-call statistics on the Network Control Center (NCC). Your configuration determines the following items:

- the amount of data included in your network call-by-call reports
- the amount of disk space required on the NCC

Procedure

1. Log on to the **Configuration** component.
2. In the left pane, click the NCC server.
3. Click the **Network Historical Statistics** folder.
4. In the right pane, in the **Keep Network Call-by-Call data for** box, type the number of days to store network call-by-call data on the NCC.
5. In the **Network call rate** box, type the estimated number of calls networked out for each hour (routed from one site to another).
6. Click **Submit** to calculate the disk space that the call-by-call database requires for your configuration.

   The required disk space appears in the **Required** text box. The available disk space appears in the **Actual** text box.

   Note:

   If the disk space required is greater than the disk space available, you must lower the number of days the data is stored, or you must change the number of estimated calls for each hour until sufficient disk space exists for your configuration.

Configuring real-time statistics collection

About this task

To use the Real-Time Reporting feature of Contact Center Manager Administration, you must first configure Contact Center Manager Server to collect the types of statistics to view in the Real-Time Reporting displays. You can configure the following seven types of predefined real-time statistics:

- skillset statistics (mandatory)
- nodal statistics (mandatory)
- application statistics
- IVR statistics (Avaya Communication Server 1000)
- route statistics (Avaya Communication Server 1000 PABX only)
- agent statistics
- network statistics (Avaya Communication Server 1000 PABX only)

For each of these real-time statistics, you must indicate the viewing mode (moving window or interval-to-date). The interval-to-date settings that you choose start immediately, and apply to all real-time displays at all sites on your network that use the interval-to-date mode.

Note:

Agent interval-to-date statistics are collected only until the agent logs out, or until the end of the interval.

Procedure

1. Log on to the **Configuration** component.
2. In the left pane, select the server on which to configure the real-time statistics.
3. Select the **Real-time Statistics** folder.
4. In the right pane, select the viewing mode for the following statistics:
    - **Skillset Statistics**: You must select a viewing mode value for this statistic. The system automatically collects this required statistic for Intrinsics in writing scripts.
    - **Nodal**: You must select a viewing mode value for this statistic. The system automatically collects this required statistic for Intrinsics in writing scripts.
    - **Application Statistics**: Optional.
    - **IVR Statistics**: Optional.
    - **Route Statistics**: Optional. Available on an Avaya Communication Server 1000 PABX only.
    - **Agent Statistics**: Optional.
    - **Network Statistics**: Optional. Available on an Avaya Communication Server 1000 PABX only.
5. In the **Data Collection Interval** boxes, type the interval duration to use in the interval-to-date data collection mode.
6. In the **One of the intervals starts at** box, type the start time for statistics collection in the interval-to-date data collection mode.

    The system calculates and synchronizes the days remaining intervals based on the time that you specify. Your changes take effect immediately.
7. Click **Submit** to save your changes.

Chapter 13: Report Creation Wizard

Report Creation Wizard is a Web-based interface in which you can create and edit reports. You can import and schedule the reports in Historical Reporting. You can access the Report Creation Wizard from the Historical Reporting component of Contact Center Manager Administration.

Note:

If the Report Creation Wizard window is open and a High Availability switchover occurs, the session is not maintained and you must relaunch Report Creation Wizard to continue operation.

Starting Report Creation Wizard

Before you begin

- Ensure that you have a license for Report Creation Wizard.

About this task

To access Report Creation Wizard, start this application.

Procedure

1. Log on to Contact Center Manager Administration.
2. From the **Launchpad**, click **Historical Reporting**.
3. In the left pane, click the Contact Center Manager Server on which to create, edit, or view the Report Creation Wizard report.
4. From the **Report** menu, select **Report Creation Wizard**.

Opening an existing report

Before you begin

- Start Report Creation Wizard. See Starting Report Creation Wizard on page 119.

About this task

Select the **Open Existing Report** option to open an existing report. After you select this option, a navigation tree appears. Navigate to the report to open. You can choose from previously created reports or from a list of sample reports.

Procedure

1. From the Report Type window, select the **Open Existing Report** option.
2. Click the folder that contains the report to open.
3. From the list of reports, select the report.
4. Click **Next**.

Creating a simplified report

Before you begin

- Start Report Creation Wizard. See Starting Report Creation Wizard on page 119.

About this task

Select the **Create Simplified Report (via Report Definitions)** option to use one of the report definitions available with Report Creation Wizard.

If you choose to create a simplified report, you can choose from a list of standard report definitions in the Data Source window. The Data Source window lists the available report definitions based on the server type selected. If the Contact Center is multimedia enabled, multimedia report definitions are also available.

Procedure

1. In the Report Type window, select the **Create Simplified Report (via Report Definitions)** option.
2. In the Data Source window, click the **Report Definitions** folder.
3. Navigate to the folder that contains the report definition to open.
4. Click **Next**.
5. In the Field Selection window, in the **Fields** list, double-click a field or formula to add to the report.

   The selected field or formula is moved from the **Fields** list to the **Fields Selected** list.

   By default the table name is appended to the field name after you add the field to the **Fields Selected** list. To remove the table name, click the **Toggle Table Name** icon.

   Note:

   If you remove a field from the Field Selection page, the field is removed only from the **Details** section, not from any other section.

6. To change the order of the selected fields, use the up and down arrows.
7. To modify the properties of a selected field, in the **Selected Fields** list, click a field, and then in the **Width** box, type a new width.

   A default width of 80 pixels applies to all selected fields. The **Title** box is a read-only field.
8. Click **Next**.
9. To select a field to group by, in the Grouping window, from the **Fields** list, double-click a field or formula.

   The selected field or formula moves to the **Group by** list.
10. To accept the default properties of the selected fields and formulas, proceed to step 23 on page 121.
11. To modify the properties of a group field, from the **Group by** list, select a field.
12. From the **Sort Order** list, select a sort order.
13. From the **The section will be printed** list, select a length of time that defines when the group changes.

    Note:

    This option is available only for **Date**, **Time**, and **DateTime** fields. It determines when the group prints. For example, selecting **for each hour** groups records together for each hour, and calculates group summaries for each hour.
14. Click **Next**.
15. In the Summaries window, from the **Fields** list, select a field.
16. From the **Summation Type** list, select a summation type.

    As you select the fields in the **Fields** list, the **Summation Type** list dynamically updates to show the types available for the selected field.
17. From the **Groups** list, select the check box for each report section in which the summary appears on the report.
18. Click **Add**.

    The summary appears in the **Summary Data** list.
19. Click **Next**.
20. In the Report Layout window, view or modify the report.
21. On the toolbar, click the **Save Report** icon.
22. In the Save RCW Report dialog box, choose a folder in which to save the report.
23. In the **Report Name** box, enter a name for the report.
24. Click **Save**.

    You can save the report after you select at least one field.

Example of creating a sample simplified Agent by Skillset Performance report

About this task

You can create various report types, such as an Agent by Skillset Performance report.

Procedure

1. In the Report Type window, select the **Create Simplified Report (via Report Definitions)** option.
2. Click **Next**.
3. In the Data Source window, under the **Report Definitions** folder, expand the **CS1000** folder, and then expand the **Agent Performance** folder.
4. In the **Agent Performance** folder, select the **Agent By Skillset Performance Stats** report definition.
5. Click **Next**.
6. In the Field Selection window, from the **Fields** list, expand the **iAgentBySkillsetStat** heading.
7. From the **iAgentBySkilsetStat** list, double-click the following fields in the order listed:
    - **Skillset**
    - **Timestamp**
    - **Time**
    - **AgentLogin**
8. From the **Fields** list, expand the **iAgentBySkillsetStat Formulas** heading.
9. From the **iAgentBySkillsetStat Formulas** list, double-click **RCW_AgentName**.
10. From the **iAgentBySkillsetStat Formulas** view, double-click **CallsAnswered**.
11. In the **iAgentBySkillsetStat Formulas** list, double-click **RCW_TalkTime**.

    Each selected field and formula moves from the **Fields** list to the **Fields Selected** list.
12. Change the width for the following selected fields:

Selected field	Width
iAgentBySkillsetStat.Skillset	200
iAgentBySkillsetStat.Timestamp	200
iAgentBySkillsetStat.AgentLogin	80
iAgentBySkillsetStat.RCW_AgentName	120
iAgentBySkillsetStat.CallsAnswered	80
iAgentBySkillsetStat.RCW_TalkTime	80

13. Click **Next**.
14. In the Grouping window, from the **Fields** list, expand the **iAgentbySkillsetStat** heading, and then double-click the following fields to group by:
    - **Skillset**
    - **Timestamp** (represents the date and time)

    Each selected field moves from the **Fields** list to the **Group by** list.

    The RCW_TalkTime formula is not available because it is a dynamic formula.
15. From the **Group by** list, select **iAgentbySkillsetStat.Timestamp**.
16. From the **This section will be printed** list, select **for each hour**.

    Note:

    This option is available only for **Date**, **Time**, and **DateTime** fields and defines when the group changes.
17. Click **Next**.
18. In the Summaries window, from the **Fields** list, expand the **iAgentBySkillsetStat** heading.
19. From the **iAgentBySkillsetStat**, select **CallsAnswered**.
20. From the **Summation Type** list, select **Sum**.
21. From the **Groups** list, select the following check boxes:
    - **Report Footer**
    - **Group Footer #1**
    - **Group Footer #2**
22. Click **Add**.

    A **CallsAnswered** summary for the **Report Footer**, **Group Footer #1**, and **Group Footer #2** appears in the **Summary Data** list.

    Footer 1 generates a total for all data selected, Group Footer 1 generates a total for each selected skillset, and Group Footer 2 generates a total for each selected timestamp.
23. From the **Fields** list, expand the **iAgentBySkillsetStat Formulas** heading.
24. From the **iAgentBySkillsetStat Formulas** list, select **RCW_TalkTime**.
25. From the **Groups** list, select the following check boxes:
    - **Report Footer**
    - **Group Footer #1**
    - **Group Footer #2**
26. Click **Add**.

    An **RCW_TalkTime** summary for the **Report Footer**, **Group Footer #1**, and **Group Footer #2** appears in the **Summary Data** list.

Footer 1 generates a total for all data selected, Group Footer 1 generates a total for each selected skillset, and Group Footer 2 generates a total for each selected timestamp.

27. Click **Next**.
28. In the Report Layout window, double-click the **Group Footer #1** section.

    The section bar changes color from blue to purple and expands to reveal the summary fields in this section.
29. In the **Group Footer #1** section, click **CallsAnswered**.

    The Object Properties page appears on the left.
30. On the Object Properties page, in the **Width** box, type `80`.
31. In the **Group Footer #1** section, click **RCW_TalkTime**.
32. On the Object Properties page, in the **Width** box, type `80`.
33. Double-click the **Group Footer #2** section.
34. In the **Group Footer #2** section, modify the following Object Properties:

Group Footer #2 field	Width
CallsAnswered type	80
RCW_TalkTime type	80

35. Double-click the **Report Footer** section.
36. In the **Report Footer** section, modify the following Object Properties:

Report Footer field	Width
CallsAnswered type	80
RCW_TalkTime type	80

37. Click the **Group Footer #1** section.
38. Click the **Add Text Field** icon on the toolbar.
39. On the Object Properties page, modify the following properties:
    - In the **Title** box, type `Skillset`.
    - In the **Width** box, type `80`.
    - In the **Height** box, type `20`.
    - In the **Left** box, type `300`.
    - In the **Top** box, type `3`.
    - From the **Text Align** list, select **Right**.
    - Select the **Bold** check box.
40. Click the **Group Footer #2** section.
41. Click the **Add Text Field** icon on the toolbar.

42. On the Object Properties page, modify the following properties:
    - In the **Title** box, type `Timestamp`.
    - In the **Width** box, type `80`.
    - In the **Height** box, type `20`.
    - In the **Left** box, type `300`.
    - In the **Top** box, type `3`.
    - From the **Text Align** list, select **Right**.
    - Select the **Bold** check box.
43. Click the **Report Footer** section.
44. Click the **Add Text Field** icon on the toolbar.
45. On the Object Properties page, modify the following properties:
    - In the **Title** box, type `Totals`.
    - In the **Width** box, type `80`.
    - In the **Height** box, type `20`.
    - In the **Left** box, type `300`.
    - In the **Top** box, type `3`.
    - From the **Text Align** list, select **Right**.
    - Select the **Bold** check box.
46. Double-click the **Page Header** section.
47. In the **Page Header** section, click **Time**.
48. On the Object Properties page, modify the following properties:
    - From the **Font Color** list, select **Purple**.
    - Select the **Underline** and **Bold** check boxes.
49. In the **Page Header** section, modify the following Object Properties:

Page Header field	Title	Width	Font Color	Check boxes
AgentLogin	Agent Login	80	Purple	Bold Underline
RCW_AgentName	Agent Name	120	Purple	Bold Underline
CallsAnswered	Calls Answered	80	Purple	Bold Underline

Table continues…

Page Header field	Title	Width	Font Color	Check boxes
RCW_TalkTime	Talk Time	80	Purple	Bold Underline

50. Double-click the **Group Header #1** section.
51. In the **Group Header #1** section, click **Skillset**.
52. On the Object Properties page, modify the following properties:
    - From the **Font Color** list, select **Blue**.
    - Select the **Bold** check box.
53. Double-click the **Group Header #2** section.
54. In the **Group Header #2** section, click **Timestamp**.
55. On the Object Properties page, modify the following properties:
    - From the **Font Color** list, select **Blue**.
    - Select the **Bold** check box.
56. On the toolbar, click **Save**.
57. In the Save RCW Report window, select a folder in which to save the report.
58. In the **Report Name** box, type `Agent By Skillset Performance.rpt`.

    Note:

    Avaya recommends that you use a name different from the standard report definitions to quickly identify custom reports and to determine the type of data the report generates.
59. Click **Save**.

Creating an advanced report

Before you begin

- Start Report Creation Wizard. See Starting Report Creation Wizard on page 119.
- Ensure that you are familiar with the Report Creation Wizard.
- Configure the DSNs on the Contact Center Manager Server.
- Ensure that you understand table linking and joins.

About this task

Select the Create Advanced Report (via ODBC) option to use an ODBC DSN. You can choose a combination of views from the data source. However, the views must include a common key field. This option provides the maximum flexibility, but it also requires that you understand the database structure with which you work.

Procedure

1. In the Report Type window, select the **Create Advanced Report (via ODBC)** option.
2. In the Data Source window, from the **DSNs Available** list, double-click a DSN.

   The selected DSN moves to the **DSNs Selected** list.

   Note:

   You can select only one DSN system type, for example, a CCMS or CCMM DSN.
3. The **User ID** and **Password** boxes automatically contain the values you enter during the server configuration.

   You can change the user ID and password, but these changes apply only if you create the report. If you generate the report in Historical Reporting, Historical Reporting uses the values you enter during the server configuration.
4. Click **Next**.
5. In the Table Selection window, from the **Tables Available** list, double-click a table.

   The table moves from the **Tables Available** list to the **Tables Selected** list.
6. To add another table, repeat step 5 on page 127.
7. Click **Next**.
8. If you select one table only, proceed to step 14 on page 127.
9. If you select more than one table, in the Table Linking window, from each of the left and right **Tables** lists, select a table.
10. From each of the left and right **Fields** lists, select a field to join.

    Note:

    The selected field in the right **Fields** list must contain the same data as the selected field in the left **Fields** list.
11. From the join list, select a join type and click **Link**.

    The selected tables, field, and join type appear in the **Links** list.
12. To remove an item from the **Links** list, select the item and click **Remove**.
13. Click **Next**.
14. In the Field Selection window, in the **Fields** list, double-click a field or formula to add to the report.

    The selected field or formula moves from the **Fields** list to the **Fields Selected** list.

    By default the table name is appended to the field name after you add the field to the **Fields Selected** list. To remove the table name, click the **Toggle Table Name** icon.

> **Note:**
>
> If you remove a field from the Field Selection page, the field is removed only from the **Details** section, not from any other section.

15. To change the order of the selected fields, use the up and down arrows.
16. To modify the properties of a selected field, in the **Selected Fields** list, click a field, and then in the **Width** box, type a new width.

    A default width of 80 pixels applies to all selected fields. The **Title** box is a read-only field.
17. Click **Next**.
18. To select a field to group by, in the Grouping window, from the **Fields** list, double-click a field or formula.

    The selected field or formula moves to the **Group by** list.
19. To accept the default properties of the selected fields and formulas, proceed to step 23 on page 128.
20. To modify the properties of a group field, from the **Group by** list, select a field.
21. From the **Sort Order** list, select a sort order.
22. From the **The section will be printed** list, select a length of time that defines when the group changes.

    > **Note:**
    >
    > This option is available only for **Date**, **Time**, and **DateTime** fields to determine when you print the group information. For example, selecting **for each hour** groups records together for each hour, and calculates group summaries for each hour.
23. Click **Next**.
24. In the Summaries window, from the **Fields** list, select a field.
25. From the **Summation Type** list, select a summation type.

    As you select the fields in the **Fields** list, the **Summation Type** list dynamically updates to show the types available for the selected field.
26. From the **Groups** list, select the check box for each report section in which the summary appears on the report.
27. Click **Add**.

    The summary appears in the **Summary Data** list.
28. Click **Next**.
29. In the Report Layout window, view or modify the report.
30. On the toolbar, click the **Save Report** icon.
31. In the Save RCW Report dialog box, choose a folder in which to save the report.
32. In the **Report Name** box, enter a name for the report.

33. Click **Save**.

    You can save the report after you select at least one field.

Example of creating an advanced Skillset Threshold report

About this task

An example of creating an advanced Skillset Threshold report.

Procedure

1. In the Report Type window, select the **Create Advanced Report (via ODBC)** option.
2. Click **Next**.
3. In the Data Source window, from the **DSNs Available** list, double-click a CCMS DSN.

   The selected DSN is added to the **DSNs Selected** list.
4. In the **Selected DSN Properties** area, type the user ID and password to access the data source.

   For configured servers on the Contact Center Manager Administration server, the user ID and password automatically appear.
5. Click **Next**.
6. In the Table Selection window, from the **DSNs** list, select the CCMS DSN.

   Tables and views for the selected DSN appear in the **Tables Available** list.
7. From the **Tables Available** list, double-click **dSkillsetStat** and **Skillset**.

   The selected tables move to the **Tables Selected** list.
8. Click **Next**.
9. In the Table Linking window, from the left **Tables** list, select **iSkillsetStat**.
10. From the left **Fields** list, select **SkillsetID**.
11. From the right **Tables** list, select **Skillset**.
12. From the right **Fields** list, select **SkillsetID**.
13. From the **Join** list, select **Left Outer Join**.
14. Click **Link**.

    The linked SkillsetIDs appear in the **Links** list.

    The result for the Left Outer Join includes all the records in which the skillsetID in both tables match exactly. The Left Outer Join also includes a row for every record in the iSkillsetStat table for which the SkillsetID has no match in the Skillset table.
15. Click **Next**.

16. In the Field Selection window, from the **Fields** list, under the **Skillset Formulas** heading, double-click **RCW_SkillsetNameID**.

    The selected field moves to the **Fields Selected** list.
17. From the **Fields** list, under the **iSkillsetStat Formulas** heading, double-click **RCW_ApplicationNameID**.
18. From the **Fields** list, under the **dSkillsetStat** heading, double-click the following fields:
    - **Timestamp**
    - **Time**
    - **CallsAnswered**
    - **CallsAnsweredAfterThreshold**
19. From the **Fields** list, under the **iSkillsetStat Formulas** heading, double-click **RCW_CallsAnsweredBeforeThreshold**.
20. From the **Fields** list, under the **Skillset** heading, double-click **ServiceLevelThreshold**.
21. To modify the Selected Field Properties, in the **Fields Selected** list, click a field.
22. In the **Width** box, type a new width.
23. Click **Next**.
24. In the Grouping window, from the **Fields** list, select the following fields to group by:
    - Skillset Formulas: RCW_SkillsetNameID
    - iSkillsetStat Formulas: RCW_ApplicationNameID
    - dSkillsetStat heading: Timestamp

      Each selected field moves from the **Fields** list to the **Group by** list.
25. To modify the Group Field Properties, from the **Group by** list, select a field, and then from the **Sort Order** list, select **Descending Order**.
26. Click **Next**.
27. In the Summaries window, from the **Fields** list, under the **dSkillsetStat** heading, select **CallsAnsweredAfterThreshold**.
28. From the **Summation Type** list, select **Sum**.

    This summation type totals all calls answered after the threshold is reached.
29. From the **Groups** list, select the following check boxes:
    - **Report Footer**
    - **Group Footer #1**
    - **Group Footer #2**
    - **Group Footer #3**
30. Click **Add**.

The CallsAnsweredAfterThreshold field, Sum summation type, and the selected report sections appear in the **Summary Data** list.

31. From the **Fields** list, under the **iSkillsetStat Formulas** heading, select **RCW_CallsAnsweredBeforeThreshold**.
32. From the **Summation Type** list, select **Sum**.

    This summation type totals all calls answered before the threshold is reached.
33. From the **Groups** list, select the following check boxes:
    - **Report Footer**
    - **Group Footer #1**
    - **Group Footer #2**
    - **Group Footer #3**
34. Click **Add**.

    The RCW_CallsAnsweredBeforeThreshold formula, Sum summation type, and the selected report sections appear in the **Summary Data** list.
35. Click **Next**.
36. In the **Report Layout** window, double-click the **Page Header** section.
37. In the **Page Header** section, click **Time**.
38. On the Object Properties page, in the **Height** box, type `80`.

    With a height of 80 pixels, the full text can print.
39. Select the **Bold** and **Underline** check boxes.
40. In the **Page Header** section, click the next field.
41. On the Object Properties page, in the **Title** box, change the title.

    For example, change CallsAnswered to Calls Answered, and change RCW_CallsAnsweredBeforeThreshold to Calls Answered Before Threshold.
42. In the **Height** box, type `80`.
43. Select the **Bold** and **Underline** check boxes.
44. Repeat step 40 on page 131 to step 43 on page 131 for the remaining **Page Header** fields.
45. Double-click the **Group Header #1** section.
46. In the **Group Header #1** section, click **RCW_SkillsetNameID**.
47. On the Object Properties page, in the **Width** box, type `300`.
48. Select the **Bold** check box.
49. Double-click the **Group Header #2** section.
50. In the **Group Header #2** section, click **RCW_ApplicationNameID**.

51. On the Object Properties page, in the **Width** box, type `300`.
52. Select the **Bold** check box.
53. Double-click the **Group Header #3** section.
54. In the **Group Header #3** section, click **Timestamp**.
55. On the Object Properties page, click **Remove**.
56. Click the **Formulas** tab.
57. On the Formulas page, under the **iSkillsetStat Formulas** heading, click **RCW_Timestamp**.

    The **RCW_Timestamp** is a dynamic formula that displays the data range and timestamp that you select when you import the report to Historical Reporting. Since this formula requires input from Historical Reporting, the results are not exact in the report preview in the Report Creation Wizard.
58. Click **Add**.

    The **RCW_Timestamp** is added to the **Group Header #3** section and the Object Properties page appears.
59. On the Object Properties page, in the **Width** box, type `300`.
60. Select the **Bold** check box.
61. On the Object Properties page, select the **Bold** check box for all fields in the following report sections:
    - **Group Footer #1**
    - **Group Footer #2**
    - **Group Footer #3**
    - **Report Footer**
62. On the toolbar, click the **Save Report** icon.
63. Select the folder in which to save the report.
64. In the **Report Name** box, type `Skillset Threshold`.
65. Click **Save**.

Creating an integrated report

Before you begin

- Start Report Creation Wizard. See Starting Report Creation Wizard on page 119.

About this task

You must create an integrated report to run integrated Contact Summary reports.

Procedure

1. In the Report Type window, select **Create Advanced Report (via ODBC)**.
2. Select the configured CCMS ODBC DSN.
3. Select the required integrated view.
4. Select view columns and format the report.
5. On the toolbar, click **Save Report**.
6. On the toolbar, click **Import to Historical Reporting**.

Saving a report

Before you begin

- Create a report.
- Select at least one field when you create the report.

About this task

Save a report after you modify it.

Procedure

1. On the toolbar, click the **Save Report** icon.
2. In the Save RCW Report dialog box, choose a folder in which to save the report.
3. In the **Report Name** box, enter a name for the report.
4. Click **Save**.

Previewing a report

Before you begin

- Select fields.
- Save the report.

About this task

Click the Preview button to start the Report Viewer.

The Report Viewer supports standard features such as, export, print, and search.

Procedure

1. On the toolbar, click **Preview Report**.

2. If the report contains any DateTime fields, the Preview Data filter dialog box appears.

   If the report does not contain any DateTime fields, the RCW Report Preview appears.
3. On the Preview Data filter dialog box, select the **Start date at** and **End Date at** values.
4. Enter a time in the **Start time at** and **End time at** fields.
5. On the Preview Data filter dialog box, click **Preview**.

   The RCW Report Preview appears.

Importing a report to Historical reporting

About this task

Before you can run and schedule a Report Creation Wizard report in Contact Center Manager Administration, you must save and import the report to Historical reporting. You can use the Import tool to import a Report Creation Wizard report into a standard group or into your private folder. After you import a Report Creation Wizard report, the system automatically identifies the supported data ranges (Interval, Daily, Weekly, and Monthly) during the import procedure.

You can import Report Creation Wizard reports to Contact Center Manager Server only.

Unlike user-imported reports, you need not synchronize Report Creation Wizard reports. After you import a Report Creation Wizard report, you can edit the report directly through the Report Creation Wizard. After you save the report, all changes are effective immediately.

The procedure to import advanced (ODBC) reports is similar to simplified reports, except for the following:

- You must manually enter the supported data ranges for each table referenced in the report.
- You must specify the report type.

Procedure

1. On the toolbar, click the **Import to Historical Reporting** icon.
2. In the Import window, in the **Report Title** box, type the name for the report.

   The name appears in Historical Reporting.
3. Click **Browse**.
4. In the Open RCW Report dialog box, browse to and select the report to import.
5. Click **Open**.

   The Open RCW Report dialog box closes and the path appears in the **Location** box.
6. From the **Time zone** list, select the time zone the report uses as the default time zone.

Note:

Avaya recommends that you use the Client Timezone setting. This setting automatically adjusts the report interval based on the client time zone.

7. In the **Comment** box, type additional information about the report.
8. Click the **Report Options** header.
9. In the **Report Options** section, select a **Report Mode**. The options are **Standard** or **Private**. The Report Mode determines whether the report imports to a standard or private folder location.
10. For advanced reports only: From the **Report Type** list, select a report type.
11. From the **Report Group** list, select the standard report folder into which you import the report. For private reports, you import the report into your private folder.
12. In the **Select Server** list, select the servers to which to import the report.
13. Click the **Data Range** header.
14. If you import a simplified report, in the **Data Range** section, select the **Interval Modes** for which this report is generated, and then proceed to step 18. on page 135
15. If you import an advanced (ODBC) report, from the **Table Alias** list, select a table.
16. In the **Table** box, for the data range that matches the selected Table Alias time period, type the table name.
17. In the **Timestamp** box, for the data range that matches the selected Table Alias time period, type the name of the field.

    For example, if report is based on the iSkillsetStat table alias, the entries for each data range appears in the following table:

Interval Mode	Table Name	Timestamp
Interval	iSkillsetStat	Timestamp
Daily	dSkillsetStat	Timestamp
Weekly	wSkillsetStat	Timestamp
Monthly	mSkillsetStat	Timestamp

18. Click **Import**.

Example of importing the simplified Agent By Skillset Performance report to Historical Reporting

Procedure

1. On the toolbar, click the **Import to Historical Reporting** icon.
2. In the Import window, click **Browse**.

3. In the Open RCW Report window, click **Agent By Skillset Performance**.
4. Click **Open**.

   The Open RCW Report window closes. The information in the **Location** box appears.
5. In the **Report Title** box, type `Agent By Skillset`.
6. From the **Time zone** list, select the time zone of the server to which to import the report.

   Note:

   Avaya recommends that you use the Server Timezone default setting. This setting automatically adjusts the report interval based on the server time zone.
7. In the **Comment** box, type additional information about the report.
8. Click the **Report Options** header.
9. For the **Report Mode**, select **Private**.

   The Private Report Templates folder is automatically selected as the Report Group.
10. In the **Select Server** list, select the servers to which to import the report.

    The Report Type is automatically selected based on the report definition. This field is read-only.
11. Click the **Data Range** header.
12. In the **Data Range** section, select all the **Interval Mode** check boxes to run the report for all time frames.

    The **Table** and **Timestamp** boxes auto-populate based on the report definition and are read-only.
13. Click **Import**.

    A message appears at the bottom of the import window stating "`Report: Agent By Skillset imported successfully.`"

Example of importing the advanced Skillset Threshold report to Historical Reporting

Procedure

1. On the toolbar, click the **Import to Historical Reporting** icon.
2. In the Import window, in the **Report Title** box, type `Skillset Threshold Report`.
3. Click **Browse**.
4. In the Open RCW Report window, browse to the report location for the Skillset Threshold report.
5. Click **Open**.

The Open RCW Report window closes. The information in the **Location** box populates.

6. From the **Time zone** list, select the time zone of the server to which to import the report.

   Note:

   Avaya recommends that you use the Server Time zone default setting. This setting automatically adjusts the report interval based on the server time zone.

7. In the **Comment** box, type additional information about the report.
8. Click the **Report Options** header.
9. For the **Report Type**, select **HistoricalNodal**.
10. From the **Select Server** list, select the servers to which to import the report.
11. Click the **Data Range** header.
12. From the **Table Alias** list, select **iSkillsetStat**.
13. In the **Table** and **Timestamp** boxes, type the following for each **Interval Mode**.

Interval Mode	Table Name	Timestamp
Interval	iSkillsetStat	Timestamp
Daily	dSkillsetStat	Timestamp
Weekly	wSkillsetStat	Timestamp
Monthly	mSkillsetStat	Timestamp

14. Select all the **Interval Mode** check boxes.
15. Click **Import**.

    A message appears at the bottom of the import window stating “Report: Agent By Skillset imported successfully.”

Defining configuration settings

Before you begin

- Open a saved report in Report Creation Wizard.

About this task

Use the Configuration Settings window to define the default properties for the report.

Procedure

1. On the toolbar, click the **Configuration** icon.
2. In the Configuration Settings window, in the **Report Layout** section, select **Portrait** or **Landscape**.

3. From the **Default Font** list, select a default font to apply to fields, formulas, labels, or added summaries to a report section.

Variable definitions

Variable	Definition
Report Layout	Page orientation for the report: **Portrait** or **Landscape**.
Default Font	Select a default font to apply to fields, formulas, labels, or summaries added to a report section. The fonts installed on the Contact Center Manager Administration server determine the available fonts. The previously selected default font still applies to objects added before you select the new default font. If a font installed on the Contact Center Manager Administration server does not appear in the font list, it can be because the installed font has failed to meet certain requirements. For more information, see *Troubleshooting Avaya Aura® Contact Center*.

Defining selection criteria

Before you begin

- Import a Report Creation Wizard report to Historical Reporting. See Importing a report to Historical reporting on page 134.
- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

Define selection criteria to determine the entities to include in a report. The following options are available when you define a Report Creation Wizard report in Historical Reporting:

- Define the selection criteria.
- Schedule to print the report.
- Schedule to send the report to a file.
- Save the report.
- Run the report immediately.

You define the selection criteria for Report Creation Wizard reports differently than you do for user-defined reports.

Procedure

1. In the left pane, click the server under which the Report Creation Wizard report is stored.
2. Navigate to the Report Creation Wizard report.
3. In the Report Properties window, click **Selection Criteria**.

   The **Selection Criteria** heading expands. The fields of each selected Report Creation Wizard table appear in the **fields** list.
4. From the **fields** list, select a field.

   The table name and the field data type appear in the **criteria** list.
5. From the **criteria** list, select one of the following values:
   - **Is equal to**: If you select **Is equal to**, you can filter the selected field based on only one element. You can base the filter on a field from the tables that you include on the report, including fields that you did not select on the report.
   - **Is greater than**
   - **Is less than**
   - **Not equal to**
   - **Between**
   - **In**: If you select **In**, you can filter the selected field based on multiple elements. You can base the filter on a field from the tables that you include on the report, including fields that you did not select on the report.
   - **Starts with**
   - **Contains**
   - **Ends with**

   The field data type determines the values available in the **criteria** list.
6. Click the ellipsis **(...)**.
7. From the Select Elements dialog box, select a field value.

   If you select **In** from the **criteria** list, you can select multiple elements.
8. To select all elements, select the **Select All** check box.
9. Click **Choose**.

   The Select Elements dialog box closes, and the selected field value appears in field value box.
10. Click **Add**.

    The selection criterion appears in the **Selection Criteria** list.
11. To define additional selection criteria, from the **join** list, select **AND** or **OR**, and then repeat step 4 on page 139 to step 10 on page 139.

Moving a field

Before you begin

- Open an existing Report Creation Wizard report in Report Creation Wizard.
- Ensure that you are familiar with the Report Layout Window.

About this task

The column headings in the **Page Header** section link to the fields in the **Details** section. If you move a field in the **Details** section, the heading associated with this field moves.

Procedure

1. To move a field, perform one of the following activities:
    - Click a field, hold down the left mouse button, and drag to the object.
    - Highlight the object and use the up, down, left, and right arrow keys to move the object.
2. Click **Save**.

Resizing an object

Before you begin

- Open an existing Report Creation Wizard report in Report Creation Wizard.
- Ensure that you are familiar with the Report Layout Window.

About this task

To customize an object, you can modify the object size.

Procedure

1. To resize an object, perform one of the following activities:
    - Move the mouse to the end of the object outline, after the cursor changes to a resize cursor, hold down the left mouse button, and drag to increase or decrease the size of the object.
    - Highlight the object, hold down the **Ctrl** key and use the left and right arrow keys to resize the object.
2. Click **Save**.

Adding a text field

Before you begin

- Open an existing Report Creation Wizard report in Report Creation Wizard.
- Ensure that you are familiar with the Report Layout Window.

About this task

Add a text field If necessary.

Procedure

1. Click a section in the Report View area.
2. Click the **Add Text Object** icon on the toolbar.

   A new text field is added to the selected section.

Modifying object properties

Before you begin

- Open an existing Report Creation Wizard report in Report Creation Wizard and navigate to the Report Layout Window.
- Ensure that you are familiar with the Report Layout Window.

About this task

Use the **Object Properties** tab in the Report Layout window to modify group, field, or formula properties.

Procedure

1. Select a report section.

   The selected report section expands to reveal fields and formulas.
2. Select a field in a section to display the field properties in the properties bar.

   The selected field appears with a yellow background.
3. Click the **Object Properties** tab.
4. Modify object properties.
5. Click **Submit** to save changes.

   The updated field appears in the report view area.
6. Click **Save**.

Variable definitions

Variable	Definition
Title	Type the field name. The name appears on the report.
Height	Type a numeric value for the field height in pixels.
Width	Type a numeric value for the field width in pixels.
Left	Type a numeric value for the horizontal position of the field on the report. The value you enter represents the number of pixels from the left margin that the field is placed on the report.
Top	Type a numeric value for the vertical position of the field on the report. The value you enter represents the number of pixels from the top margin that the field is placed on the report.
Format	Select a time or number format. The *Format* property is available only if you select a number, currency, Date, or Time data type object.
Currency	Select a currency type. The *Currency* property is available only when you select a currency data type object.
Font	Select a font type. The font type appears on the report for the selected field. The fonts installed on the Contact Center Manager Administration server determine the available fonts. **Note:** If an installed font on the Contact Center Manager Administration server does not appear in the font list, it can be because the installed font has failed to meet certain requirements.
Font Color	Select the font color to appear on the report for the selected field.
Font Size	Select the font size to appear on the report for the selected field.
Text Align	Select one of the following: **Right**, **Left**, or **Center**. This represents the field text placement within the field.
Bold	Apply bold to the field text that appears on the report.
Italic	Italicize the field text that appears on the report.

Table continues…

Variable	Definition
Underline	Underline the field text that appears on the report.
Suppress	Suppress or hide the field on the report.

Suppressing a report section

Before you begin

- Open an existing Report Creation Wizard report in Report Creation Wizard.
- Ensure that you are familiar with the Report Layout Window.

About this task

Suppress sections to exclude the sections from the printed report.

Procedure

1. In the Report Layout window, select the section header to suppress.

   The selected header appears in a color different from the others.
2. Select the **Section Properties** tab.
3. On the Section Properties page, select the **Suppress** check box.

   The section header color changes to light grey.
4. Click **Save**.

Adding or removing a field in a report

Before you begin

- Open an existing Report Creation Wizard report in Report Creation Wizard.
- Ensure that you are familiar with the Report Layout Window.

About this task

In the Fields tab, add fields or remove fields to modify a report.

Procedure

1. In the Report Layout window, select the section header to which to add a field.
2. Click the **Fields** tab.
3. On the Fields page, select the field.
4. To add the field, click **Add**.

If you add a field to the **Details** section of the report, the Report Creation Wizard adds a corresponding text heading to the **Page Header** section of the report. If you move that field, the heading also moves so that it remains horizontally aligned with the field.

5. To remove the field, click **Remove**.

   Note:

   If you remove a field from the Field Selection page, the field is removed only from the **Details** section, not from any other section.

6. Click **Save**.

Adding or removing a formula in a report

Before you begin

- Open an existing Report Creation Wizard report in Report Creation Wizard.
- Ensure that you are familiar with the Report Layout Window.

About this task

Add formulas or remove formulas to update a report. Formulas appear under the relevant headings in the Formulas list. Standard formulas appear under the Formulas heading. Formulas relating to views appear under separate headings for each view, for example, iAgentPerformanceStat formulas. Report formulas, and formulas that appear on the report and have no association with a Report Creation Wizard formula, appear in the Formulas list.

If you add a formula to the Details section of the report, a corresponding text heading appears in the Page Header section of the report. If you subsequently move the formula, the heading moves so that it remains horizontally aligned with the field. If you remove the field, you automatically delete the heading from the Page Header section.

Procedure

1. In the Report Layout window, select the section header to which to add a formula.
2. Click the **Formulas** tab.
3. On the Formulas page, select the formula.
4. To add the formula, click **Add**.
5. To remove the formula, click **Remove**.
6. Click **Save**.

Sorting the direction of a group, field, or formula

Before you begin

- Open an existing Report Creation Wizard report in Report Creation Wizard.
- Ensure that you are familiar with the Report Layout Window.

About this task

Use the Sorting tab to select the sort direction of a returned group, field, and formula data on the report.

Procedure

1. In the Report Layout window, click the **Sorting** tab.
2. To sort the direction of a group, on the Sorting page, click the **Groups** heading.
3. To sort the direction of a field or formula, click the **Fields** heading.
4. Select the group, field, or formula for which you want to change sort direction.
5. Select one of the following sort direction options:
   - **Ascending**
   - **Descending**
   - **Original Order (for Groups) or None (for Fields)**
6. Click **Save**.

Sorting the order of a field or formula

Before you begin

- Open an existing Report Creation Wizard report in Report Creation Wizard.
- Ensure that you are familiar with the Report Layout Window.
- Assign a sort order to the selected field or formula. See Sorting the direction of a group, field, or formula on page 145.

About this task

Use the Sorting tab in the Report Layout window to select the sort direction of field and formula data on the report.

Procedure

1. In the Report Layout window, click the **Sorting** tab.
2. On the Sorting page, click the **Fields** heading.

   The heading expands to reveal selected fields and formulas for the report.

3. Click the field or formula for which you want to change the sort order.
4. Use the up and down arrows to change the sort order for the selected field or formula.

   Group sorts always appear first, followed by field and formula sorts.
5. Click **Save**.

Editing a Report Creation Wizard report in Historical reporting

Before you begin

- Create a report in Report Creation Wizard. See Creating a simplified report on page 120 or Creating an advanced report on page 126.
- Import the report to Historical reporting. See Importing a report to Historical reporting on page 134.
- Log on to Historical Reporting. For information, see Logging on to Historical reporting on page 79.

About this task

To modify a saved Report Creation Wizard report, access Historical reporting.

Procedure

1. In the left pane, click the server to which you want to log on.
2. Navigate to the folder in which the Report Creation Wizard report to edit is stored.

   The report icon for a Report Creation Wizard report is different from the report icon for a standard report.
3. Right-click the report, and then click **Edit**.

   The report appears in Report Creation Wizard in the Report Layout window. All buttons in the navigation bar and the toolbar are enabled.
4. Edit the report.
5. On the toolbar, click **Save**.

   All changes are effective immediately.

Applying template changes to existing reports

Before you begin

- Log on to Report Creation Wizard. See Starting Report Creation Wizard on page 119.

About this task

Existing reports do not automatically receive the changes you make to report templates; therefore, you must apply the template to each report.

Procedure

1. Open the report in Report Creation Wizard.
2. Click the **Configuration** icon.
3. Change the Report Layout.

   If the current setting is **Landscape**, change it to **Portrait**. If the current setting is **Portrait**, change it to **Landscape**.
4. Click **Close**.
5. Click the **Configuration** icon.
6. Change the Report Layout back to the original setting.
7. Click **Close**.
8. Click the **Preview** icon to confirm that the applied changes.
9. Click **Save**.

Chapter 14: External database server configuration

Contact Center Manager Administration (CCMA) reports can pull data from Contact Center Manager Server, from Contact Center Multimedia, and from external databases in Avaya applications that complement the contact center solution.

End users shall use Contact Center Manager Administration to create and modify report files which are viewed with CCMA and all reports shall contain only Avaya application data. No third party data sources can be accessed within CCMA to create and modify reports in conjunction with Avaya Aura® Contact Center data.

For example, you can use data in an Avaya Aura® Workforce Optimization database to include in Avaya Aura® Contact Center agent reports.

You must complete all the procedures in this section in sequential order.

Prerequisites to external database server configuration

Procedure

- Ensure that you have a license for Report Creation Wizard.
- Install Report Creation Wizard.

Configuring and testing the ODBC driver

Before you begin

- Verify that the database type and version are supported.
- Determine the IP address or host name for the server that is hosting the database.
- Identify the database name, user ID and password for the database.

About this task

Use the following steps to obtain, install, and configure the ODBC driver for the external database type and version.

The Contact Center Manager Administration installation includes the following ODBC drivers:

- InterSystems Cache 2009.1 connects to the Contact Center Manager Server, Contact Center Manager Administration, and Contact Center Multimedia databases.
- Sybase Adaptive Server Enterprise (ASE) version 12.5 connects to previous versions of the Contact Center Manager Server database.

If one of these installed drivers supports your external database, you do not need to install additional database drivers.

Procedure

1. Obtain the ODBC driver for the database type and version from the database vendor.
2. Install the ODBC driver on the Contact Center Manager Administration server.

   Note:

   If the driver is already installed, you do not need to install additional database drivers.
3. Click **Start** > **All Programs** > **Administrative Tools** > **Data Sources (ODBC)** to start the administration tool for the ODBC driver.

   The system creates a 64–bit ODBC DSN.

   For 32 bit ODBC DSN, the path is: `C:\Windows\SysWOW64\ODBCAD32.exe`.
4. Configure the ODBC DSN in the format <Prefix>_<IP address>_DSN, where <Prefix> is used to configure the database server within the CCMA configuration application, and <IP address> is the address of the external database server.
5. Using the ODBC Data Source Administrator tool, test the DSN for connectivity to the database.

Verifying external databases in Report Creation Wizard

Before you begin

- On the Contact Center Manager Administration server, configure the ODBC DSN for the external database. For more information, see Configuring and testing the ODBC driver on page 148.
- Know the user ID and password for the database data source name (DSN).

About this task

Test the ODBC DSN using Report Creation Wizard (RCW) to ensure that RCW can connect to the database successfully.

Procedure

1. Log on to Contact Center Manager Administration.
2. On the Launchpad, click **Historical Reporting**.

3. In the left pane, right-click the Contact Center Manager Server from which you access the database.
4. In Historical Reporting, on the **Report** menu, select **Report Creation Wizard**.
5. Select the option to **Create Advanced Report (via ODBC)**.
6. Click **Next**.
7. On the Data Source page, from the **DSNs Available** list, double-click the external ODBC DSN entry to move it to the **DSNs Selected** list.
8. Enter the user ID and password details for the DSN.
9. Click **Next**.
10. In the **Tables Available** list, verify the list of tables and views are correct for the DSN.
11. In the **Tables Available** list, double-click a table to move it to the **Tables Selected** list.
12. Click **Next**.
13. In the **Fields** box, double-click the field names that you want to appear in the report. Move them to the **Fields Selected** list.
14. Click **Preview** on the toolbar to view the report.

    If a Report preview appears, the ODBC DSN is compatible with the Report Creation Wizard.
15. Save the report using the Report Creation Wizard as TestReport.rdl.

Adding the external database server to Contact Center Manager Administration

Before you begin

- Verify the external database against the Report Creation Wizard. For more information, see Verifying external databases in Report Creation Wizard on page 149.

About this task

Verify that the Historical Reporting component of Contact Center Manager Administration can support the data extracted from the external database.

Procedure

1. In Contact Center Manager Administration, click **Configuration**.
2. Click **Add Server**.
3. Select **Other**.
4. In the **DSN Prefix** box, type the prefix you created in Configuring and testing the ODBC driver on page 148.

Note:

Remember that the DSN prefix is case sensitive.

5. Click **Submit**.

Associating an external server to a Contact Center Manager Server

Before you begin

- Add the external database server to Contact Center Manager Administration.

About this task

Associate a external database server to a Contact Center Manager Server. When you want to access historical reports for the external database, you must choose the selected Contact Center Manager Server.

Procedure

1. On the Launchpad, click **Configuration**.
2. In the left pane, right-click the Contact Center Manager Server to associate with a reporting server.
3. Choose **Server** > **Edit Properties**.

   The properties for the Contact Center Manager Server appear in the right pane.
4. In the **Associated Reporting Server** list, select the reporting servers to associate to this Contact Center Manager Server.
5. Click **Submit** to save your changes.

Importing Report Creation Wizard reports to historical reporting

Before you begin

- Create a report from the external database using the Report Creation Wizard. For more information, see Verifying external databases in Report Creation Wizard on page 149.

About this task

Import the Report Creation Wizard report you created from the external database into Historical Reporting to verify that a historical report in Avaya Aura® Contact Center can be generated.

Procedure

1. Open the Report Creation Wizard. In Historical Reporting, on the **Report** menu, select **Report Creation Wizard**.
2. Click **Import to Historical Reporting** on the toolbar to import the report.
3. Browse to the report you saved in Verifying external databases in Report Creation Wizard on page 149.
4. Type a title of the report.

   The title appears in the list of available reports in the Historical Reporting application.
5. For **Report Mode**, select **Private**.
6. In the **Report Type** box, select a report type.
7. Select the server to import the report.
8. Click **Import**.

   A message appears indicating the report is imported successfully.

Generating historical reports from an external database

Before you begin

- Import the Report Creation Wizard report. For more information, see Importing Report Creation Wizard reports to historical reporting on page 151.

About this task

Update and generate the historical report using the Report Creation Wizard to gather data from a external database. The external database is associated with a Contact Center Manager Server and is tested for connectivity.

Procedure

1. On the CCMA Launchpad, click **Historical Reporting**. If the Historical Reporting page is already open, click **Refresh**.
2. In the left pane, right-click the Contact Center Manager Server where you access the database.
3. Open the **Private Reports** folder.
4. Select the imported report.
5. Under **Selection Criteria**, choose the fields you want to appear in the report.
6. If data is available in the Browse dialog box, select an item and add this to the selection criteria for the report.
7. Run the report.

8. Verify the report runs successfully with the new selection criteria.

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