A MITEL
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GUIDE

Unify OpenScape Contact Center Agile

Manager Administration

Administration Guide

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Mitel

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1 About this guide

This guide provides an overview of the OpenScape Contact Center Manager application and walks users through the various administration tasks that need to be performed on an ongoing basis.

1.1 Who should use this guide

This guide is intended for contact center administrators, who are responsible for configuration maintenance, and for supervisors and managers, who use the OpenScape Contact Center productivity tools.

1.2 Formatting conventions

The following formatting conventions are used in this guide:

Bold
This font identifies OpenScape Contact Center components, window and dialog box titles, and item names.

Italic
This font identifies references to related documentation.

`Monospace Font`
This font distinguishes text that you should type, or that the computer displays in a message.

NOTE: Notes emphasize information that is useful but not essential, such as tips or alternative methods for performing a task.

IMPORTANT: Important notes draw special attention to actions that could adversely affect the operation of the application or result in a loss of data.

1.3 Documentation feedback

To report an issue with this document, call the Customer Support Center.

When you call, be sure to include the following information. This will help identify which document you are having issues with.

- **Title:** Manager Administration Guide
- **Order Number:** A31003-S22B0-M101-01-76A9

2 Planning an implementation

Most customers work closely with their service representative through the planning and design phase of an OpenScape Contact Center implementation. The service representative takes responsibility for creating and implementing the initial configuration. The design database that is created for you is set up with definitions of the essential resources, an initial set of users, workflows that dictate how incoming contacts and queued contacts are handled, and mappings to the communication platform resources that OpenScape Contact Center monitors.

This chapter provides an overview of the key concepts that must be considered when planning an OpenScape Contact Center implementation, including a summary of the basic configuration tasks that must be performed to create a design database, put the design database into production, and perform the initial configuration of the system.

After the initial configuration has been put into production, on-going tasks include routine maintenance, such as maintaining users, profiles and extensions, and day-to-day supervisory tasks such as configuring and using the productivity tools.

Policy changes, new business, changes in performance requirements, and simple growth can result in the need to modify the contact routing aspects of your configuration. This commonly amounts to relatively isolated reconfiguration tasks, such as changing a Call Director menu setup, adding service for a new dialed number, or revisiting your queue setup. The latter part of this guide provides instructions on how to perform these types of reconfiguration tasks.

NOTE: Contact your service representative for assistance with major reconfiguration.

2.1 OpenScape Contact Center processing

This section introduces the highest level elements of the OpenScape Contact Center configuration.

2.1.1 Initial processing

Incoming contacts are directed to OpenScape Contact Center as follows:

- **Voice –** For each dialed number serviced by the contact center, incoming contacts are held on the communication platform. The platform notifies OpenScape Contact Center of the contact, provides relevant contact information, and then waits for OpenScape Contact Center to provide directives on how to further process the contact. For more information on voice support, see Chapter 11, “Working with voice resources”.
- **Callback** – In addition to basic voice support, OpenScape Contact Center supports callbacks. Callback is a feature that lets customers and users schedule outgoing calls to customers. OpenScape Contact Center then establishes and administers the call. For more information on callback support, see Chapter 13, “Working with the callback feature”.
- **E-mail –** E-mail messages are routed through a corporate e-mail server to the OpenScape Contact Center E-mail Server. All e-mail messages are stored in a single mailbox on the corporate e-mail server. Support for multiple e-mail addresses can be handled by providing aliases. For more information on e-mail support, see Chapter 14, “Working with the e-mail feature”.

2.1.2 Workflow processing

On arrival in OpenScape Contact Center, incoming contacts are processed by a routing strategy workflow. The workflow gathers contact requirements and determines how each contact is to be routed. For more information, see Section 9.3, “About routing strategy workflows”, on page 168.

2.1.3 Queue processing

While a contact is in queue, OpenScape Contact Center executes a number of steps to try to match the contact to a specific user.

Although queued contacts are typically handled in the order that they are placed in the queue, OpenScape Contact Center has routing decision and queue properties, such as priority, that can determine the handling order.

While a contact is waiting in queue, a queue processing workflow is applied to the queue simultaneously. The queue or the queue processing workflow can handle the contact. For more information, see Section 10.1, "About queues", on page 177 and Section 9.5, "About queue processing workflows", on page 172.

2.2 Design database configuration overview

This section provides a high-level overview of the steps required to configure a design database.

NOTE: Before you begin to configure the design database, you should complete the resource worksheets for the communication platform to which you are connecting. This ensures that you have all the required information for the configuration.

For detailed instructions on how to complete each task, refer to the procedures provided in later chapters or in the *Manager Help*.

2.2.1 Basic design database configuration

Start by creating a new, empty design database, and then activate the required product features by using the license file.

To configure a basic design database:

1. Log on to the Manager application.
2. Create a new design database.
3. Activate the product features using a license file.

2.2.2 Communication platform connectivity and voice resources

To route telephone calls and gather statistics, the system monitors a set of key resources on the communication platform. Using the Manager application, you must configure a matching definition within OpenScape Contact Center for each resource on the communication platform.

For a list of communication platform resources, see Section 11.2, "Communication platform resources", on page 187.

To configure communication platform connectivity and voice resources:

1. Configure the communication platform settings.
2. Configure the default time-out extension.

2.2.3 Configuring the corporate server connections

Depending on the features that are licensed, you must configure the connections to the corporate e-mail server for the OpenScape Contact Center e-mail feature, and to the corporate Web server for the OpenScape Contact Center Web-enabled features.

To configure the corporate e-mail server connections:

1. Configure t he IMAP server settings that the OpenScape Contact Center E-mail Server uses to communicate with the corporate e-mail server to route incoming e-mail messages.
2. Configure the SMTP server settings that the OpenScape Contact Center E-mail Server uses to communicate with the corporate e-mail server to route outgoing e-mail messages

To configure the corporate Web server connections:

1. Configure the port number of the unsecured port and TLS-enabled port that the Web Interaction Server uses to communicate with the corporate Web server.
2. Configure the port number that the Web Interaction Server uses to communicate with the corporate Web server for Web callback requests.

2.2.4 Configuring users and user-based resources

When you create a new user, you must specify at a minimum, the following attributes: the user's first name, last name, ID, user name, and either the password for OpenScape Contact Center authentication or the domain name for Windows authentication.

To configure users and user-based resources:

3. Configure departments.
4. Configure locations.
5. Configure users. You can configure each user manually, or you can create multiple users.
   - To create multiple users based on a user template, configure the user templates.
   - To create multiple users by importing a user list, create the user list.
   - If you created multiple users, complete the user definitions. For example, after creating multiple users based on a user template, you may need to assign users to departments and team lists.

2.2.5 Configuring wallboard and Broadcaster resources

To use the wallboard and Broadcaster, you must configure them to display messages.

To configure wallboard and Broadcaster resources:

1. Create wallboard definitions (optional).
2. Configure wallboard views.
3. Configure wallboard distributions.
4. Configure Broadcaster views.
5. Configure Broadcaster distributions.

2.2.6 Configuring the routing resources

For each media type that is licensed (for example, voice, e-mail), you must configure the routing resources.

To configure routing resources for each media type:

1. Configure queues.
2. Configure components for each workflow type.
3. Make a copy of the sample routing strategy workflow provided and modify it, as required.
4. Make a copy of the sample queue processing workflow provided and modify it, as required. You can skip this step if you want the communication platform to handle all queue processing.

2.2.7 Completing the setup

For each media type that is licensed (for example, voice, e-mail), you can configure further settings for handling contacts.

Complete the setup for each media type:

1. Configure the default routing strategy, queue, and error queue settings.
2. Configure the Unavailable reasons, Work reasons, and Wrap-up reasons.
3. For e-mail, configure the destinations, categories, templates, Discard reasons, and the remaining e-mail options, such as the default routing schedule. You can also display confidence levels, if required.
4. For callbacks, configure the Delete reasons, Retry reasons, Excluded numbers, and the remaining callback options, such as the default routing schedule.

2.2.8 Configuring report definitions

A report definition defines the properties of a report. Some properties are common to all report types, while others options are specific to certain report types. A particular report definition depends on the report type, the resources that need to be reported on, the required format of the report, the report schedule, and so on. Many options are available.

2.2.9 Configuring Call Director

If Call Director is licensed, you must configure a voice processor to be used with the system. A voice processor is used with Call Director to play messages and interact with the caller.

IMPORTANT: When using the Communication Platform OpenScape Business, you cannot deactivate the feature "Call Director" in the **Features** tab of the **Options** window. This is due to the fact that the "Disconnect" node requires Call Director functionality for this switch type.

To configure Call Director:

2.2.10 Validating the design database

You can check for and resolve any inconsistencies in the design database. For example, the system can find any servers or communication platform resources that are not configured, or users who are not included in a group.

2.3 Performing the initial Manager configuration

After the communication platform is configured and you have installed the OpenScape Contact Center server and client software and integrated the third-party components, you must configure the Manager application for first-time use.

This section provides an overview of the steps required to perform the initial Manager configuration. For detailed instructions, see the *Manager Help*.

To perform the initial Manager configuration:

1. Log on to the Manager application and connect to the already configured design database.
2. Activate the product features in the production database using the same license file that you used to activate features in the design database, and then upload the design database.
3. After restarting the **OpenScape Contact Center** and **OpenScape Contact Center AutoPA** services, log on to the Manager application and connect to the production database.

4. If you have not already done so, change the default password for the Master Administrator user account to align with the organization's corporate security policy.
5. Ensure that the Config Sync feature is enabled.
6. In the **Telephony Center**, under **Communication Platform Resources**, ensure that the state is **Active** for the following resources.
7. In the **Administration Center**, under **Users**, ensure that the state is **Active** for all users (except supervisors or administrators who are not handling contacts).
8. Ensure that the required .wav files are installed on the main server machine, and then assign the .wav files to the appropriate routing strategy and queue processing workflows.
9. Configure wallboards, as required.

3 Getting started

3.1 About the Manager application

The Manager application provides contact center managers and supervisors with a unified, easy-to-use interface for performing all contact center management tasks.

Manager features include:

- An intuitive user interface for system configuration and user administration tasks.
- A powerful design tool for creating routing strategy and queue processing workflows.
- Real-time statistics and performance data that can be distributed to user desktops or wallboards.
- Customizable real-time, cumulative, and historical reports in graphical and tabular format.
- Built-in analytic model for predicting trends in operating conditions.
- Configurable alerts, thresholds, and notifications.
- Automatic detection and identification of synchronization errors or mismatched resources.

3.2 Logging on to the Manager application

Each Manager user has a unique user name, as well as a password that might be required to log on to the Manager application. Your user definition determines what permissions you have. If you do not have the Manager access permission, you cannot log on to the Manager application.

Your user definition also determines whether you use OpenScape Contact Center authentication or Windows authentication when you log on. If you use Windows authentication, you will not be able to log on to a design database, and you will not see the Logon dialog box when you start the Manager application. The Manager application will simply verify your Windows user name and then open.

NOTE: If you are logging on to the Manager application for the first time, you are logging on using the Master Administrator user account. For details, see Section 3.2.1, "About the Master Administrator", on page 23.

To log on to the Manager application:

1. On the **Start** menu, point to **Programs**, then **OpenScape Contact Center Agile**, and then click **Manager**. The application displays the Logon dialog box.
2. To log on to the default database, proceed directly to step 3. To log on to a database other than the default database, click **Options**, and then do one of the following:
   - To connect to the production database:
     - In the **Connect to** list, select **Production Database**.
     - In the **Administration Server** box, type the address of the Administration Server on the main server machine in the format *portnumber@servername*. The default is 6000@*servername*.
   - To connect to a design database:
     - In the **Connect to** list, select **Design Database**.
     - In the **Design database file name** box, type the full path and file name for the database. You can click ... to locate and select the database file. If you specify a database name that does not exist, the application will create a new blank design database. If you attempt to connect to a design database that uses an unsupported communication platform type, the application will prompt you to upgrade the database and select a supported type.
3. In the **User name** box, type your user name.
4. In the **Password** box, type your password.
5. Click **OK**.

3.2.1 About the Master Administrator

The Master Administrator is a default user account configured in each newly created OpenScape Contact Center database. The Master Administrator user account has access to all the functions in the Manager application. The default user name for the Master Administrator is **master**, and the default password is **password**. You should change the default Master Administrator password the first time you log on, and then change it periodically to conform to security policies at your site. For details, see Section 15.2.2, "Changing the password", on page 250.

If the Master Administrator remains logged on but inactive for a configured period of time, the Master Administrator is logged off automatically. For details on how to configure the time-out interval for the Master Administrator account, see Section 15.4, "Configuring the application options", on page 257.

3.3 Selecting the language

The Manager application provides support for English, French, German, Italian, Portuguese, and Spanish. You must use one of these supported languages when working in the Manager application.

By default, the application displays the language chosen when it was installed. You can select to work in another language. When you change the language, the entire application and its online Help changes.

To select the language:

- On the **Tools** menu, point to **Select Language**, and then select the language you want to use.

3.4 Exiting the Manager application

You can exit the Manager application when you have finished configuring the OpenScape Contact Center database or viewing reports.

To exit the Manager application:

1. On the **File** menu, click **Exit**.
2. If the application is set to show confirmations when exiting the application, the application prompts you to confirm that you want to exit.
3. To ensure that the message does not appear again, select the **Do not show me this dialog again** check box.
4. Click **Yes**.

3.5 Technical support

If you need additional assistance, or for more information not found in the Manager Help, Manager Administration Guide, or other OpenScape Contact Center documentation, contact your service representative.

4 Working with users, templates and profiles

4.1 Configuring a user

To use the Manager application, a user definition must be configured in the Manager application. Factors such as hiring, attrition, and contact center expansion require that user definitions be created, deleted, and modified on a regular basis. Administrators are normally responsible for configuring all users in the contact center. Administrators cannot modify their own user definitions.

NOTE: To create or change a user, you must have Full or Modify access, respectively, for the **Users** Manager permission. If the enhanced security option is enabled, you must also have the required security access to change the user. For details on the enhanced security option, see Section 15.3.4, "Configuring the enhanced security option", on page 255.

For users who have voice capabilities/access, you must ensure that there is a matching user definition on the communication platform. You can use the Config Sync feature to assist with the management of users. For details, see Section 11.3.1, "Config Sync treatment of user IDs", on page 189.

Overview

The following is an overview of the steps required to configure all the attributes in a user definition:

1. Configure the general user properties – see Section 4.1.1, "Configuring the general user properties", on page 26.
2. Configure the user permissions – see Section 4.1.2, "Configuring the user permissions", on page 28.
3. Configure the contact handling settings for the user – see Section 4.1.3, "Configuring the contact handling settings for a user", on page 30.
4. Configure the media-specific settings for the user – see Section 4.1.4, "Configuring the media-specific settings for a user", on page 30.
5. Configure the thresholds for the user – see Section 4.1.5, "Configuring the thresholds for a user", on page 31.

6. Configure the resources that the user can monitor – see Section 4.1.6, “Configuring the resources a user can monitor”, on page 33.
7. Configure the Team List for the user – see Section 4.1.7, “Configuring the reports for a user”, on page 34.
8. Configure the reports that display data about the user – see Section 4.1.7, “Configuring the reports for a user”, on page 34.
9. Configure the users who can modify this user, and the resources that the user can modify – see Section 4.1.8, “Configuring the security settings for a user”, on page 35.

NOTE: You can also create new users based on a user template (see Section 4.2, “About user templates”).

4.1.1 Configuring the general user properties

You can configure the general user properties, such as the user's name, system identification settings, department, and so on.

When creating a new user, as a minimum, you must specify the user's first name, last name, ID, user name, and either the password for OpenScape Contact Center authentication or the domain name for Windows authentication.

For an overview of the steps required to configure all the attributes in a user definition, see "Configuring a user".

To configure the general user properties:

1. On the **File** menu, point to **New**, then **Administration Center**, then **User**, and then click **User**.
2. On the **General** tab, under **User**, do the following:
   - In the **First name** box, type the user's first name.
   - In the **Last name** box, type the user's last name.

3. Under **System Identification**, do the following:
   - In the **ID** box, type a unique, numerical ID used to identify the user on the communication platform. If you are using the Config Sync feature and the ID you provide is not within a monitored domain range, you will be prompted to create a new Config Sync domain range. For more information, see Section 11.3, “About Config Sync”, on page 188.
   - In the **User name** box, type a unique user name. This name is used when logging on to the Manager application and for recording statistics. If you want to use the Windows authentication method, the user name must match the name used for logging on to the Windows domain.
   - In the **Authentication** list, select one of the following:
     – To have the system validate the user, select **Use OpenScape Contact Center**, type the password in the **Password** box, and then type it again in the **Verify password** box to ensure that you typed it correctly.
     – To have Windows validate the user, select **Use Windows**, and then type the NetBIOS name for the Windows domain in the **Domain** box. Ensure that the user name matches the name used for logging on to the Windows domain. When you select this option, this user will not be able to log on to a design database, and will not see the Logon window when starting the Manager application.
4. To set the user attributes based on a user template (see Section 4.2, “About user templates”, on page 37), under **Templates**, click **Change** and select the user template you want to apply to the user from the list. If you later change an attribute in the user record or user template, an indicator shows that the template association is not current. For details, see Section 4.2.1, “User template associations”, on page 38.
5. Under **Broadcaster**, in the **Distribution** list, select the name of the Broadcaster distribution that you want the user to be assigned to. If there are no Broadcaster distributions configured, you can configure a Broadcaster distribution and add this user to the Broadcaster distribution later (see "Configuring a Broadcaster distribution").
6. Under **Application**, specify the user's access to the three OpenScape Contact Center applications. For each application, click the item in the **Permissions** column and select the access from the list. For the Manager and System Monitor applications, the access is simply **Yes** or **No**. The **License Used** column shows the type of

license used based on your selection. You can check the product features to see how many licenses are available for the contact center. Under **Automatic Post-processing**, do the following:

- To have the system automatically place the user in Post-processing handling state after the user disconnects from a contact, select the **Enable** check box. If you configure this option, do not configure the Autowork feature for this user on the communication platform.
- If you specify a time in the **Maximum time** box, the user will remain in Post-processing handling state for the duration of time specified.
- To have the user remain in Post-processing handling state until a Wrap-up reason has been saved for the contact, select the **Wrap-up reason required** check box. If a Maximum time has also been specified, the user will remain in Post-processing handling state for the time specified after the user saves a Wrap-up reason.

7. Under **Settings**, do the following:
   - In the **Real-Time Server** list, select the Real-Time Server to which the user can connect. Your contact center should have only one Real-Time Server, so there will be only one item in the list.
   - To include statistics for this user in department-based reports, in the **Department** list, select a department for the user. If there are no departments configured, you can create a department and then add this user to the department later (see "Adding a user to a department").
   - To enable user reports to be based on the time zone of the user's location, in the **Location** list, select the location of the user. If there are no locations configured, you can create a location and then add this user to the location later (see "Adding a user to a location").
8. If you are finished working with this user definition, click **OK**.

4.1.2 Configuring the user permissions

Permissions control the user's access to the Manager application features and the resources that the user can work with. Although you can assign each permission individually, you normally specify one or more user profiles to save time. For details, see Section 4.3, "About user profiles", on page 46. You can use the default permissions as defined in the selected profile or you can modify the permissions, as required.

IMPORTANT: Use care when assigning permissions. The ability for a user to create other users and change their permissions should be strictly controlled.

NOTE: For some permissions, you must configure other settings in the Manager application. For example, if you want a user to have access to an external directory in the Mobile Supervisor application, you enable the **Directory** Supervisor permission, and then configure the contact lookup settings in the Options dialog box.

For an overview of the steps required to configure all the attributes in a user definition, see "Configuring a user".

To configure the user permissions:

1. In the **Administration Center**, under **General**, click **Users**, and then, in the right pane, double-click the user you want to configure.
2. Click the **Permissions** tab.
3. In the **Profiles** table, select the check box for each profile that you want to assign to the user. If two or more profiles are selected, the user's actual access level is changed to the highest access level of the selected profiles.
4. Optionally, in the **Permissions** table, modify the default permissions. For each function you want to change, click the item in the **Actual** column and select the access level from the list. For a description of the access levels, see Section 4.3.3, “Access levels”, on page 48. To set all permissions for a high-level group of permissions to the same access level, click **Set All**. For details, see "Setting multiple permissions".

   NOTE: You can click **Reset** to reset the effective permissions to the default access levels.

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5. To show only the permissions in the list for which the default access level has been modified, select the **Show overrides only** check box.
6. If you are finished working with this user definition, click **OK**.

4.1.3 Configuring the contact handling settings for a user

When the system is configured for group-based routing, you must select the groups that a user belongs to. The groups that you select determine the types of contacts that the user is eligible to receive. For more information, see Section 8.1, “About group-based routing”, on page 155.

NOTE: The Contact Handling tab in the User dialog box becomes active only when you select the **Receive contacts routed by OpenScape Contact Center** User permission.

To configure the contact handling settings for a user:

1. In the **Administration Center**, under **General**, click **Users**, and then, in the right pane, double-click the user that you want to configure.
2. Click the **Contact Handling** tab.
3. Under **Include**, select the check box for each group to which you want to assign this user. You can select up to 10 groups.
4. If you are finished working with this user definition, click **OK**.

4.1.4 Configuring the media-specific settings for a user

For each user, you can configure the following settings that are specific to the media type:

- **Voice** – The backup group to be used if the OpenScape Contact Center system goes down.
- **E-mail** – The queue to which the user’s e-mail messages are sent if you want to monitor the user silently.

For an overview of the steps required to configure all the attributes in a user definition, see "Configuring a user".

To configure the media-specific settings for a user:

1. In the **Administration Center**, under **General**, click **Users**, and then, in the right pane, double-click the user you want to configure.
2. Click the **Media** tab.
3. Under **Voice Settings**, in the **Backup UCD group** list, select the UCD group to be used if the OpenScape Contact Center system goes down and the communication platform is used to route calls.
4. or If this user has e-mail permission, under **E-mail Settings**, in the **Silent monitoring queue** list, select the e-mail queue to which the user’s e-mail messages are requeued after the user sends them. This features allows the e-mail messages to be reviewed by a manager or supervisor before they are sent to a customer. This feature is optional.
5. If you are finished working with this user definition, click **OK**.

4.1.5 Configuring the thresholds for a user

The system can display statistics in the users application based on whether a user has exceeded certain personal performance thresholds. These statistics can help to show how well the user is handling contacts. You can set thresholds for values such as the maximum post-processing time, maximum handling time (for each media type), and utilization.

NOTE: The Thresholds tab in the User dialog box becomes active only when you select the **Receive contacts routed by OpenScape Contact Center** and **Personal performance** permissions. You must enable the **Receive contacts routed by OpenScape Contact Center** permission before you can select the **Personal performance** permission.

For an overview of the steps required to configure all the attributes in a user definition, see "Configuring a user".

To configure the thresholds for a user:

1. In the **Administration Center**, under **General**, click **Users**, and then, in the right pane, double-click the user you want to configure.
2. Click the **Thresholds** tab.
3. Under **Values**, do the following:
   - In the **Maximum post-processing time** box, type the maximum amount of time that the user should spend in Post-processing handling state while completing a contact.
   - In the **Average post-processing time** box, type the average amount of time that the user should spend in Post-processing handling state while completing a contact.
   - In the **Utilization** box, type the percentage of time the user should spend handling a contact. The Utilization calculation is based on the total time that the user is logged on to the communication platform. You can change the Utilization calculation to include Available time in addition to Work time. For details, see Section 15.7.3, “Configuring the user calculation”, on page 270.
4. In the grid, specify the following thresholds for each media type:
   - In the **Maximum handling time** box, type or select the maximum amount of time that the user should spend handling a routed contact.
   - In the **Average handling time** box, type or select the average amount of time that the user should spend handling a routed contact.
   - In the **Maximum handling time excluding post-processing** box, type or select the maximum amount of time that the user should spend handling a routed contact, not including the time spent post-processing the contact.
   - In the **Average handling time excluding post-processing** box, type or select the average amount of time that the user should spend handling a routed contact, not including the time spent post-processing the contact.
5. If this user has e-mail permission, under **E-mail**, do the following:
   - In the **Maximum defer count** box, type the maximum number of e-mail messages that the user should defer.
   - In the **Maximum external consult count** box, type the maximum number of e-mail messages that the user should forward to external users for consultation.

6. If you are finished working with this user definition, click **OK**.

4.1.6 Configuring the resources a user can monitor

You can configure a user to monitor other resources in the OpenScape Contact Center database, such as users, groups, queues and aggregates. Monitoring permission is usually given only to supervisors, managers, and administrators.

When a user has monitoring permission for a resource, the user can:

- View statistics for the resource.
- Create a Broadcaster or wallboard view item about the resource in the Broadcast Center.
- Report on the resource in the Report Center.

When the monitored resource is a user, a user can:

- Edit and run reports owned by the monitored user.
- Assign the monitored user as the owner of reports.
- Add the monitored user to a Team List.
- View and edit Broadcaster and wallboard views owned by the monitored user.

NOTE: You cannot change your own monitored resources.

For an overview of the steps required to configure all the attributes in a user definition, see "Configuring a user".

To configure the resources a user can monitor:

1. In the **Administration Center**, under **General**, click **Users**, and then, in the right pane, double-click the user you want to configure.
2. Click the **Monitor** tab.
3. Under **Include**, in the **Show** list, select the type of resource to be monitored.
4. Select the resources you want the user to monitor in one of the following ways:

- To have the user monitor all resources in the list, select the **Monitor All** check box.

  NOTE: You can select the Monitor All check box only if your own user definition has the Monitor All capability.

- To have the user monitor only some of the resources in the list, select the check box for each item you want the user to monitor.

5. Repeat steps 3 and 4 for each type of resource to be monitored.
6. If you are finished working with this user definition, click **OK**.

4.1.7 Configuring the reports for a user

You can configure the reports that display data about a user.

NOTE: The Reports tab in the User dialog box becomes active only when you select the **Receive contacts routed by OpenScape Contact Center** User permission.

For an overview of the steps required to configure all the attributes in a user definition, see "Configuring a user".

To configure the reports for a user:

1. In the **Administration Center**, under **General**, click **Users**, and then, in the right pane, double-click the user you want to configure.
2. Click the **Reports** tab.

3. Under **Reports**, in the **Select by** box, do one of the following:

   - Select **User**, and then select the check box for each report that you want to display data about this user. The list contains only the reports you own, or reports that are owned by users you can monitor.

   - Select **Department**, and then view the reports that display data about this user's department.

   - Select **Group**, and then view the reports that display data about this user's group.

   NOTE: When **Department** or **Group** is selected in the **Select by** box, you can view only the reports that display data about this user's department or group. You cannot add individual users to or remove individual users from these reports. Also, the list of reports shown on the Reports tab is not dynamically updated if the user's department or group is changed while the User dialog box is open.

   NOTE: When you are editing a user definition that is associated with a user template, the reports in the list that are associated with the user template are read-only. If you want to remove one of those reports from the user definition, you must either break the user's association with the user template, or remove the report from the user template and update all users (in which case, all users associated with the user template will be removed from the report).

4. If you are finished working with this user definition, click **OK**.

4.1.8 Configuring the security settings for a user

The enhanced security feature provides an additional level of security for the contact center. If the enhanced security option is enabled, you can:

- Configure the users who can modify this user.
- Configure the resources in the OpenScape Contact Center database that the user can modify.

Modify permission is usually given only to administrators.

For details on the enhanced security option, see Section 15.3.4, “Configuring the enhanced security option”, on page 255.

For an overview of the steps required to configure all the attributes in a user definition, see "Configuring a user".

To configure the security settings for a user:

1. In the **Administration Center**, under **General**, click **Users**, and then, in the right pane, double-click the user you want to configure.
2. Click the **Security** tab.
3. To configure the users who can modify this user, do the following:
   a) Under **Configure**, select **Users who can modify this user**. This option is disabled if the user you are configuring does not have access to the Manager application.
   b) Under **Users**, select the check box for each user who you want to be able to modify this user. The list contains only the users who have Full or Modify access for the **Users** Manager permission.
4. To configure the resources that the user can modify, do the following:
   a) Under **Configure**, select **Resources this user can modify**. This option is disabled if the user does not have Full or Modify access permission for any of the eligible resources.
   b) Under **Include**, in the **Show** list, select the type of resource that you want to configure. The list contains only the resource types for which both you and the user have Full or Modify access permission.
   c) In the resulting list, select the check box for each resource that you want this user to be able to modify.
5. If you are finished working with this user definition, click **OK**.

4.2 About user templates

User templates are very useful for the initial configuration of a large number of users. Instead of setting the attributes individually for each new user, you can assign most of the attributes to many users at one time.

When you configure a user template (see Section 4.2.2, "Configuring a user template", on page 39), you specify all the user attributes except the following attributes which must be set individually for each new user:

- First name
- Last name
- ID
- User name
- Password (only if using OpenScape Contact Center authentication)

You can then use a template to create a single user or multiple users. For details, see the following topics:

- Section 4.2.3, "Creating a user based on a user template", on page 42
- Section 4.2.4, "Creating multiple users based on a user template", on page 43

You specify the default user template in the Options dialog box. For details, see Section 15.1, "Configuring the personal options", on page 246.

NOTE: If you intend to maintain the configuration of users within your contact center through the use of user templates, we recommend that you use only the templates to change the user properties, rather than changing the properties within other resources that have an association with the user. For example, if you want to change the users that are assigned to a particular department, you should change the department within the user template, rather than changing the users selected on the Users tab within the department, or changing the department selected within each user record. This will ensure that the association with the user template is maintained. For more information, see Section 4.2.1, "User template associations", on page 38.

4.2.1 User template associations

Each user template contains a list of users that are associated with that user template. The association between a user and a user template remains until an attribute (other than a user-specific attribute) is changed in the user record or user template record, at which time the association is broken. The association between a user and a user template is also broken if the user or user template is deleted.

If you break a user template association, the user record shows the last template applied to the user, with a clear indication that the association is historical rather than active.

NOTE: Breaking the association between a user template and multiple users can be a lengthy process that will be performed in the background. For more information, see "Viewing background operations".

When you update a user template, you can choose to update the user template only or to update all users associated with the user template. For details, see Section 4.2.2.3, “Updating a user template”, on page 41.

If a user report is part of a user template and you use the User Report dialog box to perform any of the following tasks, it will not change the user's template association:

- Add the user to a new report.
- Add the user to an existing report.
- Remove the user from an existing report.

In each of these scenarios, the user's template association will be maintained and neither the template nor any other users associated with the template will be affected.

NOTE: If a user report is part of a user template and you change the Report by and Select by options in the report to anything other than User, the report is removed from the user template and the user definitions that are associated with that template, but the user template associations are maintained.

Related topics

- "About user templates"
- "Configuring a user template"

4.2.2 Configuring a user template

You can configure user templates in several ways. For details, see the following topics:

- Section 4.2.2.1, "Creating a user template"
- Section 4.2.2.2, "Creating a user template based on an existing user"
- Section 4.2.2.3, "Updating a user template"

NOTE: To create or change a user template, you must have Full or Modify access, respectively, for the **User templates** Manager permission. If the enhanced security option is enabled, you must also have the required security access to change the user template. For details on the enhanced security option, see Section 15.3.4, "Configuring the enhanced security option", on page 255.

4.2.2.1 Creating a user template

You can create a new user template as described in this topic.

To create a user template:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **User Template**.
2. On the **General** tab, under **User Template**, do the following:
   - In the **Name** box, type a unique name for the user template.
   - In the **Description** box, type a description for the user template.
3. Under **Template**, click **Edit**.
4. Modify the settings (other than the user-specific attributes) in the same way that you configure the settings for a user. When you are finished, click **OK** to return to the user template dialog box.
5. Click the **Users** tab.
6. Under **Users**, select the check box for each user who you want to associate with this template. To select multiple users, hold down CTRL or SHIFT and click to select the users, and then press the SPACE bar. When you press the SPACE bar, all cleared check boxes will be selected and all selected check boxes will be cleared.

7. Click the **Security** tab. This tab is available only if the enhanced security option is enabled. For details, see Section 15.3.4, “Configuring the enhanced security option”, on page 255.
8. Under **Users**, select the check box for each user who you want to be able to modify this user template. The list contains only the users who have Full or Modify access to the **User templates** Manager permission.
9. Click **OK**.

Related topics

- "About user templates"
- "Configuring a user template"
- "Updating a user template"

4.2.2.2 Creating a user template based on an existing user

You can create a user template based on an existing user definition.

To create a user template based on an existing user:

1. In the **Administration Center**, under **General**, click **Users**.
2. In the right pane, select the user on which you want to base the new user template.
3. On the **Actions** menu, select **Create Template from User**.
4. On the **General** tab, under **User Template**, do the following:
   - In the **Name** box, type a unique name for the user template.
   - In the **Description** box, type a description for the user template.
5. Under **Template**, click **Edit**.
6. Modify the settings (other than the user-specific attributes) in the same way that you configure the settings for a user. For details, see Section 4.1, “Configuring a user”, on page 25.

Related topics

- "About user templates"
- "Configuring a user template"
- "Updating a user template"

4.2.2.3 Updating a user template

When you update a user template, you can choose to update the user template only or to update all users associated with the user template.

To update a user template:

1. In the **Administration Center**, under **General**, click **User Templates**.
2. In the right pane, double-click the user template that you want to change.
3. Under **Template**, click **Edit**.
4. Modify the settings (other than the user-specific attributes) in the same way that you configure the settings for a user. See Section 4.1, “Configuring a user”, on page 25.
5. Click the **Users** tab.
6. Under **Users**, select the check box for each user who you want to associate with this template. To select multiple users, hold down CTRL or SHIFT and click to select the users, and then press the SPACE bar. When you press the SPACE bar, all cleared check boxes will be selected and all selected check boxes will be cleared.
7. Click **OK**.
8. In the **User Template Updates** dialog box, do one of the following:
   - To update the user template with your changes, select **Update template only**. If you choose this option, the association between the template and any users created based on the template will be broken and will be indicated as historical rather than active in the User dialog box.
   - To update all currently associated users with your changes, select **Update all users**. In this case, the association between the template and all users created based on the template will be maintained.
9. Click **OK**.

Related topics

- "About user templates"
- "User template associations"

4.2.3 Creating a user based on a user template

Instead of setting the attributes individually for each new user, you can create a new user based on the default user template. For more information, see Section 4.2, “About user templates”, on page 37. You specify the default user template in the Options dialog box (see Section 15.1, “Configuring the personal options”, on page 246).

Only the following user-specific attributes must be set individually for each new user: the first name, last name, ID, user name, and password.

To create a user based on a user template:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **User**, and then click **User from Default Template**. A User dialog box that contains the attributes of the selected user template is displayed.
2. On the **General** tab, under **User**, do the following:
   - In the **First name** box, type the user's first name.
   - In the **Last name** box, type the user's last name.
3. Under **System Identification**, do the following:
   - In the **ID** box, type a unique, numerical ID used to identify the user on the communication platform.
   - In the **User name** box, type a unique user name. This name is used when logging on to the Manager application and for recording statistics.
   - In the **Authentication** list, do the following:
     - To have the system validate the user, click **Use OpenScape Contact Center**, type the password in the **Password** box, and then type it again in the **Verify password** box to ensure that you typed it correctly.
     - To have Windows validate the user, click **Use Windows**, and then type the NetBIOS name of the Windows domain in the **Domain** box. Ensure that the user name is the same in both Windows and OpenScape Contact Center. When you select this option, this user will not see the **Logon** window when starting the Manager application.
4. Click **OK**.

Related topics

- "About user templates"
- "Configuring a user template"
- "Creating multiple users based on a user template"

4.2.4 Creating multiple users based on a user template

When you are connected to a design database, you can create multiple users based on a user template simultaneously. For more information, see Section 4.2, “About user templates”, on page 37.

NOTE: You cannot create multiple users when you are connected to a production database.

For each user you create, you must provide the user-specific attributes (that is, first name, last name, ID, user name, and password). The remaining attributes are set based on a specified user template.

You also have the option of creating multiple users by importing a text file that lists the user-specific attributes. For details, see Section 4.2.5, “Creating multiple users by importing a text file”, on page 44.

To create multiple users:

1. On the **File** menu, point to **New**, then **Administration Center**, then **User**, and then click **Add Multiple Users**.
2. In the **Add Multiple Users** window, complete the following attributes for each user you want to create:
   - **First Name** – Type the user's first name.
   - **Last Name** – Type the user's last name.
   - **ID** – Type a unique, numerical ID used to identify the user on the communication platform.
   - **User Name** – Type a unique user name. This name is used when logging on to the Manager application and for recording statistics.
   - **Password** – Type the password required for OpenScape Contact Center authentication. If the user template specifies to use Windows authentication, this box can be left blank. If this

box is left blank and the user template specifies to use OpenScape Contact Center authentication, the user will not be created.

- **Confirm Password** – Type the password again to confirm that you typed it correctly.
- **User Template** – Click the cell in the table and select the name of the user template from the list. If you leave this box blank, the default user template will be used; however, if a default user template has not been specified in the Options dialog box (see Section 15.1, “Configuring the personal options”, on page 246), the user will not be created.

3. Click **Create Users**. The application creates the users based on the information you provided. The User list indicates the status of the user creation process:
   -  – Indicates that the user was created successfully.
   -  – Indicates that the user was not created.

Related topics

- "About user templates"
- "Configuring a user template"
- "Creating a user based on a user template"

4.2.5 Creating multiple users by importing a text file

When you are connected to a design database, you can create multiple users by importing a text file that lists the user-specific attributes. For specifications of the text file, see Section 4.2.5.1, “User list requirements”, on page 45.

NOTE: You cannot create multiple users when you are connected to a production database.

To create multiple users by importing a text file:

1. On the **Tools** menu, click **Import Users**.
2. In the **Open File** dialog box, select the text file that contains the list of users you want to import, and then click **Open**.
3. In the **Add Multiple Users** window, verify that the attributes in the list were imported correctly.

4. Optionally, in the **User Template** column, click the cell and select the required user template from the list.
5. Click **Create Users**. The application creates the users based on the template specified in the text file or, if a template is not specified, based on the default user template. The User list indicates the status of the user creation process:
   -  – Indicates that the user was created successfully.
   -  – Indicates that the user was not created.

4.2.5.1 User list requirements

The user list is a text file that contains a list of users that you want to create. The text file must meet the following requirements:

- It must contain one user record per line.
- Each line must contain six fields separated by a | character (five | characters). For example, if you do not specify a user template, the line would contain:

  First Name|Last Name|ID|User Name|Password|

  where the last | character is required to indicate that the user template is not specified.
- The text is case-sensitive and will appear exactly as you type it.
- Comment lines that begin with // will be ignored.

The following table summarizes the fields for each record.

Field name	Mandatory	Field description
First name	Y	User's first name. Maximum 30 characters.
Last name	Y	User's last name. Maximum 35 characters
ID	Y	Numerical ID used to identify the user on the communication platform. Maximum three digits.
User name	Y	Name used when logging on to the Manager applicationandforrecordingstatistics.Maximum35 characters.
Password	N	If the user template specifies Windows authentication, this field can be left blank. If the template specifies OpenScape Contact Center authentication and this field is left blank, the user will not be created. Maximum 16 characters.

Table 1 Fields required for each user record

Field name	Mandatory	Field description
User template	N	If this field is left blank, the default user template will be used; however, if a default user template has not been specified in the Manager application, the user will not be created. Maximum 32 characters.

Table 1 Fields required for each user record

4.3 About user profiles

A user profile is a set of default access permissions that can be used when configuring a particular type of user. For example, a user based on an Administrator profile can be given access to all Manager features and controls, but a user based on a Supervisor profile may be allowed to configure only users. You can create a user profile or use one of the default user profiles provided with the application.

Related topics

- "Default user profiles"
- "Manager user profiles"
- "Client Desktop/ Agent Portal user profiles"

4.3.1 Default user profiles

The Manager application is packaged with a set of default user profiles, which provide a wide range of roles and responsibilities. You can use these profiles as provided, or modify them to account for more specific permission requirements at your site.

- "Manager user profiles"
- "Client Desktop/ Agent Portal user profiles"

4.3.1.1 Manager user profiles

The system provides the following default user profiles for the Manager application:

- **Administrator** – The Administrator profile is intended for users who have limited administrative responsibilities. This profile provides access to all configuration items except those directly involved with contact routing and interaction with external resources, such as the communication platform. (Access to these items is provided in the Master Administrator profile.)

- **Manager** – The Manager profile is intended for users who are responsible for the overall contact center business targets, and are accountable for hiring and contact center performance. This profile provides access to reports that help the manager assess and measure performance.
- **Master Administrator** – The Master Administrator profile is intended for users who are responsible for configuring all the resources in OpenScape Contact Center. This profile provides full access to the system, including the ability to change all contact center settings.
- **Supervisor** – The Supervisor profile is intended for users who are responsible for the day-to-day supervision of contact center staff. Responsibilities include monitoring performance and ensuring customer satisfaction. This profile provides access to real-time communications and reporting.
- **Telecommunications Specialist** – The Telecommunications Specialist profile is intended for users, such as IT experts and administrators, who are responsible for providing support for the contact center and configuring the computer and voice aspects of OpenScape Contact Center. This profile provides access to system and voice settings.

4.3.2 Configuring a user profile

You can create a new user profile or modify the existing profiles. For more information, see Section 4.3, “About user profiles”, on page 46.

IMPORTANT: Use care when assigning permissions. The ability for a user to create other users and change their permissions should be strictly controlled.

NOTE: To create or change a user profile, you must Full or Modify access, respectively, for the **Profiles** Manager permission. If the enhanced security option is enabled, you must also have the required security access to change the profile. For details on the enhanced security option, see Section 15.3.4, “Configuring the enhanced security option”, on page 255.

To configure a user profile:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **Profile**.

> ***NOTE:*** To create a new profile based on a copy of a profile, in the **Administration Center**, under **General**, click **Profiles**, then, in the right pane, right-click the profile and select **Create Copy**.

2. On the **General** tab, under **Profile**, do the following:
   - In the **Name** box, type a unique name for the profile.
   - In the **Description** box, type a description for the profile. The description should explain what type of user should use this profile.
3. Under **Access**, by default, all the permissions are set to **No** or **No access**. For each permission you want to change, click the item in the **Level** column and select the new access level from the list. For details on the access levels, see Section 4.3.3, "Access levels", on page 48. To set all permissions for a high level group of permissions to the same access level, see "Setting multiple permissions".
4. To reset all access levels to **No** or **No Access**, click **Clear Access**.
5. Click the **Security** tab. This tab is available only if the enhanced security option is enabled. For details, see Section 15.3.4, "Configuring the enhanced security option", on page 255.
6. Under **Users**, select the check box for each user who you want to be able to modify this profile. The list contains only the users who have Full or Modify access to the **Profiles** Manager permission.
7. Click **OK**.

4.3.3 Access levels

In OpenScape Contact Center, each user or user profile has a set of permissions, and for each permission, an access level that indicates the functions the user can perform with that permission.

> ***IMPORTANT:*** Use care when assigning permissions. The ability for a user to create other users and change their permissions should be strictly controlled.

Some permissions are used for reading, modifying, and creating records in the database. The access levels for these permissions are:

- **No Access** – The user cannot view or modify the item.
- **Read Only** – The user can view, but not change, the item.
- **Modify** – The user can view and change the item.
- **Full** – The user can create, view, change, and delete the item.

Some features can only be turned on or off. The access levels for these permissions are:

- **No** – The user cannot access the feature.
- **Yes** – The user can access the feature.

If two or more profiles are selected for a user, the user's actual access level is the highest access level of the selected profiles. For example, if the access level in one of the profiles is **Full**, the user’s actual access level will be **Full**.

When configuring a profile only, the **Restricted** access level is also available. Selecting **Restricted** for a permission in a profile means that when that profile is selected for a user, the user’s actual access level will be **No** or **No Access** (as appropriate), even if you select another profile that has a higher access level.

4.3.4 Setting multiple permissions

When configuring the permissions for a user or when creating a user profile, you can set the permissions to the same level for all the elements in a particular group. For example, you can set the same permission level for all elements in the Administration Center (that is, users, groups, departments, profiles, and so on).

IMPORTANT: Use care when assigning permissions. The ability for a user to create other users and change their permissions should be strictly controlled.

To set multiple permissions in the Profile dialog box:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **Profile**.
2. In the list of permissions, select the group for which you want to set multiple permissions (for example, **User Permissions**).
3. Click in the **Level** column to activate the ... button.

4. Click ... . The application displays the **Set Access** dialog box.
5. Under **Permission Group**, the application displays the group for which you are setting permissions. You can select a different group, if required.
6. Under **Permissions**, do the following for each type of permission you want to change:
   - In the **Type** box, select the type of permission you want to set – **Yes/No** or **Read/Write**.
   - In the **Level** box, select the level of permission for the selected type.
7. Click **OK**.

To set multiple permissions in the User dialog box:

1. In the **Administration Center**, under **General**, click **Users**, then, in the right pane, double-click the user you want to edit.
2. Click the **Permissions** tab.
3. Click **Set All**. The application displays the **Set Access** dialog box.
4. Under **Permission Group**, select the group for which you want to set the permissions.
5. Under **Permissions**, do the following for each type of permission you want to change:
   - In the **Type** box, select the type of permission you want to set. Your choices are **Yes/No** or **Read/Write**.
   - In the **Level** box, select the level of permission for the selected type.
6. Click **OK**.

4.4 Deleting a user

When a defined user is no longer active in the contact center, you can delete the OpenScape Contact Center definition for that user.

NOTE: Deleting multiple users can be a lengthy process that will be performed in the background. For more information, see "Viewing background operations".

To delete a user definition:

1. In the **Administration Center**, click the **Users** folder to display all user definitions.
2. In the list on the right, right-click the user definition you want to delete and select **Delete** from the shortcut menu. You are prompted to verify that you want to delete this user definition.
3. Click **Yes**.

5 Configuring other administration resources

Other administration resources include:

- Departments – see "Configuring a department"
- Locations – see "Configuring a location"
- Client Desktop reasons – see ""
- OpenScape Contact Center servers – see "About the servers"
- Data sources – see "Configuring a data source"
- Directories – see "Configuring a directory"

Your service representative normally takes responsibility for creating and implementing the initial OpenScape Contact Center configuration. This includes the configuration of Administration Center resources, such as locations, servers, data sources, and directories. These items normally do not need to be reconfigured. However, you do need to configure departments and reasons, as described in this chapter, before putting your OpenScape Contact Center configuration into production.

NOTE: The re are also some global options that normally need to be configured before putting your OpenScape Contact Center configuration into production. For more information, see Chapter 15, "Configuring other global options".

5.1 Configuring a department

A department is a collection of OpenScape Contact Center users that are grouped for reporting purposes. A department may be composed of several groups, or individual users from several groups.

NOTE: To create or change a department, you must have Full or Modify access, respectively, for the **Departments** Manager permission. If the enhanced security option is enabled, you must also have the required security access to change the department. For details on the enhanced security option, see Section 15.3.4, "Configuring the enhanced security option", on page 255.

To configure a department:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **Department**.
2. On the **General** tab, under **Department**, do the following:
   - In the **Name** box, type a unique name for the department.
   - In the **Description** box, type a description for the department. The description of the department should clearly indicate the common element for the users in the department.
3. Click the **Users** tab.
4. Under **Users**, select the check box for each user who you want to include in the department.
5. Click the **Reports** tab.
6. Under **Include**, select the check box for each report that you want to display data about this department. The list contains only the reports you own, or reports that are owned by users you can monitor.
7. Click the **Security** tab. This tab is available only if the enhanced security option is enabled. For details, see Section 15.3.4, “Configuring the enhanced security option”, on page 255.
8. Under **Users**, select the check box for each user who you want to be able to modify this department. The list contains only the users who have Full or Modify access to the **Departments** Manager permission.
9. Click **OK**.

Related topics

- "Adding a user to a department"
- "Removing users from a department"

5.1.1 Adding a user to a department

You can add single users or multiple users to a department.

NOTE: To add a user to a department, you must have Modify access for the **Departments** Manager permission.

To add a single user to a department:

1. In the **Administration Center**, under **General**, click **Users**.
2. In the right pane, double-click the user you want to add to the department.
3. Click the **General** tab.
4. Under **Settings**, in the **Department** list, select the department to which you want to assign the user.
5. Click **OK**.

To add multiple users to a department:

1. In the **Administration Center**, under **General**, click **Departments**.
2. In the right pane, double-click the department to which you want to add users.
3. Click the **Users** tab.
4. Under **Members**, select the check box for each user you want to add to this department.
5. Click **OK**.

5.1.2 Removing users from a department

You can remove multiple users from a department at one time.

NOTE: To remove users from a department, you must have Modify access for the **Departments** Manager permission.

To remove users from a department:

1. In the **Administration Center**, under **General**, click **Departments**.
2. In the right pane, double-click the department from which you want to remove users.
3. Click the **Users** tab.
4. Clear the check box beside the user names that you want to remove from the department.
5. Click **OK**.

5.2 Configuring a location

You can configure a location for each geographical area that you want to associate with OpenScape Contact Center users or wallboards. Locations enable user reports to be generated based on the time zone of a user's location, and wallboards to display local time in the time zone of the wallboard's location.

NOTE: To create or change a location, you must have Full or Modify access, respectively, for the **Locations** Manager permission. If the enhanced security option is enabled, you must also have the required security access to change the location. For details on the enhanced security option, see Section 15.3.4, "Configuring the enhanced security option", on page 255.

To configure a location:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **Location**.
2. On the **General** tab, under **Location**, do the following:
   - In the **Name** box, type a unique name for the location.
   - In the **Description** box, type a description for the location.
   - In the **Time zone** list, select the time zone of the location.
3. Under **Contact**, do the following:
   - In the **Name** box, type the name of the person responsible for the location. This person is usually the administrator who configures the OpenScape Contact Center database and provides technical support.
   - In the **Telephone number** box, type the telephone number where the contact person can be reached.
4. Click the **Users** tab.
5. Under **Users**, select the check box for each user who you want to associate with this location.

   NOTE: If you want to remove a user from a location, you must change the user's location in the user definition. For details, see Section 4.1.1, "Configuring the general user properties", on page 26.

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6. Click the **Wallboards** tab.

7. Under **Wallboards**, select the check box for each wallboard that you want to associate with this location.
8. Click the **Security** tab. This tab is available only if the enhanced security option is enabled. For details, see Section 15.3.4, "Configuring the enhanced security option", on page 255.
9. Under **Users**, select the check box for each user who you want to be able to modify this location. The list contains only the users who have Full or Modify access to the **Locations** Manager permission.
10. Click **OK**.

5.2.1 Adding a user to a location

You can add single users or multiple users to a location.

NOTE: To add a user to a location, you must have Modify access for the **Locations** Manager permission.

To add a single user to a location:

1. In the **Administration Center**, under **General**, click **Users**.
2. In the right pane, double-click the user you want to add to the location.
3. Click the **General** tab.
4. Under **Settings**, in the **Location** list, select the location to which you want to assign the user.
5. Click **OK**.

To add multiple users to a location:

1. In the **Administration Center**, under **General**, click **Locations**.
2. In the right pane, double-click the location to which you want to add users.
3. Click the **Users** tab.
4. Under **Users**, select the check box for each user you want to associate with this location. The user's location in the user dialog box is updated accordingly.
5. Click **OK**.

Related topics

- "Configuring an Unavailable reason"
- "Configuring a Work reason"
- "Configuring a Post-processing reason"
- "Configuring a Wrap-up reason"

5.2.2 Configuring an Unavailable reason

An Unavailable reason is an explanation for a user entering Unavailable routing state. When the user is logged on to the communication platform, but is not available to handle incoming contacts, the user should select Unavailable routing state. Unavailable reasons are usually configured to handle common reasons for absences such as lunch breaks, and so on. The system will not route contacts to a user who is in Unavailable routing state.

NOTE: To create or change an Unavailable reason, you must have Full or Modify access, respectively, for the **Unavailable reasons** Manager permission.

NOTE: If you are using the OpenScape Contact Center Ring No Answer feature, the OpenScape Contact Center system places a user in Unavailable routing state if the user does not answer a routed contact. A default Unavailable reason is assigned to the change in routing state. For more information on the OpenScape Contact Center Ring No Answer feature, see "Ring No Answer feature".

To configure an Unavailable reason:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **Unavailable Reason**.
2. In the **Name** box, type a unique name for the Unavailable reason.
3. In the **Description** box, type a description for the Unavailable reason.
4. Click **OK**.

5.2.3 Configuring a Work reason

A Work reason is an explanation for a user entering Work routing state. When the user is logged on to the communication platform, but is performing work tasks not associated with contacts, such as attending meetings or training sessions, the user should select Work routing state. The system will not route contacts to a user who is in Work routing state.

NOTE: To create or change a Work reason, you must have Full or Modify access, respectively, for the **Work reasons** Manager permission.

To configure a Work reason:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **Work Reason**.
2. In the **Name** box, type a unique name for the Work reason.
3. In the **Description** box, type a description for the Work reason.
4. Click **OK**.

5.2.4 Configuring a Post-processing reason

A Post-processing reason is an explanation for a user entering Post-processing handling state. A user is in Post-processing handling state when performing tasks after a contact has been disconnected, such as making notes or sending follow-up information.

Although users can explicitly enter Post-processing handling state, a user definition can also be set up to automatically place users in Post-processing handling state after they disconnect from a contact. For details, see Section 4.1.1, “Configuring the general user properties”, on page 26.

NOTE: To create or change a Post-processing reason, you must have Full or Modify access, respectively, for the **Post-processing reasons** Manager permission.

To configure a Post-processing reason:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **Post-processing Reason**.
2. In the **Name** box, type a unique name for the Post-processing reason.
3. In the **Description** box, type a description for the Post-processing reason.
4. Click **OK**.

5.2.5 Configuring a Wrap-up reason

A Wrap-up reason is an explanation of what a user did to complete a contact. For example, an indication that a sale was made, that a problem was solved, or that a customer record was updated. Historical reports monitor the Wrap-up reasons selected.

If the Wrap-up reason required option is selected for a user (see Section 4.1.1, “Configuring the general user properties”, on page 26), the user must select at least one Wrap-up reason for each contact.

NOTE: To create or change a Wrap-up reason, you must have Full or Modify access, respectively, for the **Wrap-up reasons** Manager permission.

To configure a Wrap-up reason:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **Wrap-up reason**.
2. On the **General** tab, under **Details**, do the following:
   - In the **Name** box, type a unique name for the Wrap-up reason.
   - In the **Description** box, type a description for the Wrap-up reason.
3. Click the **Queue** tab.
4. Under **Queue**, select the check box for each queue that you want to associate with this Wrap-up reason.
5. Click **OK**.

5.3 About the servers

The OpenScape Contact Center system uses the following servers:

- Administration Server
- Callback Server (only if the callback feature is activated)
- Call Director Server (only if the Call Director feature is activated)
- Config Sync Server
- Data Management Server
- E-mail Server (only if the e-mail feature is activated or the e-mail reports option is enabled)Presence Server
- Real-Time Server
- Reporting Server
- Routing Server
- Statistics Server
- T-Server
- Watchdog Server
- Web Interaction Server

NOTE: Some features that have been activated using a license file must be enabled before they can be used. For details, see "Enabling activated features".

You can configure the server properties, and create notifications used to advise the administrator if there is a problem with any of the servers.

NOTE: When you upload a design database, the system overwrites the host name of all servers that share the same host as the Administration Server with the host name of the server machine on which the production database resides. This ensures that the host name of the server is always configured correctly.

Related topics

- "Configuring the server properties"
- "Configuring a Watchdog Server"
- "Configuring a notification"

5.3.1 Configuring the server properties

For all the OpenScape Contact Center servers, except the Watchdog Server, you can change the name, host name, and port number of the server resource. To configure the properties of a Watchdog Server, see Section 5.3.2, “Configuring a Watchdog Server”, on page 63.

NOTE: To create or change a server resource, you must have Full or Modify access, respectively, for the **Servers** Manager permission.

NOTE: When you are connected to the production database, if you change the server properties, you will be required to restart the OpenScape Contact Center service on the main server machine.

To configure the properties of a server:

1. In the **Administration Center**, under **Resources**, click **Servers**.
2. In the right pane, double-click the server you want to change.
3. In the **Name** box, type the new name of the server.
4. In the **Host name** box, type the host name of the server machine where the server resides. You can type a maximum of 15 characters.
5. In the **Port number** box, type the port number of the server on the server machine.

   NOTE: If a firewall is enabled on the server machine and you change the port number of a server after the initial system configuration, you must reconfigure the firewall settings.

6. Click **OK**.

5.3.2 Configuring a Watchdog Server

The application automatically creates a Watchdog Server on every machine where an OpenScape Contact Center server is installed. The Watchdog Server starts and monitors all other OpenScape Contact Center servers and issues notifications.

You can change the name and port number of a Watchdog Server, but you cannot change the host name. The application automatically changes the host name of the Watchdog Server if you change the host name of the server machine where the Watchdog Server resides.

NOTE: To change a Watchdog Server, you must have Modify access for the **Servers** Manager permission.

NOTE: When you are connected to the production database, if you change the server properties, you will be required to restart the OpenScape Contact Center service on the main server machine.

To configure a Watchdog Server:

1. In the **Administration Center**, under **Resources**, click **Servers**.
2. In the right pane, double-click the Watchdog Server you want to change.
3. In the **Name** box, type the new name of the server.
4. In the **Port number** box, type the identifier used to distinguish the connections for the host.

Click **OK**.

5.3.3 Configuring a notification

To ensure that administrators are kept informed of the system status, you can configure automatic notifications. You can configure the system to send an e-mail message or a page to an individual if there is a problem with the database usage or one of the OpenScape Contact Center servers.

NOTE: To create or change a notification, you must have Full or Modify access, respectively, for the **Notifications** Manager permission.

For e-mail notifications, the sender address is "OpenScape_Contact_Center". If the SMTP server is configured to authenticate the sender as part of its security measures, you must ensure that the server machine is allowed to send e-mail messages using "OpenScape_Contact_Center" as the "from address".

To configure a notification:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **Notification**.
2. On the **General** tab, under **Notification**, do the following:
   a) In the **Condition** list, select one of the following conditions:
      – **Database Usage** – Indicates that there is not enough disk space available to store the data that will be generated over the next two weeks, based on the configured retention periods. For details on the data retention periods, see Section 15.6, "Configuring the data management options", on page 260.
      – **Server Down** – Indicates that the server is not operational.
      – **Server Response Time** – Indicates that the server response time is longer than expected.
      – **Server Up** – Indicates that the server is operational again.
   b) In the **Component** list, select the server that you want to monitor.
3. Under **Type**, in the **Notification method** list, select the type of notification you want to use: **E-mail** or **Pager**.

4. If you selected **E-mail** in step 3, under **Details**, configure the e-mail message as follows:
   a) In the **E-mail address** box, type the e-mail address to which the notification should be sent.
   b) In the **Message** box, type the message you want to send to the specified e-mail address.
   c) In the **SMTP server** box, type the host name of the machine where the SMTP server resides.
5. If you selected **Pager** in step 3, under **Details**, configure the pager as follows:
   a) In the **Pager number** box, type the number of the pager to be called.
   b) In the **Numeric code** box, type the code for the selected condition. For example, if the digits 111 are dialed, then a numeric code appears on the pager.
   c) In the **Number of attempts** box, select the number of times you want the pager to be contacted.
   d) In the **Retry interval** box, select the length of time that you want to wait between attempts to contact the pager.
   e) In the **Message delay** box, select the length of time that elapses between the time when the pager number is dialed and the digits for the numeric code are sent.
6. To test the configured notification, click **Test**.
7. Click **OK**.

5.4 Configuring a data source

You can access information in an external ODBC-compliant database, and then use that information in a Database Function component to help make decisions about contact routing. You must ensure that the external database provides mappings to ODBC-compliant data types.

To access an external ODBC-compliant database, you must do the following on the OpenScape Contact Center server machine:

- In Windows, configure an ODBC data source that connects to the external database. Since the OpenScape Contact Center system is a 32-bit system, only 32-bit ODBC data sources are supported.
- In the Manager application, configure a data source definition for each ODBC data source that you want to access.

NOTE: To create or change a data source definition, you must have Full or Modify access, respectively, for the **Data sources** Manager permission.

NOTE: A slow connection to a data source will affect contact center performance. Ensure that any data sources you connect to will not adversely affect the productivity of your contact center.

To configure a data source:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **Data Source**.
2. Under **Details**, do the following:
   - In the **Data source name** box, type the name of the data source. To locate the required data source name, click **Find**.
   - In the **Maximum connections** box, specify the maximum number of connections available to this data source.
3. Under **Access**, do the following:
   - In the **User ID** box, type the User ID of the user who can connect to this data source.
   - In the **Password** box, type the password for the User ID.
4. To test the connection to the data source, click **Test**.
5. Click **OK**.

5.5 Configuring a directory

You can configure a directory resource in the Manager application to provide access to an external LDAP directory. The LDAP directory can then be used to search for information, such as a name, telephone number, or e-mail address. In the Manager application, the external directory is used to select recipients when sending reports by e-mail. You can configure up to two directories for use in the Manager application.

NOTE: The connection between the client applications and the LDAP Server can be encrypted by using LDAPS (LDAP over TLS).

NOTE: To create or change a directory, you must have Full or Modify access, respectively, for the **Directories** Manager permission.

To configure a directory:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **Directory**.
2. On the **General** tab, under **Directory**, do the following:
   - In the **Name** box, type the name of the directory.
   - In the **Description** box, type a description for the directory.
3. Under **Connection**, do the following:
   - In the **Host name** box, type the host name of the directory server.
   - In the **Port number** box, type the TCP/IP port number of the directory server. The default value is **389**.

     NOTE: To enable LDAPS, set the Port Number to **636**. For the Agent Portal Web check the flag in **Settings > Directories > Setup Connection > TLS**.

- To test the logon to the directory server, click **Test**. You must enter the account name and password to access the directory server.

NOTE: This tests the connection from this server machine, not from the client machine.

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4. Click the **Query** tab.
5. Under **Fields**, do one of the following:
   - To configure a new directory field to be queried, click **Add**, and then configure the field. For details, see "Configuring a directory field to be queried".
   - To modify an existing directory field to be queried, select the directory field in the list, click **Edit**, and then configure the field. For details, see "Configuring a directory field to be queried".
   - To delete an existing directory field, select the directory field in the list and click **Delete**.

NOTE: The top to bottom order of the fields in the list reflects the order in which the fields are displayed in the Manager application. To change the order of the fields, click anywhere in a row to select the row, and then click the up or down arrow key to the right of the list to move the row up or down, respectively.

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6. Under **Query String**, specify the components of the query string used to locate entries in the directory:
   - In the **Base distinguished name** box, type the base distinguished name to be used as the starting point for the query. The base distinguished name contains one or more Attribute Name and Attribute Value strings separated by the "=" character, for example, **ou=sales**, **o=mycompany.com**.
   - In the **Scope** list, select the scope of the query from the list: **Base**, **One Level**, or **Subtree**.
   - In the **Object class** box, type the list of object classes to be used to filter the query. The object classes in the list must be separated by commas.
   - In the **Object categories** box, type the list of object categories to be used to further filter the query. The object categories in the list must be separated by commas.
7. Click the **Results** tab.

8. Under **Fields**, do one of the following:
   - To configure a new directory field to be displayed in the search results, click **Add**, and then configure the field. For details, see "Configuring a directory field to be displayed in the search results".
   - To modify a directory field to be displayed in the search results, select the directory field in the list and click **Edit**, and then configure the field. For details, see "Configuring a directory field to be displayed in the search results".
   - To delete an existing directory field, select the directory field in the list and click **Delete**.
9. Click **OK**.

5.5.1 Configuring a directory field to be queried

When you configure a directory (see "Configuring a directory"), you can configure the directory fields that can be queried in the Manager or Client Desktop application.

To configure a directory field to be queried:

1. Open the **Configure Query Field** dialog box.
2. In the **Directory field** box, type the name of the directory field to be queried.
3. In the **Display name** box, type the name of the field as it will be displayed in the columns of the directory in the Manager or Client Desktop application.
4. In the **Type** list, select the type of data for the field. You can choose from **Text**, **Name**, **Telephone number**, and **E-mail address**.
5. Click **OK**.

5.5.2 Configuring a directory field to be displayed in the search results

When you configure a directory (see "Configuring a directory"), you can configure the directory fields that are displayed in the search results in the Manager or Client Desktop application.

To configure a directory field to be displayed in the search results:

1. Open the **Configure Results Field** dialog box.
2. In the **Directory field** box, type the name of the directory field to be displayed in the search results.
3. In the **Display name** box, type the name of the field as it will be displayed in the columns of the directory in the Manager or Client Desktop application.
4. In the **Type** list, select the type of data for the field, as follows:
   - You can choose from **Text**, **Name**, **Office Telephone**, **Home Telephone**, **Mobile Telephone**, **Home E-mail**, or **Office E-mail**.
   - If presence integration is enabled, you can also choose **Presence ID** (the OpenScape UC Application user ID) or **User name** (the OpenScape Contact Center user name). For details on enabling presence integration, see Section 15.7.5, "", on page 272. If you want to configure one of these fields, the directory field configured in step 2 must be a Text field.
5. If you selected a **Telephone number** type in the previous step and this is the telephone number that you want to appear as the default in the directory listing, select the **Set as default** check box.
6. Click **OK**.

5.6 Deleting an item from the Administration Center

NOTE: To delete an item from the Administration Center, you must have Full access for the associated Manager permission. If the enhanced security option is enabled, you must also have the required security access for the item. For details on the enhanced security option, see Section 15.3.4, "Configuring the enhanced security option", on page 255.

Before you delete an item, consider the following:

- For *groups*, ensure that the group is not being referenced by any view items in a wallboard or Broadcaster view.
- For *data sources*, ensure that there are no Database Function components configured to use the data source. In the Design Center, open the components to review the Database Function components you are using.

To delete an item from the Administration Center:

1. In the **Administration Center**, click the type of item you want to delete, for example, **Users**.
2. In the right pane, click the specific item you want to delete.
3. On the **Edit** menu, click **Delete**.
4. If the application is set to show confirmations when deleting records, the application prompts you to confirm the deletion. Click **Yes** to delete the item.

6 Using the Broadcaster and wallboards

Managers and supervisors can broadcast information to contact center users in the following way:

- To wallboards in the contact center (see Section 6.2, “About wallboards”, on page 76)

You can display the following types of content:

- **Text** – Text can be used alone or in combination with date/time variables and statistics to provide a label for the variable or statistic. For example, if you include a date variable in a view, you could include the text **Today’s date is**.
- **Date/Time variables** – Date and time variables display the current date or time, updated in real time.
- **Performance statistics** – Real-time statistics on various contact center resources are received from the OpenScape Contact Center servers and are updated in real time. For a list of the available statistics, see Section 6.1, “Statistics available for display in Broadcaster and wallboard views”, on page 73.

Each collection of content is referred to as a view. You broadcast these views to defined groups of users or wallboards, called distributions. The view/distribution mechanism lets you define content aimed at specific users, and broadcast either directly to those users or to particular wallboards. In a simple setup, you may have distributions based on your queue setup or users grouped according to their supervisor.

Each Broadcaster or wallboard can display only one view.

6.1 Statistics available for display in Broadcaster and wallboard views

The statistics that you can select to display on a Broadcaster or wallboard view are listed below, grouped according to the variable type.

The level in brackets (High or Low) provides an indication of how to configure the threshold for the statistic. When the level is specified as High, the alarm is triggered when the statistic goes above the threshold. When the level is specified as Low, the alarm is triggered when the statistic goes below the threshold. For example, a high number for Utilization is considered good. If you specify a threshold of 70 for the Utilization statistic, the alarm for the threshold will display when the utilization for the user goes below 70%.

The statistics for which you cannot specify a threshold do not have a level specified.

For statistic definitions, refer to the *Reporting Reference Guide*.

User variable statistics (available only in Broadcaster views)

- Average Handling Time – Direct (High)
- Average Handling Time – Routed (High)
- Average Handling Time – Routed Excluding Post-processing (High)
- Average Time – Busy (High)
- Average Time – Routed Consulted (High)
- Average Time – Routed Held (High)
- Average Time – Routed Post-processing (High)
- Average Time – Routed Processing (High)
- Average Time – Routed Talked (High)
- Current Handling Time (this statistic is not available in reports)
- Presence State – Time in State (High)
- Presence State – State
- Handled Contacts – Direct
- Handled Contacts – Routed
- Handling State – Time in State (High)
- Handling State – State
- Percentage Handling Time – Direct (High)
- Percentage Handling Time – Routed (High)
- Percentage Time – Away (High)
- Percentage Time – Busy (High)
- Percentage Time – Idle (High)
- Total Handling Time - Routed
- Total Handling Time - Routed Excluding Post-processing
- Utilization (Low)

Contact variable statistics (available only in Broadcaster views)

- Calling Extension (this statistic is not available in reports)

- Description
- Destination
- Queue Name
- Source
- Wait Time

Group variable statistics

- Users – Away (High)
- Users – Busy (High)
- Users – Handling Direct (High)
- Users – Handling Routed (High)
- Users – Idle (Low)
- Users – Logged On (Low)
- Waiting Contacts – All (High)
- Waiting Contacts – Primary (High)
- Waiting Contacts – Overflow (High)

Queue and aggregate variable statistics

- Abandon Rate – Current (High)
- Abandon Rate – Shift (High)
- Answer Rate – Current (Low)
- Answer Rate – Shift (Low)
- Average Wait Time – Abandoned (High)
- Average Wait Time – Abandoned (Shift) (High)
- Average Wait Time – Answered (High)
- Average Wait Time – Answered (Shift) (High)
- Contacts – Abandoned (Shift)
- Contacts – Answered (Shift)
- Contacts – Overflowed (High)
- Contacts – Queued (High)
- Contacts – Received (Shift)
- Contacts – Redirected (Shift)

- Service Level – Current (Low)
- Service Level – Estimated (Low)
- Service Level – Shift (Low)
- Wait Time – Estimated Answer (High)
- Wait Time – Oldest Contact (High)

Related topics

- "About wallboards"
- "Configuring a Broadcaster distribution"

6.2 About wallboards

A wallboard is a display medium located in your contact center where several users can view information.

Wallboards have the following features:

- Multiple lines – Select the line on which the variable appears. You can synchronize lines, so that the statistic name appears above its value.
- Text color – Select the color used to display the text (if supported by the wallboard model). For tri-color boards, the colors displayed are red, yellow and green.
- Scroll direction – Select the horizontal scroll direction. You can choose from Scroll left, Scroll left and hold, Scroll right and hold, Stationary and hold, or Flash and hold.

The system supports several Spectrum wallboard models using the EZ Key II protocol. For a list of supported wallboard models, and instructions on installing and configuring a wallboard, see the *System Management Guide*. If you have an unsupported wallboard model, you can create a custom wallboard type (see Section 6.2.1, “Creating a wallboard type”, on page 77).

Read your wallboard documentation to determine the exact features supported by your particular wallboard. Ensure that you have downloaded the latest firmware for your wallboard.

Related topics

- "Creating a wallboard type"
- "Creating a wallboard definition"
- "Configuring a wallboard view"

- "Configuring a wallboard distribution"

6.2.1 Creating a wallboard type

The system provides default wallboard types for several Spectrum wallboard models. If you have an unsupported wallboard model, you can create a custom wallboard type that you can select when creating a wallboard definition or configuring a wallboard view.

NOTE: To create or change a custom wallboard type, you must have Full or Modify access, respectively, for the **Wallboard types** Manager permission.

To create a wallboard type:

1. On the **File** menu, point to **New**, then **Broadcast Center**, then **Wallboard**, and then click **Type**.
2. Under **Type**, do the following:
   - In the **Name** box, type the name used to identify the wallboard type.
   - In the **Description** box, type a description for the custom wallboard, including the length and model of the wallboard.
3. Under **Specifications**, do the following:
   - In the **Lines** list, select the number of lines that can be displayed on the wallboard.
   - In the **Characters** list, type or select the number of characters that can be displayed on each line of the wallboard.
   - If the wallboard type supports three colors, select the **TriColor** check box.
4. Click **OK**.

Related topics

- "About wallboards"
- "Creating a wallboard definition"
- "Configuring a wallboard view"

6.2.2 Creating a wallboard definition

A wallboard definition contains the name and description of the wallboard, the hardware settings for the wallboard, and the wallboard distribution. The definition normally describes the physical location of the wallboard in the contact center, for example, **third floor, south wall**.

While supervisors and managers are typically involved in configuring wallboard views and distributions, wallboard definitions are typically configured by the service technician. For detailed instructions, see the *System Management Guide*.

NOTE: To create or change a wallboard definition, you must have Full or Modify access, respectively, for the **Wallboard definitions** Manager permission.

Before you begin, check the list of Wallboard types in the Broadcast Center to ensure that the type of wallboard you want to use is already configured. If the type of wallboard you have is not in the list, create a custom wallboard type (see Section 6.2.1, "Creating a wallboard type", on page 77).

To create a wallboard definition:

1. On the **File** menu, point to **New**, then **Broadcast Center**, then **Wallboard**, and then click **Definition**.
2. Under **Wallboard**, do the following:
   - In the **Name** box, type a unique name for the wallboard.
   - In the **Description** box, type a description for the wallboard. Use the description to specify the physical location of the wallboard.
3. Under **Type**, in the **Name** list, select the wallboard type. After you select the wallboard type, the properties of the wallboard are shown in the **Description** box.
4. Click the **Settings** tab.

5. Under **Connection**, do the following:
   - In the **Host name** box, type the host name or IP address of the wallboard.
   - In the **Port number** box, type the port number of the wallboard. The port number indicates the connection to the wallboard on the OpenScape Contact Center server machine.
   - If you are connected to a production database, you can click **Test** to verify the configuration. If the test fails, check the host name or IP address and the port number of the wallboard.
   - In the **Location** list, select the location of the wallboard. The default is the location where the Manager application is installed.
6. Click the **Content** tab.
7. In the **Distribution** list, select a distribution. If there are no distributions listed, you can add this wallboard to a distribution when you create a wallboard distribution (see Section 6.2.4, “Configuring a wallboard distribution”, on page 85).
8. Click **OK**.

6.2.3 Configuring a wallboard view

You can create different views that can be displayed on a wallboard. For more information, see Section 6.2, “About wallboards”, on page 76.

NOTE: To create or change a wallboard view, you must have Full or Modify access, respectively, for the **Wallboard views** Manager permission.

Overview

The following is an overview of the steps required to configure all the attributes in a wallboard view:

1. Configure the general information – see Section 6.2.3.1, “Configuring the general information for a wallboard view”, on page 80.
2. Configure the content – see Section 6.2.3.2, “Configuring the content of a wallboard view”, on page 80.
3. Configure a threshold for a wall board item – see Section 6.2.3.5, “Configuring a threshold for a wallboard view item”, on page 83.

4. Configure the distribution for a wallboard view – see Section 6.2.3.6, “Configuring the distribution for a wallboard view”, on page 84.

6.2.3.1 Configuring the general information for a wallboard view

You can configure the name, description, owner and wallboard type for each wallboard view.

For an overview of the steps required to configure all the attributes in a wallboard view, see "Configuring a wallboard view".

To configure the general information for a wallboard view:

1. On the **File** menu, point to **New**, then **Broadcast Center**, then **Wallboard**, and then click **View**.
2. Under **View**, do the following:
   - In the **Name** box, type a unique name for the view.
   - In the **Description** box, type a description of the view. Use the description to specify the information displayed in the wallboard view.
   - In the **Owner** list, click a user name. The owner is the only user, other than the Master Administrator, who can modify the properties of this view. You can select your own name or any other user who you can monitor. The owner can see only the users, groups, or queues in the view which the owner can monitor.
3. Under **Wallboard**, in the **Type** list, select the wallboard type for which you are configuring the view. After you select the wallboard type, the properties of the wallboard are shown in the **Description** box.
4. If you are finished working with this view definition, click **OK**.

6.2.3.2 Configuring the content of a wallboard view

You can configure a wallboard view to display text or statistics. Changes that you make to a wallboard view occur immediately and affect the users who are viewing the wallboard. For a list of available statistics, see "Statistics available for display in Broadcaster and wallboard views".

For an overview of the steps required to configure all the attributes in a wallboard view, see "Configuring a wallboard view".

To configure the content of a wallboard view:

1. In the **Broadcast Center**, under **Wallboard**, click **Views**.
2. In the right pane, double-click the wallboard view for which you want to configure the content.
3. Click the **Content** tab.
4. Under **Settings**, in the **Line** list, select the line in the wallboard view for which you want to configure the content. Your choices are: **Top Line** and **Bottom Line**.

   NOTE: The system supports the use of wallboards that have up to four lines, but the EZ Key II Protocol can only address the lines as Top Line and Bottom Line. So in the case of a three-line or four-line wallboard, the wallboard uses all its lines minus one to display the content defined in the Top Line. The Bottom Line begins immediately following the last line of the Top Line. For example, if the content configured in the Top Line takes up only two lines of a four-line wallboard, the content configured in the Bottom Line will start on the third line of the wallboard.

5. In the **Mode** list, select the scroll direction and action you want to use:
   - **Scroll left** – Continuously moves text to the left.
   - **Scroll left and hold** – Holds text on the screen for a specified amount of time before scrolling left.
   - **Scroll right and hold** – Holds text on the screen for a specified amount of time before scrolling right.
   - **Stationary and hold** – Holds text stationary for the specified amount of time. For large quantities of text, groups of characters are displayed for the specified amount of hold time.
   - **Flash and hold** – Continuously flashes text.
6. If you selected a mode that contains a hold action, under **Hold Time**, move the slider to specify the length of time an item pauses at the center of the wallboard.
7. Under **Data**, do one of the following:
   - To add a new wallboard item, click **Add**.
   - To edit an existing wallboard item, select the item in the list and click **Edit**.

8. Configure a wallboard view item (see Section 6.2.3.3, “Configuring a wallboard view item”, on page 82).
9. Repeat steps 7 and 8 for each item you want to configure.
10. The **Preview** area shows the contents of the wallboard view. The selected scrolling action is shown, but not the selected hold action.
11. If you are finished working with this view definition, click **OK**.

6.2.3.3 Configuring a wallboard view item

You can configure a wallboard view item to display text, date and time variables, and performance statistics.

To configure a wallboard view item:

1. Open the **Wallboard View Item** dialog box.
2. Under **Item**, in the **Type** list, select one of the types provided. You can choose **Text Only** or one of several different variable types.
3. In the **Text** box, type the text to display on the wallboard.
4. If you selected a variable type, use the **Statistic** box to select the statistic you want to display on the wallboard view. You can configure the threshold for each threshold-eligible statistic that you select.
5. If you selected a Group, Queue or Aggregate variable type, use the **For** box to select the queue, group, or aggregate for which to display the statistic. You can select only the queues, groups, or aggregates that you and the owner of the view can monitor.
6. In the **Spaces after** box, type or select the number of spaces that you want to insert after the item in the wallboard view.
7. Under **Attributes**, select a **Text color** to apply to the item.
8. Click **OK**.

Related topics

- "Configuring a wallboard view"
- "Statistics available for display in Broadcaster and wallboard views"

6.2.3.4 Deleting an item from a wallboard view

Changes that you make to the wallboard view occur immediately, and affect the users who are viewing the wallboard.

To delete an item from a wallboard view:

1. In the **Broadcast Center**, under **Wallboard**, click **Views**.
2. In the right pane, double-click the wallboard view you want to change.
3. Click the **Content** tab.
4. Under **Data**, select the item you want to delete.
5. Click **Delete**.
6. Click **OK**.

6.2.3.5 Configuring a threshold for a wallboard view item

You can configure a threshold for each statistic shown on the wallboard view. When a threshold is exceeded, you can display the statistic name in a different color (for tri-color wallboard types), or display text on the other line of the wallboard.

Before you can configure a threshold for a statistic, the wallboard view must be configured to display the statistic.

For an overview of the steps required to configure all the attributes in a wallboard view, see "Configuring a wallboard view".

To configure a threshold for a wallboard view item:

1. In the **Broadcast Center**, under **Wallboard**, click **Views**.
2. In the right pane, double-click the wallboard view you want to configure.
3. Click the **Thresholds** tab.
4. Under **Items**, select the statistic for which you want to configure a threshold. The Items list contains only the statistics specified on the Contents tab for which you can set a threshold.
5. Click **Edit**. The **Statistic** and **For** boxes show the statistic you selected. You cannot edit them here.
6. Under **Settings**, select the **Active** check box. This enables you to configure the threshold. After the threshold has been configured, you can use the **Active** check box to activate or de-activate the threshold in the wallboard view.
7. In the **Threshold** box, specify the limit to which you want to compare the statistic. The statistic determines if this value is a maximum or minimum.

8. In the **Action** list, select the action that alerts users to the exceeded threshold:
   - **Change color** – In the **To** list, select the color to display.
   - **Show text** – In the **Text** box, type the text to display.
9. In the **Apply to** list, select whether to apply the threshold condition to the **Statistic only** or the **Entire item** (including text labels).
10. Click **OK**. The information you entered is displayed on the **Thresholds** tab. If the threshold is inactive, **None** appears under Threshold for the Statistic in the Items list.
11. If you are finished working with this view definition, click **OK**.

6.2.3.6 Configuring the distribution for a wallboard view

You can assign a wallboard view to specific wallboard distributions.

NOTE: You must create the wallboard distributions before you can select them in a view (see Section 6.2.4, “Configuring a wallboard distribution”, on page 85).

For an overview of the steps required to configure all the attributes in a wallboard view, see "Configuring a wallboard view".

To configure the distribution for a wallboard view:

1. In the **Broadcast Center**, under **Wallboard**, click **Views**.
2. In the right pane, double-click the wallboard view for which you want to specify the distribution.
3. Click the **Distribution** tab.
4. Under **Send to**, select the check box for each wallboard distribution where you want to send the view.
5. If you are finished working with this view definition, click **OK**.

6.2.4 Configuring a wallboard distribution

A wallboard distribution is a group of wallboards to which you can assign a single wallboard view (see Section 6.2.3, “Configuring a wallboard view”, on page 79). After you create a wallboard distribution and assign a view to it, the view can be displayed on the selected wallboards.

Each wallboard can be a member of only one distribution at a time because only one view can be displayed on each wallboard.

NOTE: To create or change a wallboard distribution, you must have Full or Modify access, respectively, for the **Wallboard distributions** Manager permission.

To configure a wallboard distribution:

1. On the **File** menu, point to **New**, then **Broadcast Center**, then **Wallboard**, and then click **Distribution**.
2. Under **Distribution**, do the following:
   - In the **Name** box, type a unique name for the distribution.
   - In the **Description** box, type a description of the distribution.
3. Under **Current**, in the **View** list, select the wallboard view that you want to be displayed on all the wallboards in the distribution.
4. Click the **Wallboards** tab.
5. Under **Include**, select the check box for each wallboard where you want to display the current wallboard view.
6. Click **OK**.

6.3 Deleting a view

When deciding whether to delete a view, you should first consider the following:

- For *Broadcaster views* (see "About wallboards"), the user who sees the view on the desktop.
- For *wallboard views* (see "Configuring a wallboard view"), the location of the wallboard and the users who see the contents.

To delete a view:

1. In the **Broadcast Center**, select the wallboard or Broadcaster view you want to delete.
2. On the **Edit** menu, click **Delete**.

7 Reporting

You can use the Manager reporting feature to view performance data which can help you resolve issues, evaluate the efficiency of your contact center, and optimize your OpenScape Contact Center configuration. Reporting provides real-time statistics, accumulated statistics for the current day, and historical statistics on various contact center resources. Options range from online views showing the current status of particular resources to traditional statistical summaries.

There are four main types of reports:

- **Real-time** – see Section 7.1, "About real-time reports", on page 87.
- **Historical** – see Section 7.2, "About historical reports", on page 89.
- **Cumulative** – see Section 7.3, "About cumulative reports", on page 90.
- **Activity** – see Section 7.4, "About activity reports", on page 91.

The Manager application provides a set of predefined report definitions that can be used as is, or as the basis for creating new reports. For detailed information on the report types, the predefined reports, and the content that can appear in reports, see the *Reporting Reference Guide*.

NOTE: You can report on resources for which you have been assigned monitoring permission only. For more information, see Section 7.5, "Monitoring permissions and reporting", on page 92.

NOTE: You cannot run reports while the system performs data maintenance. For more information, see Section 7.11.3, "Configuring the queue real-time report options", on page 129.

7.1 About real-time reports

Real-time reports are reports that are viewed online to monitor the current status of the following resources:

- Users
- Groups

- Contacts
- Callbacks
- Queues and aggregates

The data displayed in a real-time report is updated in real time. You can use the reports to help you make minute-to-minute decisions, for example, you can monitor activities in a group of users to evaluate if their workload indicates a need for more users. For a description of the statistics available, refer to the *Reporting Reference Guide*.

Real-time reports have an alarm mechanism to alert you to key column values in the report. For columns that have numeric or elapsed time values, you can set a threshold condition. For example, on a Contacts - Queued column you could set a threshold condition to trigger an alarm when the number of contacts in queue is greater than five.

NOTE: User real-time reports are available only if your site is operating with a reporting level of Full (see Section 7.6, "Reporting level", on page 92).

NOTE: You can configure the application to include ringing and unanswered contacts in queue real-time reports. For details, see Section 7.11.3, "Configuring the queue real-time report options", on page 129.

Related topics

- "Configuring a report"
- "Setting thresholds and alarms in a report"
- "Viewing real-time and cumulative reports"

7.2 About historical reports

Historical reports provide statistical summaries on the performance of specific resources over a specified time period. Historical reports are commonly used to evaluate or assess contact center performance, configuration efficiency, and the productivity of individual queues and users. Statistics are available at user, department, and site levels. For a description of the statistics available, refer to the *Reporting Reference Guide*.

The resources that can be monitored in historical reports are:

- Users
- Groups
- Contacts
- Callbacks
- Queues
- Destinations
- Workflows
- Call Director components
- Wrap-up reasons
- Routing state reasons
- Post-processing reasons

While common ranges for historical reports are daily, weekly, and monthly, you can also specify custom ranges. Within the range of a report, you can further break down the statistics for display by specified intervals.

Historical reports provide three scheduling options: run the report immediately, run the report once only at a specified date and time, or run the report on a regular basis. If you choose to run a report on a regular basis, you can also specify the frequency.

NOTE: The maximum number of database records that can be used to generate a historical report is 60,000 (10,000 if the report includes contact record details). If the number of database records used to generate a report exceeds these limits, the report will fail. The failed report will appear in the **Failed** folder with a message indicating that the number of records used to generate the report exceeded the maximum. To generate the report successfully, you must select fewer resources to report on, reduce the range of the report to cover a shorter time period, or select a longer interval. For details on the Failed folder, see "About scheduled, queued, and failed historical reports".

Related topics

- "Configuring a report"
- "Scheduling a historical report"
- "Running a historical report"
- "Viewing a completed historical report"
- "About scheduled, queued, and failed historical reports"

7.3 About cumulative reports

Cumulative reports combine the “current status” benefits of real-time reports with the detailed statistics and rollup availability of historical reports.

The key differences between cumulative reports and historical reports are:

- Cumulative reports are online reports and cannot be scheduled.
- Cumulative reports show statistics for the current 24-hour period up until the last hourly or 15-minute interval defined for the report.
- When the next hourly or 15-minute interval passes, statistics for that interval for all included resources are added to the report in real time. In addition to the statistics for the new interval, totals at the department and site level are also updated.
- The charted statistic in a cumulative report can include a trend line that lets you compare current day intervals with the same intervals from the previous day or the same day last week.

For a description of the statistics available, refer to the *Reporting Reference Guide*.

The resources that can be monitored in cumulative reports are:

- Users
- Groups
- Callbacks
- Queues

- Destinations
- Workflows
- Call Director components
- Wrap-up reasons
- Routing state reasons
- Post-processing reasons

Cumulative reports have an alarm mechanism to alert you to key column values in the report. For columns that have numeric or elapsed time values, you can set a threshold condition. For example, on a Contacts - Queued column you could set a threshold condition to trigger an alarm when the number of contacts in queue is greater than five.

Related topics

- "Configuring a report"
- "Setting thresholds and alarms in a report"
- "Viewing real-time and cumulative reports"

7.4 About activity reports

There are three types of activity reports that you can generate:

- **User Activity Report** – see Section 7.8, “Generating a User Activity Report”, on page 119.
- **Source Activity Report** – see Section 7.9, “Generating a Source Activity Report”, on page 120.
- **Scheduled Callback List** – see Section 13.4, “Generating a Scheduled Callback List”, on page 221.

User and Source Activity Reports provide historical, step-by-step, state and activity data during a specified time interval for a specified date range. Note that the statistics are available only after the activity is complete, for example, after the current state has changed. In addition, the system requires a 15-minute delay so the statistics can be written to the OpenScape Contact Center database. For a description of the statistics available, refer to the *Reporting Reference Guide*.

A Scheduled Callback List provides a list of the callbacks scheduled for the contact center.

7.5 Monitoring permissions and reporting

If you are a supervisor or manager, you may have been assigned a number of users, groups, and queues that you have permission to monitor. As a result, you can report only on those resources that you have permission to monitor. For information on the resources that you can monitor, contact your administrator.

The reporting level also affects what you can monitor. For more information, see "Reporting level".

7.6 Reporting level

The reporting level is a licensed feature that restricts the amount of information that can be displayed for performance statistics in certain types of reports.

A site can have one of three reporting levels:

- **Full** – User historical and user cumulative reports can include detailed and summary statistics for each user. Events in source activity reports can identify specific users. User activity reports can be generated.
- **Department** – User historical and user cumulative reports can display statistics at the department level or site level only. Detailed and summary statistics for users are not available. Events in source activity reports pertaining to individual users identify only the user's department, not the individual user. User activity reports cannot be generated.
- **Site** – User historical and user cumulative reports can display statistics at the site level only. Detailed and summary statistics at the user and department level are not available. Events in source activity reports pertaining to individual users identify only the user's site and not the individual user. User activity reports cannot be generated.

For more information on the reporting level at your site, contact your service representative.

7.7 Configuring a report

When configuring real-time, cumulative, and historical reports, you create a report definition that defines the properties of the report. Some properties are common to all report types, for example, all reports have a layout property that dictates the columns displayed in the report and their order. Some properties are specific to certain report types. For example, real-time reports let you set alarms to draw your attention to certain values, and historical reports can be scheduled to run on a regular basis.

NOTE: To create or change a report definition, you must have Full or Modify access, respectively, for the associated Manager permission.

Before modifying an existing report, consider its ownership. If you have permission to monitor other users and have assigned users ownership of a report you want to modify, you may want to consult those users before you modify the report definition.

NOTE: Since activity reports are intended to be used as simple, case-by-case queries, there is no saved report definition for an activity report.

Overview

The following is an overview of the steps required to configure all the properties in a report definition:

1. Configure the general report properties – see Section 7.7.1, "Configuring the general report properties", on page 94.
2. Select the resources that you want to report on – see Section 7.7.2, "Selecting the content for a report", on page 98.
3. Specify the columns you want to appear in the report – see Section 7.7.3, "Specifying the columns in a report", on page 105.
4. For real-time and cumulative reports, set the thresholds and alarms for particular columns – see Section 7.7.4, "Setting thresholds and alarms in a report", on page 106.
5. Optionally, specify a bar chart for the report – see Section 7.7.5, "Specifying a bar chart in a report", on page 109.
6. For historical reports, specify when to run the report and submit the report to the Scheduler – see Section 7.7.6, "Scheduling a historical report", on page 110.

7. Specify the output options for the report – see Section 7.7.7, “Specifying the output options for a report”, on page 113.

7.7.1 Configuring the general report properties

When configuring a report, the first step is to configure the general report properties. The options you can select depend on the type of report you want to configure.

For an overview of the steps required to configure all the properties in a report definition, see "Configuring a report".

To configure the general report properties:

1. On the **File** menu, point to **New**, then **Report Center**, and then click the type of report you want to create.

NOTE: To make a copy of a predefined report, in the **Report Center**, under **Definitions**, click the type of report you want to copy, then, in the right pane, right-click the report definition you want to copy and click **Create Copy**.

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2. Under **Report**, do the following:
   - In the **Name** box, type a unique name for the report.
   - In the **Description** box, type a description for the report. The description should include information about what the report contains, and what resources the report is monitoring.
3. In the **Owner** list, select the user who will be able to use this report when logged on to the Manager application. By default, your user name is selected. The list will contain all users that you have permission to monitor. You can assign a user who does not have permission to create reports as the owner of the report.
4. Under **Attributes**, do the following:
   - In the **Type** list, select the type of report you want to create: **Real-time**, **Cumulative**, or **Historical**. For some resources, only certain report types are available.
   - In the **Include** area, select the **Table** check box to include tabular information in the report, and/or select the **Chart** check box to include a bar chart in the report. A report is displayed in table format by default where the rows list the resources and the

columns contain the statistics for those resources. If you clear the **Table** check box, the **Chart** check box is selected by default, but you can chart a single statistic only.

- For a cumulative report, specify the range. For details, see Section 7.7.1.1, “Specifying the range for a cumulative report”, on page 95.
- For a historical report, specify the range. For details, see Section 7.7.1.2, “Specifying the range for a historical report”, on page 96.

5. If you are finished working with this report definition, click **OK**.

7.7.1.1 Specifying the range for a cumulative report

When configuring a cumulative report, you must specify the range of the report.

To specify the range for a cumulative report:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.
2. Under **Attributes**, in the **Range** list, select the range to be covered by the report in the current 24-hour period:
   - To show statistics accumulated since the start of the current shift, select **Since shift start**.
   - To show the most recent statistics, accumulated over a specified number of hours, select **Most recent**, and then in the **Time** box, type or select the amount of time (in hours and minutes) to be covered by the report.
   - To show statistics accumulated since some specified time of the day, select **Since**, and then in the **Time** box, type or select the starting time for the report.
   - In the **Interval** list, select the update interval for the report: **15 Minute** or **Hourly**.
3. If you are finished working with this report definition, click **OK**.

7.7.1.2 Specifying the range for a historical report

When configuring a historical report, you must specify the range of the report.

NOTE: The Start date, End date, Start time, and End time are determined based on the time and time zone settings configured on the server machine.

To specify the range for a historical report:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.
2. Under **Attributes**, to specify a range that crosses over the midnight boundary, select the **Report over midnight** check box. This ensures that the data in the generated report includes intervals that cross over the midnight boundary.
3. In the **Range** list, select the range of the report. Your choices are:
   - **Yesterday** – Run a report on yesterday's statistics. The report can be broken down into 15-minute, hourly, or daily intervals.
   - **This Week** – Run a report on the accumulated statistics to date for this week. The **Start date** is based on the specified first day of the week setting. The report can be broken down into 15-minute, hourly, or daily intervals.
   - **Last Week** – Run a report on last week's statistics. The **Start date** is based on the specified first day of the week setting. The report can be broken down into 15-minute, hourly, daily, or weekly intervals.
   - **This Month** – Run a report on the accumulated statistics to date for this month. The **Start date** is the first day of the month. The report can be broken down into 15-minute, hourly, daily, or weekly intervals.
   - **Last Month** – Run a report on last month's statistics. The **Start date** is the first day of the month. The report can be broken down into 15-minute, hourly, daily, weekly, or monthly intervals.

- **Custom** – Run a report on a custom range in which you specify the start and end dates. Reports covering a custom range can be broken down into 15-minute, hourly, daily, weekly, or monthly intervals, depending on the start date and end date that you specify.

NOTE: If you selected the **Report over midnight** check box in step 2, the ranges appear as **<*Range*>, Including Previous Day**. In each case, the **Start date** provided by the system will be one day before the start of the selected range. For example, if you select **This Month, Including Previous Day**, the **Start date** will be the last day of the previous month. Also, when the **Report over midnight** check box is selected, the report can only be broken down into 15-minute and hourly intervals.

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4. If you selected **Custom**, in the **Start date** and **End date** boxes, type the start and end dates of the range. When the **Report over midnight** check box is selected, the start date cannot be the same as the end date.
5. In the **Interval** list, select the interval for which you want subtotals displayed within the range of the report. Refer to the descriptions in step 3, above.

NOTE: If you select **<None>** for the interval, the report will be generated using the 15-minute statistics. This can cause the report to fail if the number of database records used to generate the report exceeds the maximum.

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6. In the **Start time** and **End time** boxes, specify only that part of the day that you want the report to cover. This is useful if your contact center is active only during part of the day or if you want to target particular shifts. The values are entered using a 24-hour clock. When the **Report over midnight** check box is selected, the **Start time** must be equal to or later than the **End time**. Some examples are as follows:
   - 09:00 to 17:00 – The report will cover between 9:00 A.M. and 5:00 P.M. on the same day.
   - 08:00 to 08:00 – The report will cover the 24-hour period.

- 23:00 to 07:00 – The report will cover between 11:00 P.M. on one day to 07:00 A.M. on the next day. This configuration is only possible when the the **Report over midnight** check box is selected.

NOTE: To specify 23:59 as the **End time**, select the **End of day** check box. When the **Report over midnight** check box is selected, the **End of day** check box is unavailable.

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7. For a user, routing state reason, Wrap-up reason, or Post-processing reason report, if multiple locations are configured, in the **Use time zone of** list, select the time zone option that you want to use to generate the contents of the report. Your choices are **Local site** or **User location**.

NOTE: If you select **User location**, you cannot report by queue or by aggregate in a Wrap-up reason historical report, as described in step 5 of Section 7.7.2.3, “Selecting the resources for a historical report”, on page 102.

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8. If you are finished working with this report definition, click **OK**.

7.7.2 Selecting the content for a report

A report definition must specify the resources that you want to report on. The resources that you can select depend on the type of report you are configuring and can include users, groups, queues, destinations, and so on. For details, see the following topics:

- Section 7.7.2.1, “Selecting the resources for a real-time report”, on page 99
- Section 7.7.2.2, “Selecting the resources for a cumulative report”
- Section 7.7.2.3, “Selecting the resources for a historical report”, on page 102

Each report can contain up to 100 resources; however, selecting a large number of resources will decrease system performance.

NOTE: You can report only on the resources for which you have been assigned monitoring permission (see Section 7.5, “Monitoring permissions and reporting”, on page 92).

For an overview of the steps required to configure all the properties in a report definition, see "Configuring a report".

7.7.2.1 Selecting the resources for a real-time report

You can select different resources depending on the type of real-time report you are configuring.

To select the resources for a real-time report:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.
2. Click the **Content** tab. The **Content** tab will display a list of resources, depending on the type of report you are defining. The **Content** tab will list only the resources that you have permission to monitor.
3. For a queue real-time report, use the **Report by** box to specify the level at which the resources can be selected:
   - **Queues** – The report will contain the queues you select in the list.
   - **Aggregates** – The report will contain the aggregates you select in the list.
4. For a user real-time report, use the **Select By** box to specify the level at which the resources can be selected:
   - **User** – The report will contain the users selected in the list.
   - **Group** – The report will contain all users who are members of the groups you select and that you have permission to monitor.
5. In the list of resources, select the check box for each resource that you want to include in the report.

   NOTE: When you are editing a user report where both the **Report by** and **Select by** options are **User**, the users in the list who are associated with a user template are read-only. If you want to remove one of those users from the report, you must either break the user's association with the user template, or remove the report from the user template and update all users (in which case, all users associated with the user template will be removed from the report).

6. For a user real-time report, under **Exclude Users**, select the **Exclude logged off users** check box to exclude any users that are logged off the system from the report.

7. For a contact real-time report, under **Contact Options**, select the **Include processing before queued contact** check box if you want the contacts that have just arrived in the contact center and are still being processed to be included in the report. If this option is not selected, the contacts will not appear in the report until they have been enqueued.

8. If you are finished working with this report definition, click **OK**.

Related topics

- "Configuring a report"
- "Selecting the content for a report"

7.7.2.2 Selecting the resources for a cumulative report

You can select different resources depending on the type of cumulative report you are configuring.

To select the resources for a cumulative report:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.

2. Click the **Content** tab. The **Content** tab will display a list of resources depending on the type of report you are defining. The list will contain only the resources that you have permission to monitor.

3. For a queue or callback cumulative report, use the **Report by** list to select the level at which the statistics are reported:
   - **Queue** – The report will display statistics at the queue level.
   - **Aggregate** – The report will display statistics at the aggregate level.

4. For a callback cumulative report, use the **Select by** list to select the level at which the resources can be selected:
   - **Queue/Aggregate** – The report will contain the queues or aggregates (depending on your selection in step 3, above) you select.
   - **Origin** – The report will contain the queues or aggregates (depending on your selection in step 3, above) that contain callbacks that were created in the ways you select.

5. For a user or routing state reason cumulative report, use the **Report by** box to select the level of detail in the report:
   - **User** – The report will display full user identification information and statistics.
   - **Department** – The report will display statistics only at the department level. User identification and detailed user statistics are suppressed.
6. For a Wrap-up reason cumulative report, use the **Report by** box to select the level of detail in the report:
   - **User** – The report will display full user identification information and statistics.
   - **Department** – The report will display statistics only at the department level. User identification and detailed user statistics are suppressed.
   - **Queue** – The report will display statistics only at the queue level. User and department identification and detailed department and user statistics are suppressed.
   - **Aggregate** – The report will display statistics only at the site level. User and department identification and detailed department and user statistics are suppressed.

NOTE: The **Report by** options described in steps 5 and 6, above, are available only within the constraints of the reporting level for your site (see Section 7.6, "Reporting level", on page 92). For example, if your site uses the Department reporting level, you cannot generate reports at the User level. The **Report by** options are also affected by your monitoring permissions. For example, if you have permission to monitor only two users, you can generate user reports with statistics on those two users only.

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7. If you selected **User** in step 5 or step 6, use the **Select by** list to choose the level at which the users can be selected:
   - **User** – The report will display statistics for the users you select in the list.
   - **Group** – The report will display statistics for all users who are members of the groups you select and that you have permission to monitor.
   - **Department** – The report will display statistics for all users who are members of the departments you select and that you have permission to monitor.

8. In the list of resources, select the check box for each resource that you want to include in the report.

> ***NOTE:*** When you are editing a user report where both the **Report by** and **Select by** options are **User**, the users in the list who are associated with a user template are read-only. If you want to remove one of those users from the report, you must either break the user's association with the user template, or remove the report from the user template and update all users (in which case, all users associated with the user template will be removed from the report).

9. If you are finished working with this report definition, click **OK**.

Related topics

- "Configuring a report"
- "Selecting the content for a report"

7.7.2.3 Selecting the resources for a historical report

You can select different resources depending on the type of historical report you are configuring.

To select the resources for a historical report:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.
2. Click the **Content** tab. The resources that can be reported on (for example, users, queues, or destinations) are displayed. The **Content** tab will display only the resources that you have permission to monitor.
3. For a queue historical report, use the **Report by** list to select the level at which the queues can be selected:
   - **Queue** – The report will display statistics for the queues you select in the list.
   - **Queue by User** – The report will display statistics for the queues you select in the list, with details for the users within each queue.
   - **Aggregate** – The report will display statistics for the aggregates you select in the list.

4. For a user or routing state reason historical report, use the **Report by** box to select the level of detail in the report:
   - **User** – The report will display full user identification information and statistics.
   - **User by Queue** (not available for a routing state reason report) – The report will display full user identification information and statistics, with details for each queue from which the contact was assigned.
   - **Department** – The report will display statistics only at the department and site level. User identification and detailed user statistics are suppressed.
5. For a Wrap-up reason historical report, use the **Report by** box to select the level of detail in the report:
   - **User** – The report will display full user identification information and statistics.
   - **Department** – The report will display statistics only at the department level. User identification and detailed user statistics are suppressed.
   - **Queue** – The report display statistics only at the queue level. User and department identification and detailed department and user statistics are suppressed.
   - **Aggregate** – The report will display statistics only at the aggregate level. User and department identification and detailed user and department statistics are suppressed.

NOTE: The **Report by** options described in step 4 or step 5, above, are available only within the constraints of the reporting level for your site (see Section 7.6, "Reporting level", on page 92). For example, if your site uses the Department reporting level, you cannot generate reports at the user level. The **Report by** options are also affected by your monitoring permissions. For example, if you have permission to monitor only two users, you can generate user reports with statistics on those two users only.

6. For a callback historical report, use the **Report by** box to select the level at which the callbacks statistics are reported:
   - **Queue** – The report will display callback statistics for the queues you select in the list.
   - **Aggregate** – The report will display callback statistics for the aggregates you select in the list.

- **Disposition** – The report will display statistics for all callbacks that have the dispositions you select in the list.

7. If you selected **User** or **User by Queue** in step 4 or step 5, use the **Select By** list to choose the level at which the users can be selected:
   - **User** – The report will display statistics for the users you select in the list.
   - **Group** – The report will display statistics for all users who are members of the groups you select and that you have permission to monitor.
   - **Department** – The report will display statistics for all users who are members of the departments you select and that you have permission to monitor.
8. If you selected **Queue** in step 6, use the **Select By** list to choose the level at which the queues can be selected:
   - **Queue** – The report will display statistics for the queues you select in the list.
   - **Origin** – The report will display statistics for all callbacks that originated in the ways you select in the list.
9. If you selected **Aggregate** in step 6, use the **Select By** list to choose the level at which the aggregates can be selected:
   - **Aggregate** – The report will display statistics for the aggregates you select in the list.
   - **Origin** – The report will display statistics for all callbacks that originated in the ways you select in the list.
10. In the resulting list of resources, select the check box for each resource that you want to include in the report.

NOTE: When you are editing a user report where both the **Report by** and **Select by** options are **User**, the users in the list who are associated with a user template are read-only. If you want to remove one of those users from the report, you must either break the user's association with the user template, or remove the report from the user template and update all users (in which case, all users associated with the user template will be removed from the report).

11. For a contact historical report, or if you selected **Queue by User** in step 3 or **User by Queue** in step 4, select the **Include contact record detail in this report** check box to have the report include

state and activity data. This check box is available only if the selected interval is daily, weekly, or monthly (see Section 7.7.1.2, “Specifying the range for a historical report”, on page 96).

NOTE: If you select this check box, and the number of database records used to generate the report exceeds 10,000, the report will fail. The failed report will appear in the **Failed** folder with a message indicating that the number of records used to generate the report exceeded the maximum. To generate the report successfully, you must either select fewer resources to report on or reduce the range of the report to cover a shorter time period. For details on the Failed folder, see "About scheduled, queued, and failed historical reports".

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12. If you are finished working with this report definition, click **OK**.

Related topics

- "Configuring a report"
- "Selecting the content for a report"

7.7.3 Specifying the columns in a report

You can choose the statistics you want to appear as columns in your reports, as well as the order in which they appear. The statistics that are available for selection depend on the resources on which you are reporting.

For an overview of the steps required to configure all the properties in a report definition, see "Configuring a report".

To specify the columns in a report:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.
2. Click the **Columns** tab. The tab lists all the statistics you can display in the report.

3. Under **Columns**, do the following:

   a) In the **Report on** list, select the media you want to report on.

   b) Select the check box for each column that you want to appear in the report. For descriptions of the columns you can select, see the *Reporting Reference Guide*.

   > ***NOTE:*** The column that identifies the resource being reported on is selected by default and cannot be cleared. In the case of user reports, either the Name or User ID check box must be selected. The application will not allow you to clear both check boxes.

   c) The top to bottom order of the statistics in the list reflects the left to right order in which the columns appear in the report. To change the order of the columns, click anywhere in the row (not in the check box) to select the row, and then click the up or down arrow key to the right of the list to move the row up or down, respectively.

4. Under **Sort**, do the following:

   - In the **Sort By** list, select the column on which to sort the data in the report.
   - In the **Sort Order** list, select the sort order (**Ascending** or **Descending**) for the report.

5. If you are finished working with this report definition, click **OK**.

7.7.4 Setting thresholds and alarms in a report

Real-time and cumulative reports have an alarm mechanism that can alert you to key values in a report. You can set a threshold on a particular statistic in a report and, when the threshold is exceeded, a visible or audible alarm draws your attention to that statistic value. Alarm actions include logging a message to the System Messages window, color highlighting in the appropriate column of the report table, and playing a .wav file.

> ***NOTE:*** The color highlighting alarm action cannot be displayed in a bar chart.

You can set thresholds only on threshold-eligible statistics. To determine if you can set a threshold on a statistic, see the description of the statistic in the *Reporting Reference Guide*.

NOTE: To set thresholds in a report, you must have the **Set view and report thresholds** Manager permission.

You can set up to three different conditions for a statistic for low, medium, and high thresholds. For example, you could set the following conditions on a Contacts - Queued statistic:

- Highlight the value in blue when the number of contacts waiting is greater than 5.
- Highlight the value in yellow when the number of contacts waiting is greater than 10.
- Highlight the value in red when the number of contacts waiting is greater than 15.

NOTE: Before setting thresholds and alarms, you must first specify the columns to be displayed in the report (see Section 7.7.3, “Specifying the columns in a report”, on page 105).

For an overview of the steps required to configure all the properties in a report definition, see "Configuring a report".

To set a threshold and alarm in a report:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.
2. Click the **Thresholds** tab.
3. Under **Defined Thresholds**, the application lists all existing threshold definitions for this report.
    - To create a new threshold, click **Add**.
    - To edit an existing threshold, select the threshold in the list and click **Edit**.
4. In the **Variable Threshold** dialog box, in the **Statistics** list, select the name of the statistic for which you want to set a threshold. The list contains only threshold-eligible statistics.
5. If you selected a state statistic, in the **State** list, select the state with which you want to associate the threshold.

6. In the **Contact Type** list, select the contact type with which you want to associate the threshold.

7. Select the **Active** check box to activate the threshold on this statistic.

8. Depending on the type of resource you are reporting on (see Section 7.7.2, “Selecting the content for a report”, on page 98), select the check box for each resource for which the threshold will be displayed. For example, if you are configuring a user real-time report, under **Users**, select the check box for each user for which you want the threshold to be displayed.

9. Click the **Thresholds** tab.

10. Under **Activity**, in the **Range** list, select the threshold range for which you want to set the alarms: **Low**, **Medium**, or **High**.

11. If you selected the Medium or High threshold range, select the **Active** check box to activate the alarm on the range. You cannot clear the Active check box on the Low range – it is selected by default.

12. In the **Threshold** box, type or select the threshold value.

13. In the **Action** area, select the check box for each alarm you want to set for the threshold range:

    - If you want to log a system message each time the threshold is exceeded, select the **Log Alarm to System Messages window** check box.

    - If you want to highlight the text in a different color each time the threshold is exceeded, select the **Change color** check box and select a color from the list.

    - If you want to play a sound file each time the threshold is exceeded, select the **Play a sound file** check box, type the name of the .wav file stored on the main server machine. If you are on the main server machine, you can browse to select the .wav file.

    NOTE: If you are connected to a production database, you can click to play the .wav file. You cannot play .wav files when you are connected to a design database.

14. Repeat steps 10 to 13 for each threshold range you want to configure.

15. Under **Summary**, view the threshold ranges and alarms you have set.

16. Click **OK** to close the Variable Threshold dialog box. The threshold is displayed in the **Defined Thresholds** list.

17. If you are finished working with this report definition, click **OK**.

7.7.5 Specifying a bar chart in a report

All types of reports can contain a bar chart for a single statistic. Only some of the statistics in a report can be charted. To determine if a statistic can be charted, see the description of the statistic in the *Reporting Reference Guide*.

NOTE: The color highlighting alarm action for a statistic cannot be displayed in a bar chart. For details, see Section 7.7.4, “Setting thresholds and alarms in a report”, on page 106.

NOTE: Before setting the charting options, you must first specify the columns to be displayed in the report (see Section 7.7.3, “Specifying the columns in a report”, on page 105).

For an overview of the steps required to configure all the properties in a report definition, see "Configuring a report".

To specify a bar chart in a report:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.

2. Ensure that charting is enabled: on the **General** tab, under **Attributes**, select the **Chart** check box.

3. Click the **Chart** tab.

4. Under **Settings**, in the **Statistic** list, select the name of the statistic that you want to chart. The list contains only the columns that can be charted.

5. In the **Bar Color** list, select the color of the bars in the chart. You can select only one color for all the bars.

6. In the **Style** area, select the style of the bars: **2D** or **3D**.

7. For cumulative reports only, you can display a trend line on the chart. Select the **Show trend** check box and then specify the properties of the trend line, as follows:

- In the **Trend** box, choose **Yesterday** to display a trend line based on yesterday's statistics or choose **Same Day Last Week** to display a trend line based on statistics from seven days ago.
- In the **Line style** list, select **Straight** or **Smooth**.
- In the **Line color** list, select the color of the trend line.
- Select the **Data points** check box if you want the trend line to show key data points.

8. Under **Preview**, view the choices you have made for your bar chart.
9. If you are finished working with this report definition, click **OK**.

7.7.6 Scheduling a historical report

You must submit the reports that you want to execute to the Scheduler. The Scheduler is the component responsible for scheduling reports, queuing reports to execute, and maintaining the completed reports.

NOTE: To schedule a historical report, you must have the **Schedule and view historical reports** Manager permission.

If a scheduled report executes while you are not logged on to the Manager application, the next time you log on you will be prompted to transfer the completed report to the local machine. At that time, the report will be output as specified in the report definition. The system keeps completed reports for up to seven days.

NOTE: If you encounter issues when trying to view or print a historical report, export a historical report to a file, or send a historical report by e-mail, it may be due to a network issue. For assistance, contact your network administrator.

You can schedule a historical report to:

- Run immediately – see Section 7.7.6.1, “Scheduling a report to run immediately”, on page 111
- Run at a specific date and time – see Section 7.7.6.2, “Scheduling a report to run once at a specific date and time”, on page 111
- Run on a regular basis – see Section 7.7.6.3, “Scheduling a report to run on a regular basis”, on page 112

NOTE: If you modify a scheduled historical report, in addition to saving the report definition, you must also resubmit the report to the Scheduler.

For an overview of the steps required to configure all the properties in a report definition, see "Configuring a report".

7.7.6.1 Scheduling a report to run immediately

When you configure a historical report, you can schedule the report to run immediately.

To run a report immediately:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.
2. Click the **Schedule** tab.
3. In the **Run the report** list, select **Now**.
4. Click **Submit to Scheduler**. The report will run with the destination and format specified on the Output tab.

Related topics

- "Configuring a report"
- "Scheduling a historical report"

7.7.6.2 Scheduling a report to run once at a specific date and time

When you configure a historical report, you can schedule the report to run at a specific date and time.

To schedule a report to run once:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.
2. Click the **Schedule** tab.
3. In the **Run the report** list, select **One Time**. The tab is updated to allow you to specify when your report is to run.
4. In the **Date** list, select the date when the report is to run.
5. In the **Time** list, specify the time when you want the report to run. The format is based on a 24-hour clock, for example, 4:00 P.M. is entered as 16:00.
6. Click **Submit to Scheduler**. The report will run with the destination and format specified on the Output tab.

Related topics

- "Configuring a report"
- "Scheduling a historical report"

7.7.6.3 Scheduling a report to run on a regular basis

When you configure a historical report, you can schedule the report to run on a regular basis.

To schedule a report to run on a regular basis:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.
2. Click the **Schedule** tab.
3. In the **Run the report** list, select **More Than once**. The tab is updated to allow you to specify when your report is to run.
4. Use one of the following methods to schedule how often the report is to run:
   - Click **Daily** and then select the check box beside each day of the week when you want the report to run. In the **Time** box, type or select the time of day when the report is to run.
   - Click **Weekly** and then, from the **Day** list, select the day of the week when you want the report to run. In the **Time** box, type or select the time of day when the report is to run.

- Click **Monthly** and then, from the **Day** list, select one of the following: **Last Day** to generate the report on the last day of the month, or **Specific Day** and then choose a date in the month from the box that appears. In the **Time** box, type or select the time of day when the report is to run.

NOTE: The format of the **Time** box is based on a 24-hour clock, for example, 4:00 P.M. is entered as 16:00.

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5. Use one of the following methods to specify the duration of this report schedule:
   - To run the report indefinitely, click the **Forever**.
   - To apply the schedule for a fixed length of time, click **Custom** and then use the **Start** and **End** lists to specify the start and end dates.
6. Click **Submit to Scheduler**. The report will run with the destination and format specified on the Output tab.

Related topics

- "Configuring a report"
- "Scheduling a historical report"

7.7.7 Specifying the output options for a report

Real-time and cumulative reports are normally designated for online viewing, whereas historical reports can be viewed online, printed, exported to a file, or sent as an attachment in an e-mail message. For more information, see the following topics:

- Section 7.7.7.1, “Specifying the output options for a real-time or cumulative report”, on page 114
- Section 7.7.7.2, “Specifying the output options for a historical report”, on page 115

For an overview of the steps required to configure all the properties in a report definition, see "Configuring a report".

7.7.7.1 Specifying the output options for a real-time or cumulative report

Real-time and cumulative reports can be designated for online viewing only because they contain information that is updated in real time. However, if you need a hard or soft copy of a real-time or cumulative report, you can print a copy or save it to a file while viewing it online. In these cases, you use the Output tab to specify the printer that is used when you print the report from the screen. You can also specify the format and file name to be used when you save a copy of the report to the hard drive.

The default output settings for reports are specified in the user reporting options. For details, see Section 7.10.1, “Configuring the general user reporting options”, on page 122). However, you can override the default settings when you configure the output options for the report.

To specify the output options for a real-time or cumulative report:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.
2. Click the **Output** tab.
3. Under **Default Output Settings**, the **View report** option is selected by default and cannot be changed.
4. Under **Output Mode Settings**, in the **Output mode** list, select the output mode for which you want to change the default settings.
5. If you selected **Print report** in step 4, do the following:
   - In the **Printer name** list, select the printer where you want the report to be printed.
   - To specify the formatting options, such as page orientation, headers, and footers, click **Advanced**. For details, see "Specifying the advanced output settings".
6. If you selected **Export report** in step 4, do the following:
   - In the **Format** list, select the file format of the report. Your choices are Microsoft Excel Workbook (.xls), Web Page (.htm), CSV (Comma Delimited) (.csv), or Portable Document Format (.pdf).
   - In the **File Name** box, specify the location and name of the file to which you want to export the report. You must include the full path to the exported file, for example, C:\filename.

- To specify the formatting options, such as page orientation, headers, and footers, click **Advanced**. For details, see "Specifying the advanced output settings".

7. If you are finished working with this report definition, click **OK**.

7.7.7.2 Specifying the output options for a historical report

When you configure a historical report, you can designate the report to be viewed online, printed, exported to a file, or sent to one or more recipients by e-mail. Regardless of the output mode, completed historical reports are sent to a specified report folder.

NOTE: The option to send a historical report by e-mail is available only if the e-mail reports option is enabled, and you have the **E-mail historical reports** Manager permission. For details on how to enable the e-mail reports option, see Section 7.11.5, “Configuring the e-mail reports option”, on page 131.

The default output settings for reports are specified in the user reporting options. For details, see Section 7.10.1, “Configuring the general user reporting options”, on page 122. However, you can override the default settings when you configure the output options for the report.

To specify the output options for a historical report:

1. In the **Report Center**, under **Definitions**, select the report type, then, in the right pane, double-click the report definition that you want to configure.
2. Click the **Output** tab.
3. Under **Default Output Settings**, in the **Output folder** list, select the report folder where you want to send the completed report. You can choose the default Report Inbox or a custom report folder.
4. In the **Output mode** list, select the default output mode for the report:
   - **View report** – The report is available for online viewing only.
   - **Print report** – The report is sent to a printer.
   - **Export report** – The report is exported to a file.
   - **E-mail report** – The report is attached to an e-mail message and sent to one or more recipients.

5. Under **Output Mode Settings**, in the **Output mode** list, select the output mode for which you want to change the default settings.

6. If you selected **Print report** in step 5, do the following:

   - In the **Printer name** list, select the printer where you want the report to be printed.

   - To specify the formatting options, such as page orientation, headers, and footers, click **Advanced**. For details, see "Specifying the advanced output settings".

7. If you selected **Export report** in step 5, do the following:

   - In the **Format** list, select the file format of the report. Your choices are Microsoft Excel Workbook (.xls), Web Page (.htm), CSV (Comma Delimited) (.csv), or Portable Document Format (.pdf).

   - In the **File Name** box, specify the location and name of the file to which you want to export the report. You must include the full path to the exported file, for example, C:\filename.

   - To specify the formatting options, such as page orientation, headers, and footers, click **Advanced**. For details, see "Specifying the advanced output settings".

8. If you selected **E-mail report** in step 5, do the following:

   - In the **From** box, the application displays the outgoing e-mail address specified in the default output settings. You cannot edit the e-mail address.

   - Specify the e-mail recipients.

     – To select a recipient from an LDAP directory, click **To**, **Cc**, or **Bcc**, and select the recipient in the **Select Recipients** dialog box. For details, see "Selecting the e-mail recipients". To use this feature, a directory must already be configured. For details, see Section 5.5, “Configuring a directory”.

     – In the **To**, **Cc**, or **Bcc** boxes, type the e-mail address of the recipient. To type an e-mail address, you must have the **Type e-mail address into Recipient field when e-mailing reports** Manager permission.

     – To specify more than one recipient in each of the **To**, **Cc**, or **Bcc** boxes, separate each recipient with a semi-colon.

   - In the **Subject** box, type the subject of the e-mail message. By default, the subject is the name of the report.

- In the **Message** box, type the body of the e-mail message in plain text only. By default, the message contains the signature specified in the default output settings.
- In the **Format** list, select the format of the report that is attached to the e-mail message. Your choices are Microsoft Excel Workbook (.xls), Web Page (.htm), CSV (Comma Delimited) (.csv), or Portable Document Format (.pdf).
- In the **File name** box, specify the name of the attached file. The default file name is the name of the report with an extension that corresponds to the selected file format.
- To specify the formatting options of the report, such as page orientation, headers, and footers, click **Advanced**. For details, see "Specifying the advanced output settings".

9. If you are finished working with this report definition, click **OK**.

7.7.7.3 Selecting the e-mail recipients

The Select Recipients dialog box appears when you click one of the recipient buttons (To, Cc, or Bcc) during the configuration of the e-mail report output options (see "Specifying the output options for a report").

Before you begin, the directory that you want to use to select e-mail recipients must already be configured. For details, see "Configuring a directory".

To select the e-mail recipients:

1. Open the **Select Recipients** dialog box.
2. Under **Criteria**, in the **Directory** list, select the name of the directory that you want to search.
3. In the boxes that are displayed (for example, **First name**, **Last name**, **E-mail address**), type the information that you want to search on. You can type all or part of the item. For example, if you type **Jo** for the last name, the system returns all recipients whose last names begin with Jo. You can also use a wildcard (*). For example, if you type **J*n**, the system returns recipients such as John and Jones.
4. Click **Find Now**. The application searches the specified directory.
5. Under **Results**, select the person to whom you want to send the message. If there is no e-mail address associated with the person, you cannot select the person as a recipient.

6. Click the **To**, **Cc**, or **Bcc** button. The person’s e-mail address is inserted into the appropriate box.

   NOTE: If you double-click an entry under **Results**, it will be inserted into the box that currently has focus (To, Cc, or Bcc). If you right-click an entry, you can then select **To**, **Cc**, or **Bcc** from the list. You can also select **Open** from the list to view all the fields specified for the entry.

7. Click **OK**.

7.7.7.4 Specifying the advanced output settings

You can use the **Advanced Output Settings** dialog box to provide the formatting details when reports are printed, exported, or sent by e-mail.

NOTE: Depending on the output format selected, certain options might not be available. For example, when the output format is Web Page (.htm), you cannot specify the page orientation.

To specify the advanced output settings:

1. Open the **Advanced Output Settings** dialog box.
2. Under **Output Options**, do the following:
   - Select the page orientation. Your choices are **Portrait** or **Landscape**.
   - To resize the report so that it fits within the width of the page, select the **Fit to one page wide** check box.

     NOTE: If the output format is Portable Document Format (.pdf) and you select the **Fit to one page wide** check box, all the columns in the report might not fit on one page. If this happens, you can reduce the number of columns in the report, or clear the **Fit to one page wide** check box.

   - To include the name of the report in the header, select the **Include header** check box.
   - To include the date and time the report was printed or exported, who it was printed or exported by, and the page number in the footer, select the **Include footer** check box.

- To show color in the table cells, select the **Show table cell colors** check box.
- To show the lines on the table cells, select the **Show table borders/gridlines** check box. You can use the **Style** list to select where the lines appear in the table.

3. Click **OK**.

7.8 Generating a User Activity Report

When you generate a User Activity Report, the application displays historical, minute-by-minute, state and activity data for a user or group of users during a specified time interval for a specified date range. You can choose to report on an individual user or multiple users who were active during the time interval. If multiple locations are configured, you can choose to run the report based on the time zone of the local site or user location.

NOTE: To generate a User Activity Report, you must have the associated Manager permission.

NOTE: User Activity Reports are available only if your site has a reporting level of Full. For more information, see Section 7.6, “Reporting level”, on page 92.

Each row in the report provides details on an individual state change. The columns in the report are:

- **User** – The user being reported on.
- **Time** – The date and time when the activity or state change occurred.
- **Activity** – The activity or state to which the user changed.
- **Details** – Additional details for the activity or state change.

To generate a User Activity Report:

1. On the **View** menu, point to **Activity Reports**, and then click **User**.
2. Under **Criteria**, in the **Report on** list, select the users to report on. Your choices are: **Individual user** or **Active users in time interval**.

3. In the **Start** box, type or select the start date and time of the interval that you want the report to cover. The time format is based on a 24-hour clock, for example, 4:00 P.M. is entered as 16:00.
4. In the **End** box, type or select the end date and time of the interval that you want to report on.
5. If multiple locations are configured,in the **Use time zone of** list, select the time zone option that you want use to generate the contents of the report. Your choices are **Local site** or **User location**.
6. If you selected **Individual user** in step 2, in the **Name** box, type or select the name of the user who you want to report on.
7. If you selected **Active users in time interval** in step 2, do the following:
   a) Click **Find Now**. The system generates the list of users who were active during the specified time interval.
   b) Under **Users**, select the check box for each user who you want to report on, or click **Select All**. You can select a maximum of 100 users.
8. On the **Actions** menu, click **Run Report**.
9. Click the **Results** tab to view the report results. A complete activity report can display a maximum of 40,000 records. An incomplete activity report (one that reaches 40,000 records before all the users have been processed), can display up to 60,000 records.

7.9 Generating a Source Activity Report

When you generate a Source Activity Report, the application displays historical, minute-by-minute, state and event data for all contacts from a source or list of sources during a specified time interval for a specified date range. You can specify multiple sources or use wildcards to generate a list of sources from which to choose.

NOTE: To generate a Source Activity Report, you must have the associated Manager permission.

Each row in the report provides details on an individual state change. The columns in the report are:

- **Source** – The source being reported on.
- **Time** – The date and time when the event or state change occurred.
- **Event** – The event or state to which the contact changed.
- **Subject** – This typically contains the target of the Event. For example, for a transfer, the Subject will be the user to whom the contact was transferred.
- **Details** – Additional details for the event or state change.

To generate a Source Activity Report:

1. On the **View** menu, point to **Activity Reports**, and then click **Source**.
2. Under **Criteria**, in the **Media type** list, select the media type that you want to report on. Your choices are **Voice** or **E-mail**.
3. In the **Start** box, type or select the start date and time of the interval that you want to report on. The time format is based on a 24-hour clock, for example, 4:00 P.M. is entered as 16:00.
4. In the **End** box, type or select the end date and time of the interval that you want to report on.
5. Depending on the media type you selected, in the resulting box (**Telephone number** or **E-mail address**), type or select the source that you want to report on. To specify multiple sources, separate each source with a comma. The system supports the use of one wildcard per source. You can use a wildcard on its own or to substitute one or more characters at the end of a source, for example:
    - The telephone numbers 123* and * are valid. However, *567, *567*, and 56*7 are not valid.
    - The e-mail addresses sales* and * are valid. However, *sales, *@*, and sales@*.com are not valid.
6. If you specified more than one source, do the following:
    a) Click **Find Now**. The system generates a list of sources that match the criteria that you specified.
    b) Under **Sources**, select the check box for each source that you want to report on, or click **Select All**. You can select a maximum of 100 sources.

7. On the **Actions** menu, click **Run Report**.
8. Click the **Results** tab to view the report results. A complete activity report can display a maximum of 40,000 records. An incomplete activity report (one that reaches 40,000 records before all the sources have been processed), can display up to 60,000 records.

7.10 Configuring the user reporting options

You can configure the default options that affect the reports that are generated by users.

Related topics

- "Configuring the general user reporting options"
- "Configuring the directory options"
- "Configuring the colors in reports"

7.10.1 Configuring the general user reporting options

You can configure the following general user reporting options:

- The notification method that is used to indicate when a historical report completes.
- T he default output settings used when you configure a new report definition, and when you print, export, or send a report by e-mail (if enabled). You can override most of the default output settings in a specific report definition.

NOTE: The **Outgoing e-mail address** and **E-mail signature** boxes are available only if the e-mail reports option is enabled, and you have the **E-mail historical reports** Manager permission. For details on how to enable the e-mail reports option, see Section 7.11.5, “Configuring the e-mail reports option”, on page 131.

To configure the report notification methods:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **User Settings**, click **Reporting**.

3. Under **When a Report Job Completes**, do the following:
   - To play a sound when the report is complete, click the **Play a sound** check box, and then type the name of the .wav file you want to play. You can click  to select the .wav file, and you can click  to play the selected .wav file.
   - To display a system message when the report is complete, select the **Log alarm to System Messages window** check box.
   - To display an icon in the system tray when the report is complete, select the **Show report icon in the system tray** check box.
4. Under **Default Output Settings**, do the following:
   - In the **Output folder** list, select the report folder where you want to send completed reports. You can choose the default Report Inbox or a custom report folder. For details on configuring custom report folders, see "Configuring, renaming, and deleting a custom report folder".
   - In the **Printer name** list, select the printer where reports are printed.
   - In the **File format** list, select the file format for reports that are exported. Your choices are Microsoft Excel Workbook (.xls), Web Page (.htm), CSV (Comma Delimited) (.csv), or Portable Document Format (.pdf).
   - In the **Outgoing e-mail address** box, type the e-mail address that is used as the From address when sending completed historical reports by e-mail. This e-mail address is required if you intend to use the e-mail reports option. You cannot override this e-mail address in a report definition.
   - In the **E-mail signature** box, type the signature that is used when reports are sent by e-mail. The signature is plain text only.
5. Click **OK**.

7.10.2 Configuring the directory options

You must configure the options for each external LDAP directory that you want to be able to access from within the Manager application. A directory is used to select recipients when sending reports by e-mail.

Before you begin, the e-mail reports option must be enabled and the directory for which you want to configure the options must already be configured. For details, see Section 7.11.5, “Configuring the e-mail reports option”, on page 131 and Section 5.5, “Configuring a directory", respectively.

Related topics

- "Configuring the directory connection settings"
- "Configuring the directory query settings"
- "Configuring the directory results settings"
- "Configuring a directory"

7.10.2.1 Configuring the directory connection settings

If an external LDAP directory that you want to access from within the Manager application requires user authentication, you must configure the connection settings for the directory.

To configure the directory connection settings:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **User Settings**, click **Reporting**.
3. Click the **Directory** tab.
4. Under **Directory**, in the **Select a directory to configure** list, select the directory for which you want to configure the connection settings.
5. Under **Connection**, click **Change**.
6. In the **Set Up Connection** dialog box, do the following:
   a) In the **Account name** box, type the user name needed to access the directory.
   b) In the **Password** box, type the password needed to access the directory.
   c) In the **Confirm password** box, retype the password to confirm that you entered it correctly.
   d) Click **OK**.

7.10.2.2 Configuring the directory query settings

When you search a directory, you might need to perform several searches, and refine your search criteria for each new search. You can configure the query fields to save the search criteria that you enter, and use them as the default criteria for the next search.

At least one directory query field must be configured before you can configure the directory query settings. For details, see "Configuring a directory field to be queried".

To configure the directory query settings:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **User Settings**, click **Reporting**.
3. Click the **Directory** tab.
4. Under **Directory**, in the **Select a directory to configure** list, select the directory for which you want to configure the query settings.
5. Under **Query Field Settings**, click **Change**.
6. In the **Change Query Settings** dialog box, select the check box for each field that should save the search criteria you enter, and then click **OK**.

7.10.2.3 Configuring the directory results settings

You can configure how the results of a directory search are displayed, including the fields that are displayed, and the order in which they are displayed.

At least one directory results field must be configured before you can configure the directory results settings. For details, see "Configuring a directory field to be displayed in the search results".

To configure the directory results settings:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **User Settings**, click **Reporting**.
3. Click the **Directory** tab.
4. Under **Directory**, in the **Select a directory to configure** list, select the directory for which you want to configure the results settings.
5. Under **Result Field Settings**, click **Change**.

6. In the **Change Results Settings** dialog box, do the following:

   a) Select the check box for each field that you want to display. The top-to-bottom order of the fields in the list reflects the left-to-right order of the columns as they appear in the search results. You can use the up or down arrows to change the order of the fields in the list.

   b) In the **Sort by** list, select the name of the field to sort on. Only selected fields appear as sort options.

   c) In the **Sort order** list, select a sort order (**Ascending** or **Descending**).

   d) Click **OK**.

7.10.3 Configuring the colors in reports

You can create reports to view and compare routing states, contact states, contact types, and callback origins (if the callback feature is enabled). The application provides a set of default colors in which these items are displayed in the reports. You can change the default colors for the foreground and background of each of these items.

To configure the colors in reports:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **User Settings**, click **Reporting**.
3. Click the **Colors** tab.
4. For the item whose color you want to change, click the cell in either the **Foreground** or **Background** column. The ... button appears in the column. A preview of how the item appears in the report is also displayed at the bottom of the dialog box.
5. Click ... to open the **Color** dialog box.
6. In the **Color** dialog box, select the color you want to use, and then click **OK**.

7.11 Configuring the system reporting options

You can configure the default settings that affect reports in the Manager application. For details, see the following topics:

Related topics

- "Configuring the global queue report intervals"
- "Configuring the first day of the week"
- "Configuring the queue real-time report options"
- "Configuring the workforce management output location"
- "Configuring the e-mail reports option"

NOTE: To configure any of the system reporting options, you must have Full or Modify access for the associated Manager permission.

7.11.1 Configuring the global queue report intervals

The global queue report intervals are used in cumulative and historical queue reports to help you determine exactly when contacts are being enqueued since contacts can be in queue for a while. Cumulative and historical queue reports include breakdowns by interval of the time that customers wait before a contact is answered or abandoned, using the statistics “Answered in Interval” and “Abandoned in Interval”. You can define up to five time intervals so that you can track the number of contacts that are answered by a user or abandoned within the different time intervals.

To configure the global queue report intervals:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Reporting**.

3. Under **Global Queue Intervals**, do the following:
   a) In the **Media** list, select the media type for which you want to configure the queue report intervals, for example, **Voice**.
   b) In the **To** column for Interval 1, double-click the time and type the end time. The start of Interval 2 is updated to reflect the number you just typed.
   c) In the **To** column for each other interval, double-click the time and type the end time. The end time for the last interval is always Forever.
4. Repeat step 3 for each media type you want to configure, and then click **OK**.

7.11.2 Configuring the first day of the week

Historical report definitions that have a range of This Week or Last Week display the Start date based on the configured first day of the week.

During installation, the host computer's Regional Options setting determines the default first day of the week. For example, for the United States, the default is Sunday, and for Germany, the default is Monday. Any time after installation, you can change this setting. The change will take effect in the next weekly rollup period. The change will not affect existing historical data which remains based on the previous setting.

To configure the first day of the week for reporting:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Reporting**.
3. Under **First Day of Week**, in the **Select day** box, select the day of the week that you want to use as the Start date for historical reports that have a range of This Week or Last Week.
4. The application displays a warning to indicate that the change will not affect existing historical data which remain based on the previous setting.

7.11.3 Configuring the queue real-time report options

You can choose the following options, which affect the queue and aggregate statistics that appear in real-time reports and wallboard and Broadcaster views:

- **Include ringing and unanswered contacts** – If you choose this option, contacts that are in Ringing, Pending, and Unanswered state will be included in the Contacts - Queued and Contacts - Overflowed statistics, and the time spent ringing will be included in the Wait Time statistic.
- **Use weighted averages** – By default, the system uses a simple average to calculate current and estimated statistical summaries in queue real-time reports and real-time aggregate statistics. This option allows you to use a weighted average, which takes into account the number of contacts in each queue. For example, suppose you have the following values:

Queue	Contacts-Received(Shift)	Service Level - Shift
Sales	10	90
Support	5	50

In this example, the service level calculated using the simple average is
(90 + 50) / 2 = 70%, and the service level calculated using the weighted average is [(10 * 90) + (5 * 50)] / 15 = 77%.

Weighting is performed using the Contacts - Received (Shift) statistic when calculating shift statistics, and the Contacts - Queued statistic when calculating current and estimated statistics.

NOTE: Even when the **Use weighted averages** option is enabled, if there are no contacts in queue, the system uses the default simple average calculation method.

To configure the queue real-time report options:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Reporting**.

3. Under **Queue Real-Time Report**, do the following, and then click **OK**:

   - To include calls that are in Ringing and Unanswered state, as described above, select the **Include ringing and unanswered contacts** check box.

   - To use a weighted average to calculate summaries in real-time reports and real-time aggregate statistics, as described above, select the **Use weighted averages** check box.

7.11.4 Configuring the workforce management output location

The OpenScape Contact Center system automatically exports statistical and administration data in XML format to the ShareData\XMLOutput folder on the main server machine. You can use this XML data in a third-party workforce management application to simplify the user scheduling and workforce forecasting process. For a description of the XML data that is exported by the system, see the *Workforce Management Integration Guide*.

NOTE: The schema for the XML data is defined in the OSCCSchema.xsd file. For more information, contact your service representative.

You can obtain the XML data in two ways:

1. You can copy the XML data from the ShareData\XMLOutput folder on the main server machine to a workforce management machine or other location. In this case, you must have read access to the ShareData\XMLOutput folder.

2. You can configure the system to write the XML data to a shared network folder (in addition to the ShareData\XMLOutput folder). In this case, you must:

   - Configure the output location (the location of the shared network folder), as described in the following procedure.

   - Ensure that the **hppc** user account on the main server machine has the permission to write the XML data to the configured output location.

To configure the workforce management output location:

1. On the **Tools** menu, click **Options**.

2. In the left pane, under **System Settings**, click **Reporting**.

3. Under **Workforce Management**, in the **Output location** box, type the full path to the folder where you want to write the XML data, in UNC format. You cannot use a mapped network drive. For example:

   `\\WorkforceManagementMachine\XMLOutput\`

4. Click **OK**.

7.11.5 Configuring the e-mail reports option

The e-mail reports feature allows completed historical reports to be distributed as attachments to e-mail messages. You can enable or disable the e-mail reports option for the system.

The reports are distributed using the corporate SMTP server configured in the Options dialog box. For details, see Section 15.3.2, “Configuring the e-mail server settings”, on page 252.

To configure the e-mail reports option:

1. On the **Tools** menu, click **Options**.

2. In the left pane, under **System Settings**, click **Reporting**.

3. To enable historical reports to be distributed by e-mail, under **E-mail Reports**, select the **Enable** check box.

7.12 Click OK.Outputting reports

There are a number of options for outputting your completed reports. These vary according to the report type:

- Real-time and cumulative reports are typically viewed online (see "Viewing real-time and cumulative reports"). If you need a hard or soft copy of an online report, you can print a copy or save it to a file while viewing it online. In these cases, the application uses the printer and file format specified on the Output tab in the report definition. For details, see "Specifying the output options for a real-time or cumulative report".
- Historical reports are typically scheduled to run on a regular basis. You can configure historical reports to be viewed online, printed, exported to a file, or sent as an attachment to an e-mail message, when the report runs. You specify these output options in the report definition. For details, see "Specifying the output options for a historical report". You can also print a historical report on demand. For details, see "Printing the background operations or a historical report on demand".
- Activity reports produce a new results window when generated. They can be viewed online or printed.

You can also specify the default output settings for all reports. For details, see "Configuring the general user reporting options".

7.12.1 Viewing real-time and cumulative reports

Real-time and cumulative reports are viewed online using the Real-time Viewer. You can open individual reports or you can configure a report view to contain several report definitions, and then open the report view in the Real-time Viewer. Each report or report view that you open occupies a tab in the Real-time Viewer. You can click the tabs to switch between the different reports or report views. A maximum of 25 tabs can be open at one time.

NOTE: While you are viewing a report in the Real-time Viewer, you can change the width and order of the columns, but only the width of the columns will be saved. The new columns widths are applied only to the instance of the report that you are currently viewing. If you want to change the order of the columns permanently, you must change the order in the report definition.

You can also print a hard copy of an online report or save it to a file. In these cases, the application uses the printer and file format specified on the Output tab in the report definition. For details, see "Specifying the output options for a real-time or cumulative report".

To open an individual report in the Real-time Viewer:

1. On the **View** menu, select **Real-time Viewer**.
2. In the **Real-time Viewer**, on the **View** menu, select **Report Definitions**.
3. In the Folder list, expand the folder that contains the type of report you want to view, for example, **Users**.
4. Double-click the report you want to view. The report is displayed on a tab in the Real-time Viewer.

To open a report view containing several reports in the Real-time Viewer:

1. In the **Report Center**, under **Output**, click **Report Views**.
2. In the right pane, double-click the report view you want to open. The report view is displayed on a tab in the Real-time Viewer.

Related topics

- "Specifying the output options for a real-time or cumulative report"
- "Configuring a report view"
- "Selecting reports for a report view"
- "Removing a report from a report view"
- "Deleting a report view"

7.12.1.1 Configuring a report view

You can create a report view that is used to display real-time or cumulative reports in the Real-time Viewer. The Real-time Viewer can display one report view at a time. Each report view can display up to four real-time or cumulative reports.

To configure a report view:

1. On the **File** menu, point to **New**, then **Report Center**, then click **Report View**.
2. Under **Report View**, in the **Name** box, type a unique name for the report view.

3. Under **Displayed Reports**, in the **Default Layout** list, select the layout you want to use for the report view. You have 10 different choices depending on the number of reports you want to view. You can view up to four reports at one time. After you select the layout, the application creates a default row for each report in the layout.

4. Click the row for which you want to select a report.

5. Click **Edit**. In the **Select Report** dialog box, do the following:

   a) Under **Displayed Reports**, in the **Report Type** list, select the type of report you want to view.

   NOTE: Select the **Show My Reports Only** check box if you want the resulting list to contain only the reports you own.

   ---

   b) In the resulting list of reports, click the report you want to view.

   c) Click **OK**.

6. Repeat steps 5 and 6 for each row in the report view.

7. If you select a layout that contains more than one report, use the up and down arrows to the right of the list to change the order of the reports in the viewer.

8. Click **OK**.

7.12.1.2 Selecting reports for a report view

Use the Select Report dialog box to select the reports that you want to display in a report view in the Real-time Viewer.

To select a report:

1. Under **Displayed Reports**, in the **Report Type** list, select the type of report you want to view.

   NOTE: Select the **Show My Reports Only** check box if you want the list to contain only the reports you own.

   ---

2. In the list of reports displayed, select the report you want to view.

3. Click **OK**.

7.12.1.3 Removing a report from a report view

You can remove a real-time or cumulative report from a report view. Removing the report from the report view does not delete the report definition.

To remove a report from a report view:

1. In the **Report Center**, under **Output**, click **Report Views**.
2. In the right pane, select the report view you want to edit.
3. On the **File** menu, point to **Selected**, and then click **Open**.
4. Under **Displayed Reports**, select the report in the list you want to delete.
5. Click **Delete**.
6. Click **OK**.

7.12.1.4 Deleting a report view

You can delete a report view, for example, if you want to reorganize your online real-time and cumulative reports. You can delete a report view whether or not it contains reports.

To delete a report view:

1. In the **Report Center**, under **Output**, click **Report Views**.
2. In the right pane, select the report view you want to delete.
3. On the **Edit** menu, click **Delete**.
4. If the confirmation option is selected, click **Yes** when the application asks you to confirm that you want to delete the report view.

7.12.2 Viewing a completed historical report

Completed historical reports are sent to the report folder that you specify in the output options of the report definition.

The Report Inbox is the default report folder, but you can also create custom report folders. If the custom report folder you specify does not exist when the report completes, the report will be placed in the Report Inbox instead. You cannot rename or delete the Report Inbox.

NOTE: To view a historical report, you must have the **Schedule and view historical reports** Manager permission.

NOTE: While you are viewing a historical report, you can change the width and order of the columns, but only the width of the columns will be saved. The new column widths will be applied to all existing historical reports that were generated from the same report definition. If you want to change the order of the columns permanently, you must change the order in the report definition.

To view a completed historical report:

1. In the **Report Center**, under **Output**, click the report folder that contains the completed report you want to view.
2. In the right pane, double-click the report that you want to view.

Related topics

- "Specifying the output options for a historical report"
- "Configuring, renaming, and deleting a custom report folder"
- "Deleting a completed historical report"

7.12.3 Sending a completed historical report by e-mail

You can send a completed historical report as an attachment in an e-mail message.

NOTE: To send a completed historical report by e-mail, you must have the **E-mail historical reports** Manager permission.

The default output settings for reports are specified in the user reporting options. For details, see "Configuring the general user reporting options".

To send a completed historical report by e-mail:

1. In the **Report Center**, under **Output**, click the report folder that contains the completed report that you want to send by e-mail.
2. In the right pane, double-click the report that you want to send by e-mail.
3. On the **File** menu, click **E-mail Report**. The E-mail Report dialog box is displayed.
4. Under **Details**, do the following:
   - In the **From** box, the application displays the outgoing e-mail address specified in the default output settings. You cannot edit the outgoing e-mail address.
   - Specify the e-mail recipients.
     - To select a recipient from an LDAP directory, click **To**, **Cc**, or **Bcc**, and select the recipient in the **Select Recipients** dialog box. For details, see "Selecting the e-mail recipients". To use this feature, a directory must already be configured. For details, see "Configuring a directory".
     - In the **To**, **Cc**, or **Bcc** boxes, type the e-mail address of the recipient. To type an e-mail address, you must have the **Type e-mail address into Recipient field when e-mailing reports** Manager permission.
     - To specify more than one recipient in each of the **To**, **Cc**, or **Bcc** boxes, separate each recipient with a semi-colon.
   - In the **Subject** box, type the subject of the e-mail message. By default, the subject is the name of the report.
   - In the **Message** box, type the body of the e-mail message in plain text only. By default, the message contains the signature specified in the default output settings.
   - In the **Format** list, select the format of the report that is attached to the e-mail message. Your choices are Microsoft Excel Workbook (.xls), Web Page (.htm), CSV (Comma Delimited) (.csv), or Portable Document Format (.pdf).
   - In the **File name** box, specify the name of the attached file. The default file name is the name of the report with an extension that corresponds to the selected file format.
   - To specify the formatting options of the report, such as page orientation, headers, and footers, click **Advanced**. For details, see "Specifying the advanced output settings".
5. Click **OK**.

Related topics

- "Viewing a completed historical report"
- "Previewing a completed historical report"
- "Deleting a completed historical report"

7.12.4 Configuring, renaming, and deleting a custom report folder

You can create a custom report folder for storing completed historical reports. Custom report folders are used in the same way as the default Report Inbox.

You can rename and delete custom report folders. Any report that uses the deleted report folder in its output definition will be placed in the Report Inbox instead. You cannot rename or delete the Report Inbox.

To create a custom report folder:

1. In the **Report Center**, under **Output**, select the **Report Inbox**.
2. On the **Actions** menu, click **New Report Folder**. The application creates a new report folder with the default name **Custom Inbox1**.
3. Edit the name of the report folder, as required.

To rename a custom report folder:

1. In the **Report Center**, under **Output**, select the custom report folder you want to rename.
2. On the **Actions** menu, click **Rename Report Folder**.
3. Edit the name of the report folder, as required.

To delete a custom report folder:

1. In the **Report Center**, under **Output**, select the custom report folder you want to delete.
2. On the **Actions** menu, click **Delete Report Folder**.

7.12.5 Previewing a completed historical report

You can preview a completed historical report by opening a preview pane.

To preview a completed historical report:

1. In the **Report Center**, under **Output**, click the report folder that contains the completed report you want to view.
2. In the right pane, right-click the report you want to preview, and then click **Preview Pane**.

7.12.6 Deleting a completed historical report

Completed historical reports are sent to the report folder that you specify in the output options of the report definition. The Report Inbox is the default report folder, but you can also create custom report folders. Completed reports are kept in the report folder for seven days.

To delete a completed historical report:

1. In the **Report Center**, under **Output**, click **Report Inbox** or the custom report folder than contains the completed report you want to delete.
2. In the right pane, click the report you want to delete.
3. On the **Edit** menu, click **Delete**.

Related topics

- "Specifying the output options for a historical report"
- "Configuring, renaming, and deleting a custom report folder"

7.13 About scheduled, queued, and failed historical reports

The Scheduler folder in the Report Center lets you view the state of all scheduled historical reports. For instructions on scheduling reports, see "Scheduling a historical report".

The Scheduler has three subfolders:

- **Scheduled** – This subfolder contains all reports that have been submitted to the Scheduler. This includes reports that are defined to run regularly or at a specific date and time. See the following topics for details on how to perform the following tasks on scheduled reports:
    - "Holding a scheduled report"
    - "Releasing a held report"
    - "Editing a scheduled report"

- "Canceling a scheduled report"

- **Queued** – This subfolder contains all reports that are currently queued to execute. This includes reports defined with the **More Than Once** or specific date scheduling options that have been submitted to the Scheduler. Unlike the Scheduled folder, the Queued folder can show reports submitted with the **Now** option that are still pending. You can cancel the next execution of a queued report (see "Canceling the next execution of a queued report").

- **Failed** – This subfolder contains scheduled reports that could not complete for unknown reasons. If you are accumulating reports in the **Failed** folder, you should contact your service representative.

7.13.1 Holding a scheduled report

You can temporarily place a scheduled historical report in Held state, so that it no longer runs at the scheduled times. The report will remain in Held state until you release it.

To hold a scheduled report:

1. In the **Report Center**, under **Scheduler**, click **Scheduled**.

2. In the right pane, right-click the report you want to hold and then click **Pause/Resume**. The status of the report changes from **Active** to **Held**.

7.13.2 Releasing a held report

A historical report will remain in Held state until you release it. When you release a report, it will resume running according to the scheduling options specified in the report definition.

To release a held report:

1. In the **Report Center**, under **Scheduler**, click **Scheduled**.

2. In the right pane, reports that are in Held state have the value **Held** in the **Status** field. Right-click the report you want to release and then click **Pause/Resume**. The status of the report changes from **Held** to **Active**.

7.13.3 Editing a scheduled report

When working with historical reports in the Scheduled folder, you can open the report definition to change the properties of the report.

If you change the scheduling options to have the report run now, and then save the report, the report will no longer be considered a scheduled report and will be automatically removed from the **Scheduled** folder.

To edit a scheduled report:

1. In the **Report Center**, under **Scheduler**, click **Scheduled**.
2. In the right pane, right-click the report you want to edit and then click **Open Definition**. The report definition opens.
3. Edit the report properties, as required. For information on the report properties you can edit, see "Configuring a report".

7.13.4 Canceling a scheduled report

If you have a historical report that uses the **More Than Once** scheduling option, or is scheduled to run at a specific date and time, you can cancel that report. This removes the report from the Scheduler. It does not delete the report definition or change the scheduling options in the report definitions.

NOTE: If you do not want to use this report, you should delete the report definition. For details, see "Deleting a report definition".

To cancel a scheduled report:

1. In the **Report Center**, under **Scheduler**, click **Scheduled**.
2. In the right pane, select the scheduled report you want to cancel.
3. On the **Actions** menu, click **Cancel**.

   NOTE: You can use the **Cancel All** button to cancel all reports in the **Scheduled** folder.

4. If you want to resubmit the report later, click the **Submit to Scheduler** button.

7.13.5 Running a scheduled report immediately

If you have a historical report that is scheduled to run regularly or at a specific date and time, you can run the report at any time without changing the report definition's scheduling options.

Running a scheduled report immediately has no effect on the existing schedule. The report will continue to run according to the existing schedule.

To run a scheduled report:

1. In the **Report Center**, under **Scheduler**, click **Scheduled**.
2. In the right pane, select the scheduled report you want to run.
3. On the **Actions** menu, click **Run Now**.

7.13.6 Canceling the next execution of a queued report

The **Queued** subfolder lists the historical reports currently queued to execute. In addition to owner and status information, the entry for each report shows the next time that the report will run. You can cancel the next execution of a scheduled report.

NOTE: A report submitted using the **Now** scheduling option will be displayed briefly in the **Queued** folder.

If the report was submitted with the **One Time** scheduling option, that report will be removed from the list of queued reports. If the report was scheduled with the **More Than Once** scheduling option, the report will not be removed from the list of queued reports, but the Date/Time field will be updated to show the subsequent scheduled date and time that the report is to execute.

NOTE: You can use the **Cancel All** button to cancel the next execution of all reports in the **Scheduled** folder.

To cancel the next execution of a queued report:

1. In the **Report Center**, under **Scheduler**, click **Queued**.
2. In the right pane, click the queued report you want to cancel.

3. On the **Actions** menu, click **Cancel**.

> ***NOTE:*** You can use the **Cancel All** button to cancel all reports in the **Queued** folder.

7.14 Running a historical report

You can run a historical report when required.

> ***NOTE:*** You cannot run reports while OpenScape Contact Center performs data maintenance.

To run a historical report:

1. On the **Actions** menu, click **Run Report**.
2. Under **Select reports to run**, in the **Report Type** list, select the type of report you want to run. The application lists all valid historical reports of the selected type.
3. In the resulting list, click the report you want to run.
4. Click **Run Report**.

7.15 Deleting a report definition

If you are no longer using a report, you can delete the report definition.

> ***NOTE:*** Before deleting a report definition, consider its ownership. If you have permission to monitor other users, and have assigned them ownership of a report you want to delete, you may want to consult those users before deleting the report definition.

If you delete a historical report that has been scheduled, you must also cancel it in the Scheduler. For details, see "Canceling a scheduled report".

To delete a report definition:

1. In the **Report Center**, under **Definitions**, click the type of report you want to delete.
2. In the right pane, select the report definition you want to delete.

3. On the **Edit** menu, click **Delete**.

7.16 Using a contact real-time report

When you are viewing a contact real-time report, you can interact with the active contacts in several ways.

NOTE: The maximum number of contacts that can be displayed and updated in a contact real-time report depends on the real-time refresh interval. The longer the interval, the more contacts that can be displayed and updated in the report. After the maximum number of contacts have been displayed, you can click **Show All** to display a static view of the report (that cannot be updated) containing all the contacts. For details on how to configure the real-time refresh interval, see "Configuring the application options".

Related topics

- "Viewing contact details in a contact real-time report"
- "Reserving a contact in a contact real-time report"
- "Requeuing a contact in a contact real-time report"
- "Removing a contact from a contact real-time report"

7.16.1 Viewing contact details in a contact real-time report

You can view the details of an active contact in a contact real-time report.

To view contact details in a contact real-time report:

1. View a contact real-time report.
2. Select a contact in the list.
3. On the **Actions** menu, click **Contact Details**. The Contact Details window is displayed.

   NOTE: You can view up to three Contact Details windows at one time.

4. Click the **Details** tab to display the details of the contact. The type of information that is displayed depends on the contact type. For details, see "Information on the Details tab". You can modify the **Description** and the **Priority** provided that the contact is not in User Interaction or Post-processing state.
5. Click the **Contact Data** tab to display information associated with the contact. You cannot modify this information.
6. For e-mail messages, click the **Message** tab to display the content of the e-mail message. You cannot modify this information.
7. For e-mail messages, click the **History** tab to display all the e-mail messages in the conversation to which the active e-mail message belongs. Select an e-mail message in the list to display its contents. You cannot modify this information.
8. For callbacks, click the **Schedule** tab to display the existing schedule and a list of attempts for the callback. You can add a new callback attempt or edit an already scheduled attempt.

7.16.1.1 Information on the Details tab

The Details tab in the Contact Details window displays information about the contact. The type of information that can be displayed depends on the contact type, as described in the following table.

Box	Example of information
Contact	
Description	The description of the contact.
Source	Voice – The telephone number of the customer. E-mail – The e-mail address of the customer.
Name	Callbacks – Name of the customer being called back.
Destination	Voice – The telephone number that the customer dialed. Callbacks – The telephone number of the customer, dialed by the system. E-mail – The e-mail address where the customer's message was sent.
From	Voice – The telephone number of the user who transferred the call or initiated the consultation. This field is displayed only when a transfer or consultation has occurred.
Subject	E-mail – The subject of the e-mail message.
Origin	
Queue	The queue associated with the contact.
Priority	The priority of the contact, from 1 (the lowest) to 100 (the highest).

Box	Example of information
Answering user	Voice, e-mail – The name of the user who first responded to the customer. If the contact is transferred or forwarded to another user, the original answering user is maintained. However, if the contact is requeued, the answering user is reset each time the contact is requeued and answered.
Calling user	Callbacks – The name of the user who is handling the callback.
Time	
Target service level	The maximum amount of time that a contact should wait before being answered.
Wait time	The amount of time that the contact has been waiting.
Handling time	The amount of time spent so far handling the contact (amount of time the contact is active).
Callback Creation	
Origin	Callbacks – How the callback was created, for example, the name of the user who created it.
Date	Callbacks – The date and time the callback was created.
Supplemental Information	
Address	The location of any supplemental information (for example, product information, troubleshooting material, or script to use when interacting with a contact).

7.16.2 Reserving a contact in a contact real-time report

In a contact real-time report, you can reserve a contact for a specific user, and also release a reserved contact. A contact that is reserved for a user will be routed to that user ahead of all other contacts regardless of their priority in the queue.

NOTE: To reserve a contact for a specific user, you must have the **Reserve contacts for other users** Manager permission.

To reserve a contact for a specific user:

1. View a contact real-time report.
2. Select a contact in the list that is in **Queued** state.
3. On the **Actions** menu, click **Reserve**.
4. In the **Name** list, select the user for whom you want to reserve the contact.
5. Click **OK**.

To release a reserved contact:

1. View a contact real-time report.
2. Select a contact in the list that is in **Reserved** state.
3. On the **Actions** menu, click **Release**.

7.16.3 Requeuing a contact in a contact real-time report

You can requeue an active contact in a contact real-time report.

NOTE: To requeue a contact, you must have the **Requeue contacts** Manager permission.

To requeue a contact:

1. View a contact real-time report.
2. Select the contact in the list that you want to requeue.
3. On the **Actions** menu, click **Requeue**.
4. In the **Queues** list, select the queue to which you want to requeue the contact.

7.16.4 Removing a contact from a contact real-time report

In a contact real-time report, you can remove active callbacks and e-mail messages.

NOTE: To remove a contact, you must have the **Delete or discard contact** Manager permission.

To delete a callback:

1. View a contact real-time report.
2. Select a contact in the list that is a callback.
3. On the **Actions** menu, click **Delete Callback**.
4. In the **Delete Reason** list, select a reason for deleting the callback.
5. Click **OK**.

To discard an e-mail message:

1. View a contact real-time report.
2. Select a contact in the list that is an e-mail message.
3. On the **Actions** menu, click **Discard E-mail**.
4. In the **Discard Reason** list, select a reason for discarding the e-mail message.
5. Click **OK**.

7.17 Using a user real-time report

When you are viewing a user real-time report, you can interact with the active users and calls in several ways.

NOTE: If there is a small red triangle in the first column of a user's row in the report (whether the first column is Name or User ID), it means that at least one threshold has been reached for the user.

Related topics

- "Changing a user's routing state from a user real-time report"
- "Changing a user's configuration from a user real-time report"
- "Changing a user's silent monitoring queue from a user real-time report"
- "Viewing a request for assistance in a user real-time report"

7.17.1 Changing a user's routing state from a user real-time report

When you are viewing a user real-time report, you can change a user's routing state.

NOTE: To change a user's routing state, you must have the **Change routing states from user real-time reports** Manager permission.

To change a user's routing state from a user real-time report:

1. View a user real-time report.
2. Select the user in the list.
3. On the **Actions** menu, point to **Change Routing State**, and then click the routing state in the list.

7.17.2 Changing a user's configuration from a user real-time report

When you are viewing a user real-time report, you can change a user's configuration.

NOTE: To change a user's configuration from a user real-time report, you must have the **Configure user from user real-time reports** Manager permission and Full or Modify access, respectively, for the **Users** Manager permission. If the enhanced security option is enabled, you must also have the required security access to change the user. For details on the enhanced security option, see Section 15.3.4, "Configuring the enhanced security option", on page 255.

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1. View a user real-time report.
2. Select the user in the list.
3. On the **Actions** menu, click **Configure User**. The User dialog box is displayed with the Contact Handling tab selected.
4. Change the user's configuration as required, and then click **OK**.

7.17.3 Changing a user's silent monitoring queue from a user real-time report

When you are viewing a user real-time report, you can specify or change the queue to which a user's e-mail messages are sent when you are silently monitoring the user.

NOTE: To change a user's silent monitoring queue, you must have the **Change e-mail silent monitoring queue from user real-time reports** Manager permission.

To change a user's silent monitoring queue from a user real-time report:

1. View a user real-time report.
2. Select the user in the list.
3. On the **Actions** menu, click **Change E-mail Silent Monitoring Queue**, and then do one of the following, depending on the original setting of the menu option:
   - If the menu option was not selected, the **Set Silent Monitoring** dialog box is displayed. In the **Queue** list, select the queue that you want to use to silently monitor the user's e-mail messages, and then click **OK**.
   - If the menu option was already selected, the option is turned off. You must select the option again to select a different silent monitoring queue.

7.17.4 Viewing a request for assistance in a user real-time report

When you are viewing a user real-time report, if a user has requested assistance, you will see an Assistance Requested symbol in the first column of the user's row (whether the first column is Name or User ID).

This is the only method by which you can see that a user has requested assistance. If the report contains a large number of users, you might not be able to readily see a user's request. We recommend that you configure the report to contain the Time Since Assistance Requested statistic, which allows you to see the amount of time that has passed since a user requested assistance. Then you can set a threshold with an audible alarm on the statistic, as well as sort the report by the users who have requested assistance. For details, see "Specifying the columns in a report" and "Setting thresholds and alarms in a report".

To view a request for assistance in a user real-time report:

1. View a user real-time report.
2. If a user has requested assistance, you will see the Assistance Requested symbol () in the first column of the user's row.

7.18 Creating a user report

You can create real-time, cumulative, and historical reports on users.

For an overview of the steps required to configure a report, see "Configuring a report".

7.19 Creating a group report

You can create real-time, cumulative, and historical reports on groups.

For an overview of the steps required to configure a report, see "Configuring a report".

7.20 Creating a contact report

You can create real-time and historical reports on contacts. Cumulative reports are not available for contacts.

For an overview of the steps required to configure a report, see "Configuring a report".

7.21 Creating a callback report

You can create real-time, cumulative, and historical reports on callbacks.

For an overview of the steps required to configure a report, see "Configuring a report".

7.22 Creating a queue report

You can create real-time, cumulative, and historical reports on queues.

For an overview of the steps required to configure a report, see "Configuring a report".

NOTE: For queue cumulative reports, you can set the global queue report intervals. For details, see Section 7.11.1, "Configuring the global queue report intervals", on page 127.

NOTE: Queue real-time reports typically contain only contacts that are in Queued state; however, you can configure the application to also include ringing and unanswered contacts. For details, see Section 7.11.3, "Configuring the queue real-time report options", on page 129.

7.23 Creating a destination report

You can create cumulative and historical reports on destinations. Real-time reports are not available for destinations.

For an overview of the steps required to configure a report, see "Configuring a report".

7.24 Creating a workflow report

You can create cumulative and historical reports on configured routing strategy workflows. Real-time reports are not available for workflows.

For an overview of the steps required to configure a report, see "Configuring a report".

7.25 Creating a Call Director component report

You can create cumulative and historical reports on Call Director components. Real-time reports are not available for Call Director components.

For an overview of the steps required to configure a report, see "Configuring a report".

7.26 Creating a Wrap-up reason report

You can create cumulative and historical reports on Wrap-up reasons. Real-time reports are not available for Wrap-up reasons.

For an overview of the steps required to configure a report, see "Configuring a report".

7.27 Creating a routing state reason report

You can create cumulative and historical reports on routing state reasons. Real-time reports are not available for routing state reasons.

For an overview of the steps required to configure a report, see "Configuring a report".

7.28 Creating a Post-processing reason report

You can create cumulative and historical reports on Post-processing reasons. Real-time reports are not available for Post-processing reasons.

For an overview of the steps required to configure a report, see "Configuring a report".

3.

8 Routing

8.1 About group-based routing

Group-based routing is the process of matching a contact to the best group of users eligible to handle the contact.

When OpenScape Contact Center routes a contact to a queue, the primary step in the queue attempts to route the contact to any user in a primary group of users who are most qualified to handle the contact. If the primary group cannot handle the contact within the specified time, then the contact is routed to one or more overflow groups. The overflow mechanism is additive. At each point where a contact overflows to a new group, the new group of users is added to the current pool of available users.

Related topics

- "Configuring a group"
- "Configuring a queue"

8.1.1 Configuring a group

In group-based routing (see Section 8.1, “About group-based routing”, on page 155), contacts are routed to a group where a user in the group can handle the contact. A group can be any collection of users who share expertise or responsibility in some area and who are similarly qualified to handle incoming contacts. A single user can belong to several groups.

After you have configured a group, you can assign it as a step in a queue definition (see Section 10.2.2, “In Agent Portal Web, due to Web browsers security restrictions, the supplemental information feature is limited (for example, files cannot be opened or executed in the local machine when configured in the supplemental information field).Configuring the queue steps”, on page 179).

NOTE: To create or change a group, you must have Full or Modify access, respectively, for the **Groups** Manager permission. If the enhanced security option is enabled, you must also have the required security access to change the group. For details on the enhanced security option, see Section 15.3.4, “Configuring the enhanced security option”, on page 255.

To configure a group:

1. On the **File** menu, point to **New**, then **Administration Center**, and then click **Group**.
2. On the **General** tab, under **Group**, do the following:
   - In the **Name** box, type a unique name for the group.

     NOTE: You cannot change the name of a group after you save the group.

   - In the **Description** box, type a description for the group. The group description should include the common information that determines which users belong in the group.
3. Click the **Users** tab.
4. Under **Include**, select the check box for each user who you want to add to the group. The list contains only the users who have the **Receive contacts routed by OpenScape Contact Center** User permission. All selected users should be able to handle the contacts that are routed to this group.

   NOTE: You can also select the groups a user belongs to when you configure the user's properties. See Section 4.1.3, "Configuring the contact handling settings for a user", on page 30.

5. Click the **Reports** tab.
6. Under **Include**, select the check box for each report that you want to display data about this group. The list contains only the reports you own, or reports that are owned by users you can monitor.

   NOTE: To add many groups to a report, you can open the group report definition, click the **Content** tab, and select all the groups that you want to add to the report.

7. Click the **Security** tab. This tab is available only if the enhanced security option is enabled. For details, see Section 15.3.4, "Configuring the enhanced security option", on page 255.
8. Under **Users**, select the check box for each user who you want to be able to modify this group. The list contains only the users who have Full or Modify access to the **Groups** Manager permission.
9. Click **OK**.

Related topics

- "Adding a user to a group"
- "Removing a user from a group"

8.1.2 Adding a user to a group

You can add a single user or multiple users to a group.

NOTE: To add a user to a group, you must have Modify access for the **Groups** Manager permission. Also, the user who you want to add to the group must have the **Receive contacts routed by OpenScape Contact Center** User permission.

To add a user to a group:

1. In the **Administration Center**, under **General**, click **Groups**.
2. In the right pane, double-click the group to which you want to add users.
3. Click the **Users** tab.
4. Select the users you want to add to the group.
5. Click **OK**.

8.1.3 Removing a user from a group

You can remove a single user of multiple users from a group.

NOTE: To remove users from a group, you must have Modify access for the **Groups** Manager permission.

To remove a user from a group:

1. In the **Administration Center**, under **General**, click **Groups**.
2. In the right pane, double-click the group from which you want to remove users.
3. Click the **Users** tab.
4. Clear the check box beside the names of the users you want to remove from the group.

5. Click **OK**.

8.2 Configuring the routing options

You can configure the default settings that affect how contacts are routed within the OpenScape Contact Center system. For details, see the following topics:

- Section 8.2.1, “Configuring the manual reserve time”, on page 158
- Section 8.2.2, “Configuring the maximum offer time”, on page 159

NOTE: To configure any of the routing options, you must have Full or Modify access for the associated Manager permission.

8.2.1 Configuring the manual reserve time

When a contact is reserved for a user in a contact real-time report, the manual reserve time is the length of time for which the contact can be reserved. If the contact is not assigned to the user within the manual reserve time, the contact is returned to the queue. You set the manual reserve time globally for each media type.

NOTE: The time a contact spends reserved for a user is included in the wait time. Reserved contacts that remain unanswered before proceeding to the queue steps could adversely affect the service level calculation.

To configure the manual reserve time:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Routing**.
3. Under **Manual Reserve Time**, for each media type in the table, double-click the cell in the **Time** column and then type the amount of time that a contact can be reserved for a user.
4. Click **OK**.

Related topics

- "Reserving a contact in a contact real-time report"

8.2.2 Configuring the maximum offer time

You can configure the maximum offer time for each media type. If a contact is not accepted within the specified offer time, it will be returned to the queue (if configured) or designated unanswered.

The maximum offer time depends on the media type:

- **Voice** – The amount of time that a user is given to answer a call.
- **Callback** – The amount of time that the application or a user, if the user has the **Preview callbacks** permission, is given to accept a callback.
- **E-mail** – The amount of time that the application is given to accept an e-mail message. This includes the time required to download the e-mail message from the corporate IMAP server.

NOTE: In a custom application, the user might be given the ability to manually accept a callback or e-mail message. In each of these cases, the maximum offer time is the amount of time that the user is given to manually accept the contact.

NOTE: You can configure the communication platform to use the OpenScape Contact Center Ring No Answer feature, which will requeue any contact that is not answered within the maximum offer time and place the user in Unavailable routing state. To configure the OpenScape Contact Center Ring No Answer feature, see Section 11.4.3, “Configuring the communication platform settings”, on page 198.

To configure the maximum offer time:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Routing**.
3. Under **Maximum Offer Time**, for each media type in the table, double-click the cell in the **Time** column and then type a duration of time. For some media types this time refers to a user's reaction, for others to a reaction of the application.
4. Click **OK**.

9 Working with workflows

The OpenScape Contact Center system uses the following types of workflows:

- Routing strategy workflows – see Section 9.3, "About routing strategy workflows", on page 168
- Queue processing workflows – see Section 9.5, "About queue processing workflows", on page 172.

9.1 About workflow diagrams

A workflow diagram is a visual script similar to a programming flowchart. It defines the sequence of events that is used to route or process contacts in queue. Decisions can be based on existing OpenScape Contact Center information such as contact data, performance statistics, database queries, and schedule information. Information can also be retrieved from an external data source.

NOTE: A slow connection to a data source will affect contact center performance. Ensure that any data sources you connect to will not affect the productivity of your contact center.

A workflow diagram includes components and connection lines between the components to indicate the contact workflow.

- Components are stopping points in the workflow diagram. They can be used to make a decision based on data, update performance statistics, transfer a contact to another location, simply pause, or perform other tasks. For details, see "Configuring components".
- Connection lines are used to indicate the contact workflow between the components. If a decision is required, one line is created for each possible output of the component.

Workflow diagrams are configured using the Design Editor.

9.1.1 Creating a workflow diagram

You must be in the main Manager application window to create a new workflow diagram. When you create a new workflow diagram, you are essentially creating a placeholder for the workflow diagram. You must then open the workflow diagram in the Design Editor to configure it.

OpenScape Contact Center has the following types of workflows:

- Routing strategy workflows – see "About routing strategy workflows".
- Queue processing workflows – see "About queue processing workflows".

9.2 About the Design Editor

The Design Editor is a secondary application window where you configure workflow diagrams. It automatically checks and validates your workflow diagrams as you configure them.

NOTE: You cannot create a new workflow diagram from within the Design Editor; you can open only existing workflow diagrams. If you want to create a new workflow diagram, you must be in the main Manager application window.

To access the Design Editor:

- On the **View** menu, click **Design Editor**. You can use the toolbar in the Design Editor to open an existing component and view or edit the configuration.

Related topics

- "Opening a workflow diagram"
- "Configuring components"
- "Adding a component to a workflow diagram"
- "Connecting components in a workflow diagram"
- "Inserting a comment in a workflow diagram"

9.2.1 Opening a workflow diagram

You can open up to 25 workflow diagrams in the Design Editor at one time. When you have more than one workflow diagram open, you can use the tabs to switch between the different workflow diagrams.

NOTE: You cannot create a new workflow diagram from within the Design Editor; you can open only existing workflow diagrams. If you want to create a new workflow diagram, you must be in the main Manager application window (see "Creating a workflow diagram").

To open a workflow diagram from the main Manager application window:

1. In the **Design Center**, click the tab for the media type you want to open.
2. Under **Designs**, click the type of workflow you want to open.
3. In the right pane, select the workflow diagram you want to open.
4. On the **File** menu, point to **Open**, and then click **Selected**.

To open a workflow diagram from the Design Editor:

1. In the **Design Editor**, on the **File** menu, point to **Open**, and then click **Existing Workflow**. The **Open Workflow** dialog box is displayed.
2. In the **Workflow type** list, select the type of workflow you want to open. The list of workflows is updated with your selection.
3. In the resulting list, select the workflow you want to open.
4. Click **Open**.

9.2.2 Copying a workflow diagram

You can make a copy of an existing workflow diagram and then modify it. It can often be easier to modify a copy of a workflow diagram than to create a new workflow diagram.

To copy a workflow diagram:

1. In the **Design Center**, click the tab for the media type you want to open.
2. Under **Designs**, click the type of workflow you want to open.
3. In the right pane, select the workflow diagram you want to copy.

4. On the **Edit** menu, click **Create Copy**.
5. Configure the information for the new workflow diagram, and then click **OK**.

9.2.3 Viewing the workflow properties

After you have created a workflow diagram, you can view the workflow properties and change them, if required.

To view the workflow properties:

1. In the **Design Center**, click the tab for the media type you want to open.
2. Under **Designs**, click the type of workflow you want to open.
3. In the right pane, right-click the workflow diagram you want to view and select **Workflow Properties** from the list.

9.2.4 Adding a component to a workflow diagram

You can add most types of components to a routing strategy or queue processing workflow diagram. Some component types can be used only in one type of workflow diagram. For example, a Link to Routing Strategy component can be used only in a routing strategy workflow, and a Wait Interval component can be used only in a queue processing workflow. Only the components that can be used in a selected workflow diagram will be displayed in the Design Editor.

NOTE: You can also create component shortcuts that you can drag onto your workflow diagrams. Select the component for which you want to create a shortcut and drag it to **Component Shortcuts**. If **Component Shortcuts** are not displayed, on the **View** menu, select **Component Shortcuts**.

To add a component to a workflow diagram:

1. In the **Design Editor**, under **Components**, expand the folder that contains the type of component you want to add.
2. Select the component and drag it onto the workflow diagram.

9.2.5 Removing a component from a workflow diagram

You can remove a component from a workflow diagram. When you remove a component, the component remains configured in the Design Center where it is available to use in other workflow diagrams.

To remove a component from a workflow diagram:

1. In the **Design Editor**, click the component you want to remove from the workflow.
2. On the **Edit** menu, click **Delete**.
3. Rework the workflow so that it remains complete.

9.2.6 Connecting components in a workflow diagram

When you have configured all the components required for your routing strategy or queue processing workflow, you must connect the components together.

NOTE: This procedure describes how to connect two components in a single workflow diagram. If you want to link a workflow diagram to another workflow diagram, you must use a Link to Routing Strategy component, or a Link to Queue Processing component.

When you connect components, consider the following:

- You cannot connect a component to itself.
- If an incoming or outgoing connection is missing from a component, the component label is displayed in red, italic text.
- If all the connections to a component are complete, the component label is displayed in plain, black text.
- If a connection is not valid, a line will not be drawn between the two components.

NOTE: You cannot create a routing strategy workflow diagram that connects back to itself. A routing strategy workflow diagram must end with a termination component.

To connect two components in a workflow diagram:

1. In the **Design Editor**, select the starting component for the connection.
2. Place your cursor over the center of a component. The center of the component is marked with a solid box.
3. Click the component and drag the mouse pointer to the component to which you want to connect.
4. A connection line is drawn with a label that depends on the type of component.

9.2.6.1 Connection line labels and outputs

A component has a connection line for each one of its outputs. Labels are automatically added to the connection line when you connect two components. The labels depend on the type of component you are connecting.

- If a component is an end point in a workflow, it does not have an output. Examples of components that are end points are Enqueue, Destination Table, and Transfer.
- If a component performs some action, it has only one output. In this case, the connection line does not have a label. Examples of components with one output are Database Function and Contact Data Update.
- If a component makes a decision, it has two outputs: when the condition is met, and when it is not met. The decisions are configured as Yes and No, or True and False. Examples of components with two outputs are Requeue Decision, Performance Decision, and Contact Data Decision.
- Some components have multiple outputs, where the number of outputs depends on the configuration. The connection line labels begin with a default decision, and then indicate the decisions configured. Examples of components with multiple outputs are Schedule and Source/Destination Decision.

9.2.7 Inserting a comment in a workflow diagram

You can insert comments, as required, in your workflow diagrams.

To insert a comment in a workflow diagram:

1. In the **Design Editor**, open the workflow you want to add a comment to. For details, see "Opening a workflow diagram".
2. On the **Insert** menu, click **Comment**.
3. Under **Comment**, type the text you want to place on the workflow diagram. You can type multiple paragraphs, if required.
4. Click **OK**. The comment appears in a box on the workflow diagram.
5. Modify the comment, as required:
    - To move the comment box, click inside the box and drag it to a different location on the workflow diagram.
    - To resize the comment box, drag one of the handle bars on the box. You can resize the box both horizontally and vertically.
    - To edit the text in a comment box, right-click the box, and then select **Open** from the list.

9.2.8 Saving or replacing a workflow diagram

To save or replace a workflow diagram, the workflow must be valid. A valid workflow is a routing strategy or queue processing workflow where all the referenced .wav files are configured and installed on the main server machine.

When you replace a workflow diagram, the application asks if you want to replace the current workflow:

- If you select **Yes**, you will be prompted to save the current workflow before it is replaced.
- If you select **No**, the view pane will split so that you can see both workflows.

NOTE: You can save an incomplete workflow.

9.3 About routing strategy workflows

A routing strategy workflow is a sequence of events that determines the routing of a contact in the contact center. Workflow processing can route a contact based on criteria such as time, the source or destination of the contact, information obtained by database lookup, and performance statistics. Other media-specific criteria, such as information collected from the customer using Call Director or keywords in e-mail messages, can also be used.

Ultimately, a routing strategy workflow must result in one of the following actions:

- Route the contact to a user.
- Route the contact to a queue.
- Disconnect or discard the contact.

You can also configure a routing strategy workflow to link to another routing strategy workflow, if required.

For each media type available in the contact center, OpenScape Contact Center provides a default routing strategy to route contacts to a default queue. You can make a copy of the default routing strategy and use it as the starting point for creating a new routing strategy workflow, or you can create a new one. For details, see "Configuring a routing strategy workflow".

9.4 Configuring a routing strategy workflow

A routing strategy workflow is typically used to route a contact to a queue, but the contact can also be routed to a user or disconnected or discarded. For more information, see Section 9.3, “About routing strategy workflows”, on page 168.

NOTE: To create or change a routing strategy workflow, you must have Full or Modify access, respectively, for the associated Manager permission.

If you are configuring a voice routing strategy workflow, you must configure the .wav files that you want to use before you begin (see Section 12.4.2, “Configuring a .wav file”, on page 204).

NOTE: You cannot create a routing strategy workflow diagram that connects back to itself. A routing strategy workflow diagram must end with a termination component.

To configure a routing strategy workflow:

1. On the **File** menu, point to **New**, then **Design Center**, then select the media type, and then click **Routing Strategy Workflow**.
2. On the **General** tab, under **Workflow**, do the following:
   - In the **Name** box, type a unique name for the routing strategy workflow. The name appears on the tab in the Design Editor when you open the workflow diagram.
   - In the **Description** box, type a description for the routing strategy workflow. The description should include the purpose of the workflow.
3. To configure override settings for the workflow, click the **Override** tab, and then do the following:
   - For a voice routing strategy workflow, configure the Call Director override settings for the workflow, if required. See Section 9.4.1, “Overriding the default Call Director settings”, on page 170.
   - Configure the error queue override settings for the workflow, if required. See Section 9.4.2, “Overriding the default error queue settings”, on page 171.
4. Click the **Reports** tab.
5. Under **Include**, select the reports that you want to display data about this routing strategy workflow. The list only contains the reports you own, or reports that are owned by users you can monitor.
6. Click **OK**. The application saves the new workflow and gives it a status of **Incomplete**.
7. In the right pane, double-click the new workflow. A workflow diagram appears in the **Design Editor** with a **Start** component.
8. Create the components for the routing strategy workflow diagram, as required. See "Configuring components".

9. Add components to the workflow diagram. See "Adding a component to a workflow diagram".
10. Connect the components. See "Connecting components in a workflow diagram".
11. On the **File** menu, click **Save**.

9.4.1 Overriding the default Call Director settings

You configure the default Call Director settings in the Options dialog box (see Section 12.5, “Configuring the Call Director options”, on page 206). When you configure a routing strategy workflow (see Section 9.4, “Configuring a routing strategy workflow”, on page 168) or a queue processing workflow (see Section 9.6, “Configuring a queue processing workflow”, on page 172), you can override the default settings.

Before you begin, the .wav files that you want to use must be configured and installed on the main server machine (see Section 12.4.2, “Configuring a .wav file”, on page 204).

To override the Call Director settings:

1. In the **Voice Routing Strategy** dialog box or **Voice Queue Processing** dialog box, click the **Override** tab.
2. Under **Override Call Director Settings**, do any or all of the following, if required:
   - To override the selected language for spoken messages, select the **Language** check box, then click **Standard** and select the language you want to use from the list. The list contains the languages supported by the voice processor.

     NOTE: The **Custom locale ID** should be used only by your service representative. The use of a language other than one of those provided in the Standard list requires additional firmware for the voice processor.

- To override the .wav file that plays when an error occurs, select the **Error message file name** check box, and then select a different .wav file from the list.

> ***NOTE:*** If you are connected to a production database, you can click ➔ to play the .wav file. You cannot play .wav files when you are connected to a design database.

- To override the .wav file that plays if there is no caller response, select **No response file name** check box, and then select the .wav file from the list.
- To override the .wav file that plays if there is an invalid caller response, select the **Invalid response file name** check box, and then select the .wav file from the list.
- To override the queue that the call is forwarded to when the caller presses the Operator key, select the **Operator queue** check box, and then select a different voice queue from the list.
- To override the .wav file that plays when the caller is transferred to the operator, select the **Operator transfer file name** check box, and then select a different .wav file from the list.

3. If you are finished working with this workflow, click **OK**.

9.4.2 Overriding the default error queue settings

You configure the default error queue settings in the Options dialog box for each media type. When you configure a routing strategy workflow (see Section 9.4, "Configuring a routing strategy workflow", on page 168), you can override the default error queue settings.

To override the error queue settings:

1. In the **Routing Strategy** dialog box, click the **Override** tab.
2. Under **Override Error Queue**, do the following:
   - To override the queue where contacts are placed when an error is encountered in the routing strategy workflow, select the **Error queue** check box, and then select a different queue from the list.
   - To override the default description of the error queue, select the **Error Description** check box, and then type a different error queue description in the box.

3. If you are finished working with this workflow, click **OK**.

Related topics

- "Configuring the voice error queue settings"
- "Configuring the e-mail error queue settings"

9.5 About queue processing workflows

A queue processing workflow determines what happens to a contact while it is waiting in queue. A queue processing workflow dictates:

- For calls, what a caller hears and what actions a caller can take.
- For e-mail messages, what automated actions are applied to the e-mail message, for example, auto-acknowledgments and auto-responses.

A queue processing workflow works in parallel with the system's attempts to route the contact and will affect the routing only if the workflow enqueues the contact to a different queue, transfers, discards, or disconnects the contact. When Call Director is enabled, a queue processing workflow can also be used to play messages for calls.

In general, in a queue processing workflow, you can perform any of the functions that you can use in a routing strategy workflow.

For each media type available in the contact center, OpenScape Contact Center provides a default queue processing workflow. You can make a copy of the default workflow and use it as the starting point for creating a new queue processing workflow, or you can create a new one. For details, see "Configuring a queue processing workflow".

9.6 Configuring a queue processing workflow

A queue processing workflow determines what happens to a contact while it is waiting in queue. For more information, see Section 9.5, "About queue processing workflows", on page 172.

NOTE: To create or change a queue processing workflow, you must have Full or Modify access, respectively, for the associated Manager permission.

If you are configuring a voice queue processing workflow, you must configure the .wav files that you want to use in the workflow before you begin (see Section 12.4.2, “Configuring a .wav file”, on page 204).

You can create a looping queue processing workflow where a particular component is repeated until the contact is handled by a user. Use a Workflow Decision component to set a condition for the repeated components.

To create a queue processing workflow:

1. On the **File** menu, point to **New**, then **Design Center**, then select the media type, and then click **Queue Processing Workflow**.
2. Under **Workflow**, do the following:
   - In the **Name** box, type a unique name for the queue processing workflow. The name appears on the tab in the Design Editor when you open the workflow diagram.
   - In the **Description** box, type a description for the queue processing workflow. The description should include the purpose of the workflow.
3. For a voice queue processing workflow only, click the **Override** tab and configure the Call Director override settings for the workflow, if required. See Section 9.4.1, “Overriding the default Call Director settings”, on page 170.
4. Click **OK**. The application saves the new workflow and gives it a status of **Incomplete**.
5. In the right pane, double-click the new workflow. A workflow diagram appears in the **Design Editor** with a **Start** component.
6. Create the components for the queue processing workflow, as required. See "Configuring components".
7. Add components to the workflow diagram. See "Adding a component to a workflow diagram".
8. Connect the components. See "Connecting components in a workflow diagram".
9. On the **File** menu, click **Save**.

9.7 Activating a workflow

While you can create several workflows for a given media, only one workflow per media can be active at an OpenScape Contact Center site.

The default routing strategy workflow is specified in the Options dialog box. For details, see the following topics:

- Section 11.4.1, “Configuring the default voice routing strategy, queue, and time-out extension”, on page 195
- Section 14.2.1, “Configuring the default e-mail routing strategy, queue, and addresses”, on page 237

The default queue processing workflow is specified in the queue definition. For details, see Section 10.2.1, “Configuring the general queue information”, on page 178.

9.8 Workflow error handling

Many workflow components have an **Exit on error** option. When this option is enabled, workflow processing can continue along the error exit point if an error occurs during execution of the component. Only errors that can potentially be resolved with user intervention, such as component configuration errors, can be handled in this way. In the case of Custom Function components and Database Function components, an Error Decision component can be used with the **Exit on error** option to process errors during the execution of one of these components. For details, see "Creating an Error Decision component".

System errors, such as those generated by the OpenScape Contact Center servers, cannot be handled by the **Exit on error** option. If a recoverable system error occurs, the following default error handling is used:

- For a routing strategy workflow, the default behavior is to stop the workflow and route the contact to the error queue. There is one error queue for each media type. For details, see the following topics:
  - "Configuring the voice error queue settings"
  - "Configuring the e-mail error queue settings"
- For a queue processing workflow, the default behavior is to stop the workflow and leave the contact in the queue.

If the **Exit on error** option is not selected and one of the specified errors occurs, the default error handling will be used.

9.9 Deleting an item from the Design Center

To delete an item from the Design Center, such as a workflow diagram, component or aggregate, you must have Full access permission to the item in the Manager application.

Before you delete an item, consider the following:

- For *routing strategy workflows*, ensure that the routing strategy workflow is not selected as the default routing strategy in the Options dialog box. Also ensure that no Link to Routing Strategy components link to the routing strategy workflow.
- For *queue processing workflows*, ensure that the queue processing workflow is not being used by any queue. If a queue uses the queue processing workflow, the queue's workflow will be changed automatically to None when the workflow is deleted and only the routing strategy workflow will be used to route contacts. Also ensure that no Link to Queue Processing components link to the queue processing workflow.
- For *components*, ensure that you remove the component from all workflows. You can open a component and click the Workflows tab to ensure there are no routing strategy workflows or queue processing workflows listed for the component.
- For *queues*, ensure that the queue is not being referenced by a view item in a wallboard or Broadcaster view. You cannot delete a queue if it is being referenced by a view item.

NOTE: Some system-defined items, such as Retry reasons (for the callback feature) and Discard reasons (for the e-mail feature), cannot be deleted.

To delete an item from the Design Center:

1. In the **Design Center**, click the tab for the media type you want to open.
2. In the Folder List, click the type of item you want to delete (for example, **Queues)**, then, in the right pane, click the specific item you want to delete.
3. On the **Edit** menu, click **Delete**.
4. If the application is set to show confirmations when deleting records, the application prompts you to confirm the deletion. Click **Yes** to delete the item.

10 Working with queues and aggregates

10.1 About queues

A queue is a logical holding area for contacts waiting to be routed to a specific user. While a contact is in queue, OpenScape Contact Center executes a number of steps to try to match the contact to a specific user. For details, see Section 8.1, "About group-based routing", on page 155.

10.2 Configuring a queue

You can configure a queue for each media type available in your contact center.

NOTE: To create or change a queue, you must have Full or Modify access, respectively, for the associated Manager permission.

Overview

The following is an overview of the steps required to configure all the properties in a queue:

1. Configure the general queue information – see Section 10.2.1, "Configuring the general queue information", on page 178.
2. Configure the queue steps – see Section 10.2.2, "In Agent Portal Web, due to Web browsers security restrictions, the supplemental information feature is limited (for example, files cannot be opened or executed in the local machine when configured in the supplemental information field).Configuring the queue steps", on page 179.
3. Configure the queue overrides – see Section 10.2.3, "Configuring the queue overrides", on page 181.
4. Select the queue Wrap-up reasons – see Section 10.2.4, "Selecting the queue Wrap-up reasons", on page 182.
5. Select the queue aggregates – see Section 10.2.5, "Selecting the queue aggregates", on page 183.
6. Select the queue reports – see Section 10.2.6, "Selecting the queue reports", on page 183.

10.2.1 Configuring the general queue information

You can specify general information about the queue such as the name, description, and queue processing workflow to be used. You must complete this step when configuring a new queue.

For an overview of the steps required to configure all the properties in a queue, see "Configuring a queue".

To configure the general voice queue information:

1. On the **File** menu, point to **New**, then **Design Center**, then select the required media type, and then click **Queue**.
2. On the **General** tab, under **Queue**, do the following:
   - In the **Name** box, type a unique name for the queue.
   - In the **Description** box, type a description for the queue. The description should indicate the type of contacts for which this queue should be used.
3. For all queues except callback queues, under **Queue Processing**, in the **Workflow** list, select a queue processing workflow (see Section 9.5, “About queue processing workflows”, on page 172). If you do not select a queue processing workflow, only the routing strategy workflow will be used to route contacts. You can select the default queue processing workflow, or you can create a queue processing workflow and assign it to this queue.
4. Under **Supplemental Information**, in the **Address** box, type the location of the document that you want to be displayed on the user's machine when the contact is directed from the queue to the user. You can click to locate the document. For more information on this feature, see the *Manager Administration Guide*.
5. For a voice queue, you can have the system create a callback when a call is abandoned (available only if the contact center is licensed for callbacks). Under **Callback Creation**, select the **Create callback on call abandon** check box and then select the callback queue from the **Queue** list.

NOTE: If the **Create callback on call abandon** option is enabled for a queue and a call in the associated queue is abandoned by a caller, the system checks the callback schedule to verify that a callback can be handled within the next 24 hours. If a callback is created, it remains active for 24 hours after the call was abandoned and is then deleted by the system.

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6. If you are finished working with this queue definition, click **OK**.

10.2.2 In Agent Portal Web, due to Web browsers security restrictions, the supplemental information feature is limited (for example, files cannot be opened or executed in the local machine when configured in the supplemental information field).Configuring the queue steps

Queues define the steps that a contact moves through. You can configure steps for one primary group and a maximum of 10 overflow groups. The primary group is defined as the first group of users to which the incoming contact is queued. It should be the group of users who are most familiar with the requirements of the contact. An overflow group is an additional group to which the contact is also assigned when the previous step time expires. By adding overflow groups to the queue, more users become eligible to handle the contact as it waits in queue.

You can add each group only once to a queue. For more information on groups, see Section 8.1, “About group-based routing”, on page 155.

For an overview of the steps required to configure all the properties in a queue, see "Configuring a queue".

To configure the queue steps:

1. In the **Design Center**, click the tab for the media type you want to open.
2. Under **Resources**, click **Queues**, then, in the right pane, double-click the queue you want to configure.
3. Click the **Steps** tab.
4. Under **Sequence**, do the following:
   a) In the **Primary** row under **Group**, click the cell and select a primary group from the list. When you select a primary group, a new overflow row is added to the table.
   b) In the **Primary** row under **Step Time**, double-click the cell and type a time for the contact to wait in queue for a user in the primary group to handle the contact.
   c) In the **Overflow** row under **Group**, click the cell and select an overflow group name from the list. When you select an overflow group, a new overflow row is added to the table.

d) In the first **Overflow** row under **Step Time**, double-click the cell and type a time for the contact to wait in queue while assigned to this step.

e) Repeat steps (c) and (d) for each overflow group you want to create. You can configure a maximum of 10 overflow groups.

NOTE: For voice queues, if there are no logged-on users in the current step, the step will be skipped and queue step execution will proceed to the next step that has logged-on users. Since the overflow mechanism is additive, the pool of users in the current step includes all the users from the overflow group specified in the current step, plus all the users from the groups specified in the previous steps. For callback and e-mail queues, contacts always wait for the specified step time, even when no eligible users are logged on.

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5. Under **In last step**, select how the queue handles the last step:

   - To allow the contact to time out, select **Wait for the specified step time**.
   - To have the contact continue waiting, select **Wait forever** (this is the default). In this case, you can select the **Time out when no eligible user is logged on** check box to select that limitation.

IMPORTANT: For voice queues, if a contact arrives at the last step in a queue with no time-out defined and no eligible users logged on, the contact will remain at the last step indefinitely. For callback and e-mail queues, if you allow the contact to time out, the system will delete the contact when it exceeds the specified time for the last step.

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6. For a voice queue, if you selected **Wait for specified step time** in step 4 above, you must specify the time-out extension:

   - To select the default time-out extension, select **Global time-out extension**. For more information, see Section 11.4.1, “Configuring the default voice routing strategy, queue, and time-out extension”, on page 195.
   - To specify a time-out extension, select **Extension** and then type the extension number. You can click ... to help you enter the extension. For details, see "Entering a telephone number".

7. If you are finished working with this queue definition, click **OK**.

10.2.3 Configuring the queue overrides

You can configure a queue to override certain default settings, if required. You can:

- Override the default service level interval. For details on the default service level interval, see Section 15.7.1, “Configuring the service level interval”, on page 268.
- For an e-mail queue, override the default e-mail message settings. For details on the default e-mail message settings, see Section 14.2.4, “Configuring the e-mail message settings”, on page 240.
- For a callback queue, configure the maximum number of times that a callback associated with this queue can be retried.

For an overview of the steps required to configure all the properties in a queue, see "Configuring a queue".

To configure the queue overrides:

1. In the **Design Center**, click the tab for the media type you want to open.
2. Under **Resources**, click **Queues**, then, in the right pane, double-click the queue you want to configure.
3. Click the **Override** tab.
4. For any type of queue, you can override the default service level interval. Under **Override System Settings**, select the **Service level interval** check box, and then type or select the service level interval for this queue.
5. For an e-mail queue, you can override the default message settings. Under **Override System Settings**, do the following:
   - Select the **Prolog template** check box, and then select the Prolog template that you want to use for this queue from the list.
   - Select the **Signature template** check box, and then select the Signature template that you want to use for this queue from the list.
   - Select the **Original message label** check box, and then type the text that you want to appear above the original e-mail message when the user replies to an e-mail message, for example, **Original Message:**.

- Select the **Conversation ID label** check box, and then type the text that you want to appear in front of the Conversation ID when the user replies to an e-mail message. The Conversation ID is an identifier inserted by the OpenScape Contact Center E-mail Server to identify the message thread.
- Select the **Reply prefix** check box, and then type the text that you want to appear at the beginning of the Subject line when the user replies to an e-mail, for example, **Re:**.

6. For a callback queue, under **Retry**, in the **Maximum number of retries** box, type or select the maximum number of times that the system can reschedule a callback associated with this queue.
7. If you are finished working with this queue definition, click **OK**.

10.2.4 Selecting the queue Wrap-up reasons

The Manager application allows you to associate Wrap-up reasons with a queue.

For an overview of the steps required to configure all the properties in a queue, see "Configuring a queue".

To configure the **Wrap-up reasons** for the queue:

1. In the **Design Center**, click the tab for the media type that you want to open.
2. Under **Resources**, click **Queues**, then, in the right pane, double-click the queue that you want to configure.
3. Click the **Wrap-up reasons** tab.
4. Under **Wrap-up reasons**, select the check box for each Wrap-up reason that you want to associate with this queue. For more information, see Section 5.2.5, “Configuring a Wrap-up reason”, on page 60.
5. If you are finished working with this queue definition, click **OK**.

10.2.5 Selecting the queue aggregates

You can select the aggregates to which a queue belongs. For more information on aggregates, see Section 10.3, “About aggregates”, on page 184.

NOTE: You must create an aggregate before you can select it in a queue (see Section 10.4, “Configuring an aggregate”, on page 185).

For an overview of the steps required to configure all the properties in a queue, see "Configuring a queue".

To select the queue aggregates:

1. In the **Design Center**, click the tab for the media type you want to open.
2. Under **Resources**, click **Queues**, then, in the right pane, double-click the queue you want to edit.
3. Click the **Aggregates** tab.
4. Under **Content**, select the check box for each aggregate in which to include this queue.
5. If you are finished working with this queue definition, click **OK**.

10.2.6 Selecting the queue reports

You can select the reports that will display information about the queue that you are configuring.

You can also configure the queue to override the global queue report intervals, if required. For details on the global queue report intervals, see Section 7.11.1, “Configuring the global queue report intervals”, on page 127.

For an overview of the steps required to configure all the properties in a queue, see "Configuring a queue".

To select the queue reports:

1. In the **Design Center**, click the tab for the media type you want to open.
2. Under **Resources**, click **Queues**, then, in the right pane, double-click the queue you want to edit.
3. Click the **Reports** tab.

4. Under **Include this queue in these reports**, select the check box for each report that you want to display data about this queue. The list contains only the reports you own, or reports that are owned by users you can monitor.
5. To override the global queue report intervals, under **Interval**, select the **Override system settings** check box, and then do the following:
   - In the **To** column for **Interval 1**, double-click the time and type the end time. The start of Interval 2 is updated to reflect the number you just typed.
   - In the **To** column for each other interval, double-click the time and type the end time. The end time for the last interval is always **Forever**.
6. If you are finished working with this queue definition, click **OK**.

10.3 About aggregates

An aggregate is a logical grouping of queues used for reporting purposes. Supervisors can view state information on aggregates in real-time reports or statistical summaries for aggregates in historical reports.

For example, you might be using the following queues:

- Mutual Funds-English
- Mutual Funds-German
- Stocks-English
- Stocks-German
- Bonds-English
- Bonds-German

If you were interested in viewing the performance of all experts in the area of Mutual Funds, you could group the Mutual Funds-English and Mutual Funds-German into a single Mutual Funds aggregate, and generate reports on that aggregate. Likewise, you could group the three English skill queues and group the three German queues to compare and contrast the handling for contacts with the respective language contact requirement.

For information on how to create an aggregate, see "Configuring an aggregate".

10.4 Configuring an aggregate

You can use aggregates to monitor similarly routed contacts, even if different queues are used. For more information, see Section 10.3, "About aggregates", on page 184.

NOTE: To create or change an aggregate, you must have Full or Modify access, respectively, for the associated Manager permission.

To configure an aggregate:

1. On the **File** menu, point to **New**, then **Design Center**, then select the media type, and then click **Aggregate**.
2. On the **General** tab, under **Aggregate**, do the following:
   - In the **Name** box, type a unique name for the aggregate.
   - In the **Description** box, type a description for the aggregate.
3. Click the **Queues** tab.
4. Under **Include**, select the check box for each queue that you want to include in the aggregate.
5. Click the **Reports** tab.
6. Under **Include this aggregate in these reports**, select the check box for each report that you want to display data about this aggregate. The list contains only the reports you own, or reports that are owned by users you can monitor.
7. Click **OK**.

11 Working with voice resources

11.1 Supported communication platforms

OpenScape Contact Center supports the following communication platforms:

- OpenScape Business V1

In working with a communication platform to manage contacts, the system's key responsibilities are calculating and delivering call routing directives, collecting statistics, and managing user interaction and component interaction with the communication platform. The platform is still responsible for initial call processing, fundamental operations such as transfers and holds, and other basic voice tasks.

You configure the communication platform settings in the Options dialog box. For details, see Section 11.4.3, "Configuring the communication platform settings", on page 198.

11.2 Communication platform resources

To route telephone calls and gather statistics, OpenScape Contact Center monitors a set of key resources on the communication platform. Using the Manager application, you must configure a matching definition within OpenScape Contact Center for each resource on the communication platform.

The following resources are configured in OpenScape Contact Center for the OpenScape Business communication platform:

- User IDs
- Extensions
- UCD Groups
- Requeue Targets

The user IDs, extensions, and UCD groups can be synchronized with the communication platform to share configuration information. For more information, see Section 11.3, "About Config Sync", on page 188.

11.3 About Config Sync

The Config Sync (configuration synchronization) feature monitors key contact center communication platform resources and synchronizes the OpenScape Contact Center definitions with the definitions on the communication platform. When a configuration change is detected, Config Sync immediately provides the OpenScape Contact Center system with the details of the change, thus reducing configuration errors, manual entry, and duplicate administration. For a list of communication platform resources that can be monitored, see Section 11.2, “Communication platform resources”, on page 187.

Config Sync monitors and synchronizes communication platform resources only within specified resource domain ranges (see "Configuring a Config Sync resource domain range"). This allows you to set up the Config Sync feature to focus on dedicated contact center resources, such as an agent's extension, and ignore nonessential resources, such as the extension at the reception desk. For example, in a small contact center, you might set up Config Sync to monitor extensions in the range 121 through 140. When a new extension in that range is created on the communication platform, an equivalent extension definition is created in OpenScape Contact Center.

Synchronization is driven by the OpenScape Contact Center Config Sync Server. When the Config Sync Server starts or when you explicitly synchronize resources, the Config Sync Server synchronizes the OpenScape Contact Center definitions with those on the communication platform. For details on how to enable the Config Sync feature, see Section 11.4.4, “Configuring the Config Sync settings”, on page 199.

Config Sync treats changes to user IDs and other resources differently. For details, see Section 11.3.1, “Config Sync treatment of user IDs”, on page 189, and Section 11.3.2, “Config Sync treatment of other resources”, on page 190.

11.3.1 Config Sync treatment of user IDs

The following table lists the actions taken when the Config Sync Server detects changes to user IDs that fall within a defined Config Sync domain range (see "Configuring a Config Sync resource domain range").

Config Sync Server detects...	Action taken...
A user was added to the communication platform that does not exist in OpenScape Contact Center	Config Sync creates a new basic definition for the user in OpenScape Contact Center (user ID, user name, and backup group) and sets the resource state to **Incomplete**. For details on completing the definitions, see Section 11.3.1.1, "Completing a user definition created by Config Sync", on page 190.
A user was added to OpenScape Contact Center that does not exist on the communication platform	Config Sync sets the OpenScape Contact Center definition state to **Communication Platform Synchronization Error**.
A user was deleted from the communication platform but still exists in OpenScape Contact Center	If the user has permission to handle calls only, Config Sync sets the OpenScape Contact Center definition state to **Inactive**. If the user has permission to log on to other media, then voice is disabled for the user.
A user was deleted from OpenScape Contact Center but still exists on the communication platform	Config Sync sets the OpenScape Contact Center definition state to **OpenScape Contact Center Synchronization Error**.

Table 2 Config Sync actions on changes to user IDs

Related topics

- "About Config Sync"
- "Configuring a user"

11.3.1.1 Completing a user definition created by Config Sync

When the Config Sync Server detects a new user definition on the communication platform, with an ID that falls within one of the defined Config Sync domain ranges (see "Configuring a Config Sync resource domain range"), it creates a minimal user definition in OpenScape Contact Center. The user definition consists of the following:

- User ID
- User name
- Backup group

Before a user can become fully functional, you must complete the properties in the user definition. One way to check for incomplete user definitions is to check the Administration Center for users in **Incomplete** state. This is often an indication that the user definition has been recently created.

To complete a user definition created by Config Sync:

1. In the **Administration Center**, under **General**, click **Users**, then, in the right pane, double-click the user you want to complete.
2. Complete the remaining user properties, as required (see Section 4.1, “Configuring a user”, on page 25).

11.3.2 Config Sync treatment of other resources

The following table lists the actions taken when the Config Sync Server detects changes to resources other than user IDs (such as extensions and requeue targets) whose identifiers fall within a defined Config Sync domain range (see "Configuring a Config Sync resource domain range").

Config Sync Server detects...	Action taken...
A resource was added to the communication platform that does not exist in OpenScape Contact Center	Config Sync creates a new OpenScape Contact Center definition for the resource, gives it the name of the domain range, and sets the resource state to **Active**.
A resource was added to OpenScape Contact Center that does not exist on the communication platform	Config Sync sets the OpenScape Contact Center definition state to **Communication Platform Synchronization Error**.

Table 3 Config Sync actions on changes to other resources

Config Sync Server detects...	Action taken...
A resource was deleted from the communication platform but still existsinOpenScapeContactCenter	Config Sync deletes the OpenScape Contact Center definition of the resource.
A resource was deleted from OpenScape Contact Center but still exists on the communication platform	Config Sync sets the OpenScape Contact Center definition state to **OpenScape Contact Center Synchronization Error**.

Table 3 Config Sync actions on changes to other resources

11.3.3 Viewing a Config Sync error log report

A Config Sync error reflects the synchronization status of that resource's configuration information in OpenScape Contact Center, as compared to the resource's configuration information on the communication platform.

To view a Config Sync error log report:

1. On the **View** menu, point to **Logs**, and then click **Config Sync Error Log**.
2. In the left pane, click the resource for which you want to view the errors.
3. View the errors on the right pane of the **Error Log** window:
   - **Resource Number** – The OpenScape Contact Center resource number you configured.
   - **Resource Type** – The OpenScape Contact Center resource type.
   - **Date** – The date and time when the Config Sync error was found.
   - **Error Category** – The type of error that was discovered at synchronization time.
   - **Error Description** – A description of the error.

   NOTE: If the **Users** folder is selected on the left side, the columns are **User ID**, **Date**, **Error Category**, and **Error Description**. The User ID displays the User ID numbers.

4. Click **OK** to close the **Error Log** window.

Related topics

- "Config Sync error categories"
- "Config Sync resource states"
- "Tips for correcting a Config Sync error"

11.3.4 Config Sync error categories

The following error categories are displayed in the Config Sync error log:

- **Communication Platform Synchronization error** – there is a problem with updating the resource on the communication platform.
- **OpenScape Contact Center Synchronization error** – there is a problem with updating the resource in OpenScape Contact Center.
- **Configuration error** – there is an error in the configuration of a resource in OpenScape Contact Center or the communication platform.

Related topics

- "Viewing a Config Sync error log report"
- "Config Sync resource states"
- "Tips for correcting a Config Sync error"

11.3.5 Config Sync resource states

The Config Sync Server maintains Config Sync states for each resource within OpenScape Contact Center that is being synchronized with the communication platform. You can view the Config Sync error log to review any problems in the synchronization process (see "Viewing a Config Sync error log report").

NOTE: The Config Sync Server must be configured and running to see the resource states.

The following states are used to indicate the status of the resources that are supported for Config Sync:

- **Active** – The resource is configured on the communication platform and in OpenScape Contact Center.

- **Outside of domain** – The resource is not in the range configured for the Configuration Synchronization feature. No action is necessary as this indicates a resource that has been defined as being outside the monitored Config Sync domain range.
- **Communication Platform synchronization error** – The resource is configured in OpenScape Contact Center but not on the communication platform.
- **OpenScape Contact Center synchronization error** – The resource is configured on the communication platform but not in OpenScape Contact Center.
- **Unknown** – The status of the resource is unknown because the Config Sync Server is not available. In a production environment, this can mean that the Config Sync Server is not running. Resources will also show this state when you are working with a design database.
- **Incomplete** – The status of the resource is incomplete. This applies to users to indicate that the user is not assigned to a group and therefore cannot receive OpenScape Contact Center routed calls. It can also apply to Call Director Announcement extensions to indicate that the extension has been configured without a Device ID.

In addition to the states listed above, the following states apply to users only:

- **Configuration error** – The user is configured in OpenScape Contact Center and on the communication platform but a setting for the user, such as the backup routing group, does not match.
- **Inactive** – The user is configured in OpenScape Contact Center but not on the communication platform. Since Config Sync will not delete an OpenScape Contact Center user definition, this state follows deletion of the user definition from the communication platform. You can delete the OpenScape Contact Center user definition or, if the user is not to be deleted, you can move the associated user ID outside the monitored Config Sync domain range.

11.3.6 Tips for correcting a Config Sync error

Synchronization errors can occur on the communication platform or in OpenScape Contact Center.

Communication Platform Synchronization

A communication platform synchronization error indicates a problem with updating the resource on the communication platform.

Check the configuration on your communication platform. See your platform documentation for more information.

OpenScape Contact Center Synchronization

An OpenScape Contact Center synchronization error indicates a problem with updating the communication platform resource in OpenScape Contact Center.

To correct the communication platform resource configuration in OpenScape Contact Center, you can do one of the following:

- Configure the required communication platform resource in OpenScape Contact Center, if it does not already exist.
- Delete the communication platform resource from OpenScape Contact Center.
- Check the Config Sync domain range for all resources.

Related topics

- "Viewing a Config Sync error log report"
- "Config Sync error categories"
- "Config Sync resource states"

11.4 Configuring the voice options

Use the voice options to configure the default settings for the voice feature. For details, see the following topics:

- Section 11.4.1, “Configuring the default voice routing strategy, queue, and time-out extension”, on page 195
- Section 11.4.2, “Configuring the voice error queue settings”, on page 197
- Section 11.4.3, “Configuring the communication platform settings”, on page 198
- Section 11.4.4, “Configuring the Config Sync settings”, on page 199

NOTE: To configure any of the voice options, you must have Full or Modify access for the associated Manager permission.

11.4.1 Configuring the default voice routing strategy, queue, and time-out extension

You must specify the following defaults for the voice feature:

- **Default routing strategy workflow** – The routing strategy workflow that is initially used to route all calls in the contact center. You can configure the default routing strategy workflow to link to other routing strategy workflows, if required.
- **Default queue** – The queue that you want to use as the default option for the no match found (*) entry in a Destination Table component.
- **Time-out extension** – The extension to which a call will be routed provided that a time-out is specified when you configure a queue. In general, the time-out extension should be used to move the call outside the OpenScape Contact Center system. The time-out extension should *not* be configured to reference a CDL call number for a UCD group.

Before configuring these settings, be sure to create the routing strategy workflow (see Section 9.4, “Configuring a routing strategy workflow”, on page 168) and the queue (see Section 10.2, “Configuring a queue”, on page 177) that you want to use as the default.

To configure the default voice routing strategy and queue:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Voice**.
3. On the **General** tab, under **Default**, do the following:
   - In the **Routing strategy** list, select the voice routing strategy you want to use to initially route all calls.
   - In the **Queue** list, select the voice queue that you want to use as the default option for the no match found (*) entry in a Destination Table component.
   - In the **Time-out extension** box, type the extension that you want to use as the default time-out extension. The time-out extension is the extension to which a call will be routed provided that a time-out is specified when you configure a queue. You can click ... to help you enter the extension. For details, see "Entering a telephone number".
4. Click **OK**.

11.4.1.1 Entering a telephone number

The Enter Number dialog box can be used to simplify entering telephone numbers. Telephone numbers can be entered in dialable format or canonical format, where canonical format is defined as:

[+] [CountryCode] Space [(AreaCode) Space] SubscriberNumber

The system translates canonical format numbers into dialable numbers using the dialing rules configured in Windows on the server machine. You must type a plus sign (+) or an opening parenthesis at the beginning of the telephone number for the system to recognize the number as being in canonical format. For example, the system recognizes the following formats as correct telephone numbers:

+1 (555) 555-0199

(555) 555-0199

5555550199

You can access the Enter Number dialog box from several locations in the application, for example, in the Options dialog box where you enter the time-out extension.

To enter a telephone number:

1. Click . The **Enter Number** dialog box is displayed. The **To** box displays the numbers you specify.
2. In the **Country code** box, type the country code for the telephone number. The country code is preceded by a plus sign (+) in the To box.
3. In the **Area code** box, type the area code for the telephone number. The area code is enclosed in brackets in the **To** box.
4. In the **Number** box, type the local telephone number.
5. Click **OK**.

11.4.2 Configuring the voice error queue settings

The error queue is the queue to which calls are routed in the case of recoverable system errors. Recoverable system errors are errors generated by the OpenScape Contact Center servers that cannot be handled by the **Exit on error** option provided in some of the workflow components. If the system detects a recoverable system error in a routing strategy workflow, the call is routed to the error queue where it can then be routed to an appropriate user.

In the case of a critical error, such as a system outage while the call is being handled on a voice processor extension, the system will transfer the call to the error transfer number. The error transfer number does not serve the same purpose as the time-out extension associated with a queue. The error transfer number should be a CDL call number for an OpenScape Contact Center UCD group.

NOTE: If a system outage occurs where the system can no longer process the call, the communication platform can then invoke backup routing.

To configure the voice error queue:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Voice**.
3. On the **General** tab, under **Error**, do the following:
   - In the **Queue** list, select the queue to which contacts are directed in the case of recoverable errors.
   - In the **Description** box, type a description for the error queue.
   - In the **Transfer number** list, select the number to which contacts are directed in the case of critical errors.
4. Click **OK**.

11.4.3 Configuring the communication platform settings

When you installed the OpenScape Contact Center software, you selected the communication platform to which the system is connected.

IMPORTANT: Changing the communication platform type after initial system setup can adversely affect the operation of the system. Contact your service representative if you plan to change your communication platform. You might not have the necessary software on the server machine to work with a different communication platform. In most cases, you should change the communication platform type only when you are connected to a design database for configuration purposes. When you are connected to the production database, changing the communication platform type will require that you restart the OpenScape Contact Center service on the main server machine.

You can configure the settings for the selected communication platform, including:

- The setting of the OpenScape Contact Center Ring No Answer feature. For more information on this feature, see "Ring No Answer feature".
- The CSTA server settings for the communication platform interface module.

To configure an OpenScape Business:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Voice**.
3. Click the **Communication Platform** tab.
4. To enable the OpenScape Contact Center Ring No Answer feature, select the **Enable Ring No Answer** check box. For more information on this feature, see "Ring No Answer feature".
5. Under **CSTA Server Settings**, do the following:
   - In the **Host name** box, type the host name of the server machine where the CSTA server resides.
   - In the **Port number** box, type the port number of the CSTA server.
6. Click **OK**.

11.4.3.1 Ring No Answer feature

The OpenScape Contact Center Ring No Answer feature behaves somewhat differently than the Ring No Answer feature on the communication platform.

When you enable the OpenScape Contact Center Ring No Answer feature, if a call reaches the maximum offer time before it is answered by the assigned user, the system requeues the call and places the user in Unavailable routing state so that no other calls can be routed to that user. The call does not lose its position in queue or any of its routing properties, such as priority. The call is routed to another available user who can handle the call and continues until the call is answered or times out. Since users who were previously assigned to the call are in Unavailable routing state, the call will not be routed to these users again.

11.4.4 Configuring the Config Sync settings

You can enable the Config Sync feature (see Section 11.3, “About Config Sync”, on page 188) and configure various settings related to the feature, such as when synchronization occurs.

When synchronization is complete, you can view the Config Sync error log to review any problems in the synchronization process (see "Viewing a Config Sync error log report".

To configure the Config Sync settings:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Voice**.
3. Click the **Config Sync** tab.
4. To enable the synchronization settings, under **Config Sync**, select the **Enable** check box.
5. Under **Communication Platform Access**, configure the following items that enable the Config Sync Server to access the communication platform and potentially make changes to communication platform resources:
   a) In the **IP address** box, type the IP address of the communication platform.
   b) In the **Port number** box, type the appropriate port number of the communication platform.
   c) In the **Logon name** box, type the user name needed to log on to the communication platform.

   d) In the **Password** box, type the password needed to log on to the communication platform.

   e) In the **Confirm password** box, retype the password to confirm that you entered it correctly.

6. Under **Range Allocation**, in the **Automatic creation size** box, type the size of the automatically defined resource domain range. If you create a resource in OpenScape Contact Center that is outside the Config Sync resource domain range, you are prompted to add it to the domain range. The value in this box defines the increment that is used. You can enter a value from 1 to 1000. The default value is 1.

7. Under **Synchronization**, select the **At data maintenance time** check box to automatically synchronize the communication platform and OpenScape Contact Center resources after data maintenance is performed, normally about 20 minutes after the data maintenance time.

NOTE: If you have the required administrator permission, you can click **Synchronize now** to manually synchronize the communication platform and OpenScape Contact Center resources, but this should be done only during periods of low contact volume.

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12 Working with Call Director

Call Director is a licensed voice feature that allows you to play messages and interact with the caller. A message (.wav file) can greet the caller, provide a menu prompt, gather numerical data, or play a performance level statistic. For example, you can prompt the caller to “Press 1 for Service, or press 2 for Sales”.

Call Director components can help you match callers to the best available user in routing strategy and queue processing workflows. For details, see "Call Director components".

You must use third-party applications to create .wav files for use with the Call Director components. For details, see Section 12.4.2, “Configuring a .wav file”, on page 204.

12.1 Communication platform and voice processor interaction

When the system is licensed for Call Director, a Contact Media Service voice processor is used to play announcements and interactive recordings, and collect digits input by a caller.

When a workflow component invokes a Call Director function, the call is routed to an extension dedicated to Call Director services.

NOTE: When a call is routed to an interactive Call Director extension, the caller might hear a short ring before the voice processor answers the call.

In the Telephony Center, each Call Director extension associates a voice processor extension (or channel) with a communication platform extension dedicated to interactive messages. For announcements, the Call Director extension also associates a communication platform Device ID.

The number of extensions required is a function of capacity and depends on the site. Since the system supports only a single voice processor, particularly complex workflows may require more extensions than are available on the system.For more information, contact your service representative.

Ensure that you complete the voice processor configuration before configuring the Call Director extensions.

Related topics

- "Configuring a voice processor"

- "Configuring a Call Director extension"

12.2 IVR Hold configuration

If you are using a communication platform with the IVR API, you can use the IVR Hold configuration to hold an enqueued call until it is routed to a user. Since the IVR Hold configuration ties up the IVR extension and temporarily prevents the IVR from handling incoming calls until the enqueued call has been routed to a user, you must alter the IVR Hold configuration to include more IVR extensions.

If a call is in an IVR and a workflow is invoked via the IVR API, a routing strategy workflow will be executed even though the call remains in the IVR, and a result will be returned to the IVR script. If a Call Director or IVR component is encountered while processing this workflow, then an error will be returned to the IVR. The call remains in the IVR, and the IVR checks OpenScape Contact Center to determine if a user is assigned, or if a Disconnect or Transfer component is encountered during the workflow, and the IVR processes the call as the routing strategy workflow indicates.

NOTE: Immediate call forwarding must not be activated on the communication platform for logged on user extensions.

12.3 Queue Hold configuration

If you are using a communication platform with the IVR API, you can use the Queue Hold configuration with Call Director to transfer calls to an OpenScape Contact Center communication platform group, where calls wait for an eligible user. When a user becomes available, OpenScape Contact Center diverts the call from the OpenScape Contact Center communication platform group to the user.

The Queue Hold configuration frees the IVR extensions for incoming calls by transferring calls to the communication platform, while OpenScape Contact Center searches for available users. This configuration reduces IVR extension requirements so that the IVR can handle a greater number of incoming calls.

If a call is enqueued and in a Queue Hold scenario, then OpenScape Contact Center processes the call according to the routing strategy.

12.4 Configuring the Call Director resources

Before you can use Call Director components in a workflow, you must:

- Configure the Call Director extensions – see "Configuring a Call Director extension".
- Configure the voice processor – see Section 12.4.1, “Configuring a voice processor”, on page 203.
- Configure the .wav files that you want to use – see Section 12.4.2, “Configuring a .wav file”, on page 204.

NOTE: Your initial Call Director configuration is typically set up by your service representative. For information on the setup tasks, see the *Communication Platform Integration Guide*.

12.4.1 Configuring a voice processor

If you are using Call Director, you must configure the voice processor to be used with the system. The system supports the use of only one Contact Media Service voice processor.

IMPORTANT: When you are connected to the production database, ensure that you complete the voice processor configuration before configuring the Call Director extensions.

To configure a voice processor:

1. On the **File** menu, point to **New**, then **Telephony Center**, and then click **Voice Processor**.
2. Under **Voice Processor**, do the following:
   - In the **Name** box, type the name of the voice processor.
   - In the **Description** box, type a description for the voice processor. In the **Host name** box, type the host name or IP address of the host machine where the voice processor is located.
   - In the **Port number** box, type the port number that the voice processor uses for CTI communication. Default: 6027
   - In the **Password** box, type the password for the user account that is used to establish a connection with the voice processor for CTI communication. Default: Un1Fy

3. Click **OK**.

Related topics

- "Configuring the Call Director options"
- "Working with Call Director"

12.4.2 Configuring a .wav file

If the Call Director feature is enabled, you must configure a resource for each sound (.wav) file that you want to use in Call Director workflow components and other settings related to Call Director.

NOTE: To create or change a .wav file, you must have Full or Modify access, respectively, for the **WAV files** Manager permission.

You can upload a .wav file from the main server machine or from a client machine. The uploaded .wav files are stored in the WaveFiles folder on the main server machine. The file path names are not stored in the resource. The system looks in the designated WaveFiles folder for the .wav files.

The .wav files must meet specific requirements (see Section 12.4.2.1, “Call Director .wav file requirements”, on page 205). The .wav files must be created using third-party software and hardware. We do not provide the software or hardware required to create .wav files.

To configure a .wav file:

1. On the **File** menu, point to **New**, then **Design Center**, then **Voice**, and then click **WAV File**.
2. On the **General** tab, under **File**, do the following:
   - In the **Name** box, type the name of the .wav file. You can browse to select and upload the .wav file to the WaveFiles folder.

   NOTE: If you are connected to a production database, you can click to play the .wav file. You cannot play .wav files when you are connected to a design database.

   NOTE: If you are connected to a production database, you can click to download the .wav file. You cannot download .wav files when you are connected to a design database.

- In the **Description** box, type a description for the .wav file. Use the description to specify what information is presented in the .wav file.

  The **Installed** check box is a read-only item used when you are connected to a production database to indicate whether or not the .wav file is installed in the WaveFiles folder. If the system cannot find the .wav file, the **Installed** check box is cleared. This check box is always cleared when you are connected to a design database. You can save the .wav file definition even though the system cannot find the .wav file.

3. Click the **Security** tab. This tab is available only if the enhanced security option is enabled. For details, see Section 15.3.4, “Configuring the enhanced security option”, on page 255.
4. Under **Users**, select the check box for each user who you want to be able to modify this .wav file. The list contains only the users who have Full or Modify access to the **WAV files** Manager permission.
5. Click **OK**.

12.4.2.1 Call Director .wav file requirements

When creating a .wav file, you must ensure that it meets the following requirements.

The maximum metallic signal power averaged over any 3-second interval in the 200-3995 Hz voice band does not exceed the following ANSI/TIA-986-A signal power limitation requirements mandated by the FCC:

- The analog CO/DID trunk and OPS line interfaces do not exceed -9 dBm
- The 2-wire and 4-wire lossless tie trunk type interfaces do not exceed -15 dBm
- The digital T1 and ISDN PRI/BRI interfaces do not exceed - 12 dBm

The name of the .wav file contains only alphanumeric and underscore characters (A-Z, a-z, 0-9 and “_”), has a .wav extension, and is less than or equal to 25 characters, excluding the extension and path information. For example, the following are valid .wav file names:

- First_Message.wav
- Next_Msg1.wav
- Next_Msg2.wav
- 1203_Entry.wav

- 1stError_File.wav

12.5 Configuring the Call Director options

You can configure the various default options for the Call Director feature. For details, see the following topics:

- Section 12.5.1, "Configuring the Call Director general options", on page 206
- Section 12.5.2, "Configuring the Call Director default navigation", on page 209
- Section 12.5.3, "Configuring the Call Director responses", on page 210

NOTE: To configure any of the Call Director options, you must have Full or Modify access for the associated Manager permission.

NOTE: You can override some of these default options when you configure a workflow. For details, see Section 9.4.1, "Overriding the default Call Director settings", on page 170.

12.5.1 Configuring the Call Director general options

You can configure various general options for Call Director, such as the extension allocation and standard language.

Before you begin, the .wav files that you want to use must be configured and installed on the main server machine (see Section 12.4.2, "Configuring a .wav file", on page 204).

To configure the Call Director general options:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Call Director**.

3. On the **General** tab, under **Extension Allocation**, do the following:
   - In the **Interactive (%)** column, double-click the number in the **Routing Strategy** row and type the percentage of all available interactive extensions that you want to reserve for playing interactive messages in a routing strategy workflow.
   - In the **Announcement (%)** column, double-click the number in the **Routing Strategy** row and type the percentage of all available announcement extensions that you want to reserve for playing announcements in a routing strategy workflow.
   - In both cases, the application automatically updates the **Queue Processing** row so that the Total equals 100. For examples, see Section 12.5.1.1, "Extension allocation ratio examples", on page 208.
4. Under **Language**, click **Standard** and select the language you want to use for spoken messages from the list. The list contains the languages supported by the voice processor.

   In order to use another language than one of the standard languages:

   1. Click **Custom locale ID**
   2. Enter an appropriate value, for example 1043 for "Dutch - Netherlands".
   3. For a custom language you need to record the .wav files by yourself or obtain them from a 3rd party. These are system .wav files, used in Number Playbacks and Performance Messages, for example announcing the wait time in a queue.
   4. Store these .wav files on the OSCC server in the folder `%HPPCDIR%\SystemVoice\<custom locale id>\Unisex`

      equivalent to the standard languages, where `<custom locale id>` is the value associated with the custom language.

   NOTE: When using a custom language, all played .wav files are taken from the *Unisex* folder, as opposed to the standard languages. For the standard languages the .wav files are taken from both the *Male* and *Female* folders, depending on grammatical context.

   ---

5. Under **Outage Threshold**, in the **Extensions out of service** box, type or select the percentage of Call Director extensions that must be out of service before the Call Director Server becomes nonoperational. The default value is 75%.

6. Under **Error**, in the **Message file name** list, select the .wav file that plays if an error occurs. This error message will be played if the connectivity between Call Director and the voice processor is lost. This same message will be played if the Call Director Server encounters an error in workflow, unless you override this error message in a specific workflow diagram (see Section 9.4.1, “Overriding the default Call Director settings”, on page 170).

> ***NOTE:*** If you are connected to a production database, you can click to play the .wav file. You cannot play .wav files when you are connected to a design database.

7. Click **OK**.

12.5.1.1 Extension allocation ratio examples

When you configure the Call Director general options, under **Extension Allocation**, you specify the percentage of interactive extensions and announcement extensions that you want to reserve for routing strategy workflows and queue processing workflows. For details on how to configure the general options, Section 12.5.1, “Configuring the Call Director general options”, on page 206.

If a fraction of an extension remains after the ratio is applied, the fraction is assigned to the routing strategy workflows. For example, assume you have 10 extensions. Some examples of how the extensions would be allocated are shown in the following table.

Extension allocation		Actual number of extensions reserved	
Routing strategy	**Queue processing**	**For routing strategy workflows**	**For queue processing workflows**
50%	50%	5	5
1%	99%	1	9
55%	45%	6	4
99%	1%	10	0

Table 4 Extension allocation examples

> ***NOTE:*** In the event that a Call Director extension is deleted, the system might automatically reallocate extensions to either routing strategy workflows or queue processing workflows based on the configured extension allocation.

12.5.2 Configuring the Call Director default navigation

You can configure the navigation keys that can be used globally for Call Director components in workflows. A navigation key is a digit on the telephone that a caller can enter to move from one Call Director component in a workflow to another. You can choose a subset of these keys for each Call Director component that you configure.

Before you begin, the .wav files that you want to use must be configured and installed on the main server machine (see Section 12.4.2, “Configuring a .wav file”, on page 204).

To configure the Call Director default navigation:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Call Director**.
3. Click the **Interaction** tab.
4. Under **Default Navigation**, select the check box for each function that you want to make available to a caller. If you want to change the key assigned to the function, click the cell in the **Key** column and select the key from the list. You can choose from the following functions:
   - **Operator** – Enables the caller to transfer to the Operator.
   - **Return to Root Step** – Enables the caller to return to the first interactive component in the routing strategy workflow or queue processing workflow.
   - **Repeat** – Enables the caller to repeat the current component.
   - **Previous** – Enables the caller to return to the previous interactive component. If a caller is at the first component, the component action is repeated.
   - **Help** – Enables the caller to listen to a .wav file containing help for the routing strategy workflow or queue processing workflow.

   IMPORTANT: If the same key is used for Help and another function, the Help will always take precedence over the other function. We recommend that you always use the asterisk (*) key to provide Help for the Call Director feature.

5. If you selected the **Operator** function, do the following:
   - In the **Operator Queue** list, click the queue that the call is forwarded to when the caller presses the Operator key.
   - In the **Operator transfer file** list, click the .wav file that plays when the caller is transferred to the operator.

NOTE: If you are connected to a production database, you can click ➡ to play the .wav file. You cannot play .wav files when you are connected to a design database.

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6. If you selected the **Help** function, in the **Help file name** list, click the .wav file that plays when the caller accesses the help.
7. Click **OK**.

12.5.3 Configuring the Call Director responses

You can configure the Call Director responses that are used when a caller gives no response, or an invalid response, to a Call Director component in a routing strategy workflow or queue processing workflow.

Before you begin, the .wav files that you want to use must be configured and installed on the main server machine (see Section 12.4.2, "Configuring a .wav file", on page 204).

To configure the Call Director responses:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Call Director**.
3. Click the **Interaction** tab.
4. Under **Response Attempts**, in the **Maximum number** box, type or select the maximum number of times the system will accept no response from a caller before transferring the call to the error queue. You can specify a number between 1 and 9.

5. Under **No Response**, do the following:
   - In the **Maximum time** box, type or select the maximum amount of time, in seconds, that the system will wait for input from a caller before determining there is no response. You can specify a value between 1 and 60 seconds.
   - In the **Message file name** list, select the .wav file that plays when the caller does not respond within the specified amount of time. You can override this .wav file in a specific workflow diagram (see Section 9.4.1, "Overriding the default Call Director settings", on page 170).

   NOTE: If you are connected to a production database, you can click to play the .wav file. You cannot play .wav files when you are connected to a design database.

6. Under **Invalid Response**, in the **Message file name** list, select the .wav file that plays when the caller presses an incorrect telephone button. You can override this .wav file in a specific workflow diagram (see Section 9.4.1, "Overriding the default Call Director settings", on page 170).
7. Click **OK**.

13 Working with the callback feature

The callback feature is a licensed feature that allows you to provide users and customers with the ability to generate callbacks. A callback is a request for a return call that is usually based on a customer's previous interaction with the contact center.

A callback can be generated in the following ways:

- A callback request is generated as part of the workflow using a Create Callback component. For details, see "Creating a Create Callback component".
- A voice queue can be configured so that a callback is created automatically when a customer abandons a call. For details, see Section 10.2.1, "Configuring the general queue information", on page 178. This method of callback generation assumes that you have ANI numbers coming into the communication platform.

  NOTE: Support is provided for additional ways of creating callbacks programmatically, for example, by having an IVR gather contact information to generate a callback. Contact your service representative for details.

- A customer generates a callback request from a Web page. For details, see Section 13.3.3, "Configuring the Web callback settings", on page 220.

NOTE: We recommend that you configure callback-specific agents in a separate UCD group on the communication platform to prevent unwanted backup routing.

To handle callbacks, you must set up callback-specific queues.

Related topics

- "Configuring a queue"
- "Configuring the callback resources"
- "Configuring the callback options"
- "Generating a Scheduled Callback List"

13.1 Callback processing

Regardless of how it is created, each callback gets scheduled for a specific time interval on a specific day. At the scheduled time, the callback is enqueued to a callback queue. The callback queue to which the callback is directed depends on how the callback was created:

- For callbacks created during the processing of a routing strategy or queue processing workflow, the queue is specified in the Create Callback component.
- For voice queues configured to create a callback when a customer abandons a call, the voice queue also specifies the target callback queue.
- For callbacks created from a Web page, a set of HTML template pages are provided that let you specify the target callback queue among other things.

NOTE: For information on configuring a callback queue, see Section 10.2, "Configuring a queue", on page 177.

The queue step execution attempts to find a user who is able to handle the callback. When an eligible and available user is found, the callback is assigned to that user. A screen pop with details on the callback is presented to the user.

13.2 Configuring the callback resources

You must configure various resources that impact the callback feature.

NOTE: Your initial callback configuration is typically set up by your service representative. For information on the setup tasks, see the *Communication Platform Integration Guide*.

Related topics

- "Configuring a queue"
- "Configuring a Retry reason"
- "Configuring a Delete reason"
- "Configuring an excluded number"

13.2.1 Configuring a Retry reason

A Retry reason is an explanation that a user can select when a callback is unsuccessful and must be retried. Retry reasons are commonly used to indicate conditions such as no answer or busy line.

The Manager application provides a set of predefined Retry reasons. You cannot delete or rename these Retry reasons, although you can modify their descriptions.

NOTE: To create or change a Retry reason, you must have Full or Modify access, respectively, for the **Retry reasons** Manager permission.

To configure a Retry reason:

1. On the **File** menu, point to **New**, then **Design Center**, then **Callback**, and then click **Retry Reason**.
2. In the **Name** box, type a unique name for the Retry reason.
3. In the **Description** box, type a description for the Retry reason.
4. In the **Retry Interval** box, type the number of hours and minutes after which the system will retry the callback.
5. Click **OK**.

Related topics

- "Working with the callback feature"
- "Configuring the callback resources"

13.2.2 Configuring a Delete reason

A Delete reason is an explanation that a user can select when deleting a callback. Delete reasons are commonly used to indicate conditions such as the user recognizing an invalid telephone number.

The Manager application provides a set of predefined Delete reasons. You cannot delete or rename these Delete reasons, although you can modify their descriptions.

NOTE: To create or change a Delete reason, you must have Full or Modify access, respectively, for the **Delete reasons** Manager permission.

To configure a Delete reason:

1. On the **File** menu, point to **New**, then **Design Center**, then **Callback**, and then click **Delete Reason**.
2. In the **Name** box, type a unique name for the Delete reason.
3. In the **Description** box, type a description for the Delete reason.
4. Click **OK**.

Related topics

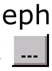
- "Working with the callback feature"
- "Configuring the callback resources"

13.2.3 Configuring an excluded number

You can configure a list of telephone numbers that are excluded from callbacks. For example, you should exclude emergency numbers, such as the numbers for ambulance and police.

NOTE: To create or change an excluded number, you must have Full or Modify access, respectively, for the **Excluded numbers** Manager permission.

To configure an excluded number:

1. On the **File** menu, point to **New**, then **Design Center**, then **Callback**, and then click **Excluded Number**.
2. In the **Name** box, type a unique name for the excluded number.
3. In the **Telephone number** box, type the telephone number you want to exclude from callbacks. You can click  to help you enter the number. For details, see "Entering a telephone number".
4. Click **OK**.

Related topics

- "Working with the callback feature"
- "Configuring the callback resources"

13.3 Configuring the callback options

Use the callback options to configure the default settings for the callback feature. For details, see the following topics:

- Section 13.3.1, “Configuring the general callback settings”, on page 217
- Section 13.3.2, “Configuring the callback routing schedule”, on page 219
- Section 13.3.3, “Configuring the Web callback settings”, on page 220

NOTE: To configure any of the callback options, you must have Full or Modify access for the associated Manager permission.

13.3.1 Configuring the general callback settings

You can configure various general options for callbacks, such as the automatic dial delay, and the options that affect the automatic generation of a callback when a customer abandons a call. For information on configuring a voice queue to automatically create a callback on abandon, see Section 10.2.1, “Configuring the general queue information”, on page 178.

To configure the general callback settings:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Callback**.
3. On the **General** tab, under **Callback Settings**, do the following:
   - In the **Automatic dial delay**, type or select the amount of time the system waits after offering a callback to a user who does not have permission to preview contacts, before automatically dialing the callback. This gives the user some time to review the callback information. The maximum delay is 60 seconds.
   - In the **Maximum time to enter result** box, type or select the amount of time the user has after disconnecting a callback to indicate that the callback was successful or to schedule a retry, before the user is placed in Unavailable routing state.

- To translate the number to be called based on your TAPI configuration, select the **Format Callback Number** check box. Some communication platforms can be configured to provide dialable calling numbers so that no translation is required. In this case, you would clear the check box to use the calling number directly, without translation. If you do not have TAPI configured, selecting this check box does not have any effect.

4. Under **Create Callback on Abandon**, do the following:

   - In the **Abandon Threshold** box, type or select the minimum amount of time that a call must be in queue before being abandoned, for a callback to be created.

   - In the **Default Priority** box, type or select the default priority of the callback that is created. You can specify a value between 1 and 100, where 100 is the highest priority.

NOTE: If the **Create callback on call abandon** option is enabled for a queue and a call in the associated queue is abandoned by a caller, the system checks the callback schedule to verify that a callback can be handled within the next 24 hours. If a callback is created, it remains active for 24 hours after the call was abandoned and is then deleted by the system.

---

5. Under **Duplicate Entries**, select the **Prevent duplicate callback** check box if you want the system to allow only one callback entry with the same destination telephone number and queue.

NOTE: If the **Prevent duplicate callback** option is enabled, the Callback Server still creates an exit point for the Create Callback component when a duplicate callback is encountered.

---

6. Under **Schedule**, configure the callback schedule (see Section 13.3.2, “Configuring the callback routing schedule”, on page 219).

7. Click **OK**.

Related topics

- "Working with the callback feature"
- "Configuring the callback options"

13.3.2 Configuring the callback routing schedule

The callback routing schedule restricts the hours of operation during which a callback can be scheduled within the contact center. You can configure the default callback routing schedule, as well as exceptions to the default schedule.

To configure the callback routing schedule:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Callback**.
3. On the **General** tab, under **Schedule**, click **Edit Schedule**.
4. In the **Callback Routing Schedule** dialog box, double-click the day you want to configure, and then edit the active time range for the day. For details, see "Configuring the active status".

   NOTE: You can also drag the start or end point of an active range to change the range.

5. Optionally, click the **Exceptions** tab to create an exception to the default schedule. An exception overrides the schedule for the entire day.
   a) On the calendar, click the day for which you want to schedule an exception,forexample,anationalholiday.TheDefaultrowshowsthe default schedule for that day.
   b) Select the **Override** check box.
   c) In the **Override** row, double-click a cell, and then edit the active time range for the override schedule. For details, see "Configuring the active status". Click **OK**.
6. Use the **Summary** tab to view the schedule by status or by day of the week.
   - To see the days and times when the schedule is active or inactive, expand **By Status**, and then click **Active** or **Inactive**, respectively.
   - To see the schedule for that day, expand **By Day**, and then click the day of the week.
7. Click **OK**.

Related topics

- "Working with the callback feature"
- "Configuring the callback options"

13.3.2.1 Configuring the active status

Use the Configure Active Status dialog box to define the hours of operation for the feature (such as e-mail or callback) within the contact center. The feature is considered active during the specified hours of operation. The default active period is 8:00 A.M. to 5:00 P.M.

To configure the active status:

1. In the schedule you are configuring, double-click a cell.
2. In the **Configure Active Status** dialog box, under **Active Period**, do the following:
   - In the **Start time** box, type or select the time at which the feature opens or becomes active.
   - In the **End time** box, type or select the time at which the feature closes or becomes inactive.
3. Click **OK**.

13.3.3 Configuring the Web callback settings

Your company can provide a Web interface where customers can request information or support. These customer requests can be used by OpenScape Contact Center to generate callbacks.

This section describes how to enable the Web interface and configure the port that the Web Interaction Server uses to communicate with the corporate Web server.

IMPORTANT: When you are connected to the production database, if you change the port number, you will be required to restart the Web Interaction Server on the main server machine.

To configure the Web callback settings:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Callback**.
3. Click the **Web Callback** tab.

4. To enable the generation of callbacks via the Web interface, under **Web Callback**, select the **Enable** check box.
5. Under **Port Settings**, in the **Port number** list, select the port number that the Web Interaction Server uses to communicate with the corporate Web server for Web callback requests. You can select an unsecured or a secured (TLS-enabled) port. For more information, see Section 15.3.3, “Configuring the Web server settings”, on page 254.
6. Click **OK**.

Related topics

- "Working with the callback feature"
- "Configuring the callback options"

13.4 Generating a Scheduled Callback List

You can generate a list of callbacks that are scheduled to be queued in the future and have not yet been queued or routed. The list can be generated for specific callback types and queues.

NOTE: To generate a Scheduled Callback List, you must have the **Scheduled callback list** Manager permission.

To generate a Scheduled Callback List:

1. To access the **Scheduled Callback List** dialog box, do one of the following:
   - On the **Actions** menu, click **Scheduled Callback List**.
   - On the **View** menu, point to **Activity Reports**, and then click **Scheduled Callback List**.
2. Under **Criteria**, do the following:
   - In the **Origin Type** box, select where the callbacks you want to report on originated from. You can select one of the options in the list or **All**.
   - In the **Start** area, select the start date and time for the interval the report is to cover. The time is specified using a 24-hour clock.
   - In the **End** area, select the end date and time of the interval.

3. Under **Queues**, select the queues for which you want to see the scheduled callbacks.
4. On the **Actions** menu, click **Find Now**.

Related topics

- "Working with the callback feature"
- "Scheduling a callback attempt"
- "Updating a scheduled callback"

13.4.1 Scheduling a callback attempt

In a Scheduled Callback List (see "Generating a Scheduled Callback List"), you can add a new callback attempt or edit an already scheduled attempt.

To schedule a callback attempt:

1. In the **Update Scheduled Callback** dialog box, under **Schedule**, do one of the following:
   - To add a new callback attempt, click **Add**.
   - To update an existing callback attempt, select the item in the list and click **Edit**.
2. In the **Start time** area, select the start date and time for the callback. The time is specified using a 24-hour clock.
3. In the **End time** area, select the end date and time for the callback.
4. In the **Telephone number** box, type the telephone number to call. You can click ... to help you enter the telephone number. For details, see "Entering a telephone number".
5. Click **OK**.

13.4.2 Updating a scheduled callback

In a Scheduled Callback List (see "Generating a Scheduled Callback List"), you can update various information for a scheduled callback, such as the queue, priority, and schedule.

To update a scheduled callback:

1. In the Scheduled Callback List, click the **Results** tab.
2. In the list, select the callback you want to update.

3. On the **Actions** menu, click **Open Selected**. The **Update Scheduled Callback** dialog box appears.
4. On the **General** tab, under **Details**, do the following as required:
   - In the **Contact name** box, update name of the contact.
   - In the **Queue** box, select a different queue from the list. The list contains only callback queues.
   - In the **Description** box, update the callback description.
   - In the **Priority** box, type or select a value between 1 and 100 to indicate the priority of the callback, where 100 is the highest priority. The priority changes the order of the callback in queue, if other callbacks are already in the same queue.
   - Select the **Reserve for user** check box if you want to reserve the callback for a specific user, and then select the user for whom you want to reserve the callback from the list.
5. Under **Schedule**, update the callback schedule as required:
   - To add a new callback attempt, click **Add**. You can schedule more than one attempt for the callback, for example, if the customer will be available for a few hours in the afternoon, and again for a few hours in the evening.
   - To update an existing callback attempt, select the item in the list and click **Edit**.

   NOTE: To remove a callback attempt from the schedule, select the item in the list and click **Delete**.

6. Schedule the callback attempt.
7. Click the **Contact Data** tab to view the information associated with the contact.
8. Click **OK**.

14 Working with the e-mail feature

The e-mail feature is a licensed feature that allows you to provide customers with the ability to request assistance from your contact center through e-mail messages. The customer submits a request to a particular e-mail address and the e-mail message is routed through your corporate e-mail server to the OpenScape Contact Center E-mail Server. All e-mail messages are stored in a single mailbox on the corporate e-mail server. You need to configure multiple e-mail destinations if you want to have multiple e-mail addresses for your contact center.

The OpenScape Contact Center E-mail Server and the corporate e-mail server communicate using IMAP4 (Internet Messaging Access Protocol). The OpenScape Contact Center applications and the corporate e-mail server also use IMAP4 to retrieve and process e-mail messages. Message attachments are retrieved using separate IMAP4 and MIME functions. Reply e-mail messages are sent to customers using an SMTP (Simple Message Transfer Protocol) interface.

NOTE: No virus protection is provided by the OpenScape Contact Center E-mail Server. Protection should be provided by the corporate e-mail server and the operating system.

Queues, a routing strategy workflow, and optionally queue processing workflows, must be created specifically for e-mail messages.

Related topics

- "Configuring a routing strategy workflow"
- "Configuring a queue processing workflow"
- "Configuring a queue"
- "Configuring the e-mail options"

14.1 Configuring the e-mail resources

You must configure various resources that impact the e-mail feature.

NOTE: Your initial e-mail configuration is typically set up by your service representative. For information on the setup tasks, see the *System Management Guide*.

Related topics

- "Configuring an e-mail category"
- "Configuring a Discard reason"
- "Configuring an e-mail template"
- "Inserting a picture into an HTML e-mail template"
- "Configuring a monitored source for e-mail"

14.1.1 Configuring an e-mail category

A category defines the keywords that OpenScape Contact Center searches for in an incoming e-mail message to help route the e-mail message to the appropriate queue. You can define a category to search for the keywords in the subject of the e-mail message, in the body, or both.

For example, you can configure two categories as follows:

- If the keyword “sales” is found in the subject or body, the e-mail message is associated with the sales category.
- If the keywords “support”, “service”, or “help” are found in the subject or body, the e-mail message is associated with the support category.

NOTE: To create or change an e-mail category, you must have Full or Modify access, respectively, for the **Categories** Manager permission.

To configure a category:

1. On the **File** menu, point to **New**, then **Design Center**, then **E-mail**, and then click **Category**.
2. On the **General** tab, under **Details**, do the following:
   - In the **Name** box, type a unique name for the category.
   - In the **Description** box, type a description for the category.
3. Click the **Criteria** tab.
4. For each keyword that you want to define, do the following:
   - In the **Search In** column, click the item and select the message location from the list. You can choose **Subject**, **Body**, or **Subject or Body**.

- In the **Search for the words** column, type the keyword that you want to search for. For details, see "Entering category search keywords".
- Press **TAB** or **ENTER** to create another entry.

5. Click **OK**.

Related topics

- "Configuring the e-mail resources"
- "Working with the e-mail feature"

14.1.1.1 Entering category search keywords

You must take the following into account when entering category search keywords:

- All letters are mapped to their lowercase equivalent, where applicable.
- Punctuation characters, such as exclamation marks (!), quotation marks (“), colons (:), and semicolons (;), and control characters, such as tab, newline, and carriage return, are converted to spaces.
- Multiple spaces, including punctuation and control characters, are converted to a single space.
- Special characters, such as @ and #, are converted to a single space.
- ß (sharp S) is mapped to “ss”.
- If you place quotation marks around a keyword, the categorizer searches for the keyword with the specified spaces. For example:
  - “and” matches all words containing these characters, such as *sand* or *grandmother*, and also words that start or end with and
  - “ and” (with a leading space) only matches words beginning with these characters, such as *Andrew* or *android*
  - “and ” (with a trailing space) only matches words that end with these characters, such as *sand*
  - “ and ” only matches *and*
- If you do not place quotation marks around a keyword, any leading or trailing spaces are not used. A single space is then prefixed to the keyword. Therefore, only words beginning with the specific

characters you entered are found. For example, and (without quotation marks) matches the words *and* or *Andrew*, but not *sand* or *sandbox*.

NOTE: For the supported Chinese, Japanese, and Korean code pages, a single space is not prefixed to the keyword, since these languages do not normally use spaces between words.

- The use of internal spaces is important, regardless of whether you use quotation marks. For example, if you enter “and me” as the search criteria, the following words and phrases could be found: *and me, grand men*, or *stand. Meet*.

14.1.2 Configuring a Discard reason

A Discard reason is an explanation that the users and workflows can specify when discarding an e-mail message.

The Manager application provides a set of predefined Discard reasons. You cannot delete or rename these Discard reasons, although you can modify their descriptions.

To configure a Discard reason:

1. On the **File** menu, point to **New**, then **Design Center**, then **E-mail**, and then click **Discard Reason**.
2. In the **Name** box, type a unique name for the Discard reason.
3. In the **Description** box, type a description for the Discard reason.
4. Click **OK**.

Related topics

- "Configuring the e-mail resources"
- "Working with the e-mail feature"

14.1.3 About e-mail templates

Workflow processing for e-mail messages can include automatic responses, as well as suggested drafts created automatically for subsequent processing. These are built, programmatically, using templates. Prolog and Signature templates can be assigned at the queue level (see Section 10.2.3, “Configuring the queue overrides”, on page 181).

You can configure the following five types of e-mail templates:

- **Prolog** – This type of template is inserted at the beginning of a reply e-mail message. For example, "Please do not remove the ticket number in the subject line above. The ticket number enables us to track responses that you send us in the context of your original message."

- **Signature** – This type of template is inserted at the end of a reply e-mail message. For example:

  Sales - My Company
  sales@mycompany.com
  Visit our Web site at www.mycompany.com

- **Response** – This type of template is selected when you configure an Auto-response or an Auto-suggestion component. It can be used in the following ways:

  - To send an automatic response to an e-mail message when the customer asks a simple question that can be answered automatically. For example, "Thank you for contacting mycompany.com. For information on how to order our products, visit www.mycompany.com/products.".

  - To insert suggested text into a reply e-mail message when the customer asks a frequently asked question.

  You must associate a Response template with one or more queues. When a user responds to an e-mail message routed by one of the associated queues, this template will be used to create the draft e-mail message. The E-mail Server creates the draft e-mail message based on the specified Response template; however, it uses the reply prefix, conversation ID label, and original message text label configured in the queue. If these items are not configured in the queue, the E-mail Server will use the default values configured at the system level.

- **Auto-acknowledgment** – This type of template is selected when you configure an Auto-acknowledgment component. It is used to send an automatic response to an e-mail message to let the customer know that their message has been received. For example "Thank you for contacting mycompany.com. A qualified agent is investigating your inquiry and will contact you shortly."

- **New Message** – This type of template is inserted when a user creates a new e-mail message.

Related topics

- "Configuring an e-mail template"

- "Configuring the e-mail resources"

- "Working with the e-mail feature"

14.1.4 Configuring an e-mail template

There are five different types of e-mail templates that you can configure (see Section 14.1.3, “About e-mail templates”, on page 228). Some templates are used when users reply to e-mail messages, while others are used by the system to send automatic responses to e-mail messages.

NOTE: To create or change an e-mail template, you must have Full or Modify access, respectively, for the associated Manager permission.

E-mail templates can be created in both HTML and plain text. HTML format allows you to include special formatting, such as bold text, bulleted and numbered lists, pictures, and URLs. The system assigns a template to an incoming e-mail message based on the format of the original message. We therefore recommend that when you create a new template, you configure both the HTML and the plain text sections of the template.

E-mail templates have a maximum size of 500 KB.

To configure an e-mail template:

1. On the **File** menu, point to **New**, then **Design Center**, then **E-mail**, and then click one of the template types:
   - **Prologs**
   - **Signatures**
   - **Responses**
   - **Auto-acknowledgments**
   - **New Messages**
2. Under **Details**, do the following:
   - In the **Name** box, type a unique name for the template.
   - In the **Description** box, type a description for the template.
3. To create HTML content, in the **Message–HTML** box, do any of the following:
   - Type the required text.
     – To change the formatting of the text, see "Changing the font style".

    – To create a bulleted or numbered list, select the text you want to format, and then click ☰ or ☰, respectively.

  - Insert a URL. For details, see "Inserting a URL into an HTML e-mail template".
  - Insert a logo or picture. For details, see "Inserting a picture into an HTML e-mail template".

4. To create content in plain text format, in the **Message–Text** box, type a message.
5. For Response templates only, click the **Queues** tab, and then select the queues for which this Response template can be used. When a user responds to an e-mail message routed by one of the selected queues, this template can be selected to create the draft response text.
6. Click **OK**.

Related topics

- "Configuring the e-mail resources"
- "Working with the e-mail feature"

14.1.4.1 Changing the font style

You can specify the font attributes to apply to the selected text when you are formatting an HTML message in an e-mail template.

To change the font style:

1. Open the **Font Style** dialog box.
2. Under **Attributes**, in the **Textcolor** list, select the color that you want to apply to the text.
3. The **Font** box displays the font in which the text will be displayed. To change the font type, style, and size, click ... .
4. To bold the text, select the **Bold** check box.
5. To use italic text, select the **Italic** check box.
6. To underline the text, select the **Underline** check box.
7. Under **Preview**, view a sample of the font style you have selected.
8. Click **OK**.

14.1.4.2 Inserting a URL into an HTML e-mail template

You can insert a URL in an e-mail template to direct customers to further information. When customers receive the e-mail message, they can click the URL and go to the specified location. You can insert a URL anywhere, for example, into a word, paragraph, or picture. You can also group a few of these objects together and insert a URL into the group.

To insert a URL into an HTML e-mail template:

1. Select the object or group of objects where you want to insert the URL. If the URL is not associated with any objects, place the cursor where you want the URL to appear.
2. Click .
3. In the **Insert URL** dialog box, in the **URL** box, type a valid URL (for example, http://www.company.com). The maximum length of a URL is 255 characters.

   NOTE: If you are connected to a production database, you can click  to locate the URL on the Web.

   ---
4. If the URL is not associated with any objects, in the **Display text** box, type the text that should appear.
5. Click **OK**.

14.1.4.3 Inserting a picture into an HTML e-mail template

You can insert a logo or picture into an HTML e-mail template. OpenScape Contact Center supports a number of file types for pictures, including .bmp, .gif, .jpg, .jpeg, .png, .tif, and .wmf.

NOTE: Inserting a picture into a template increases the template size. If possible, use a compressed picture format, such as .gif or .jpg.

You can also insert a reference to a picture. A reference is a pointer to the location of the picture. When the e-mail message is sent, the message includes the pointer, not the actual picture. This not only makes the message smaller, it also means that if you update the picture after the e-mail message is sent, the customer will see the updated picture.

NOTE: After you insert a picture into an e-mail template, you can edit the picture, for example, cut, copy, paste, or change the alternate text or alignment. To view the edit options, right-click the picture.

To insert a picture into an HTML template:

1. Place the cursor where you want to insert the picture.
2. Click .
3. In the **Insert Picture** dialog box, in the **File** box, type the file name of the picture, for example, c:\pictures_product4\picture4.jpg. You can click ... to locate the file you want to use.
4. In the **Alternate text** box, type the Tooltip text that appears when the user rests the mouse pointer on the picture. This text also appears in place of the picture if the customer does not download the picture.
5. In the **Alignment** box, select the alignment for the picture. If the cursor is in a line of text, the picture is set inline with the text, using the option selected.

   NOTE: Adjusting the alignment of an inserted picture when other pictures or text follow that picture can cause unexpected positioning of the picture within the text. You may need to further manipulate the picture to get the correct alignment.

6. Click **OK**. The picture is inserted into the e-mail template.

To insert a referenced picture into an HTML template:

1. Place the cursor where you want to insert the reference.
2. Click .
3. In the **Insert Referenced Picture** dialog box, in the **URL** box, type the location of the file, for example, http://www.companyname.com/picture4.jpg.

   NOTE: If you are connected to a production database, you can click to locate the URL on the Web.

4. In the **Alternate text** box, type the text to appear if the picture is not displayed.
5. In the **Alignment** box, select the alignment for the picture. If the cursor is in a line of text, the picture is set inline with the text, using the option selected.
6. Click **OK**. The picture is inserted, so you can see how it looks. But when the e-mail message is sent, only the reference to the picture is included. When the message is received and opened, the picture appears.

14.1.5 Configuring an e-mail destination

All e-mail messages are stored in a single mailbox on the corporate e-mail server. If you want to have more than one destination e-mail address for your contact center (such as, *sales@company.com* and *support@company.com*), you must configure the e-mail destinations you want to use.

NOTE: To create or change an e-mail destination, you must have Full or Modify access, respectively, for the associated Manager permission.

NOTE: You specify the default e-mail addresses in the Options dialog box. For details, see Section 14.2.1, "Configuring the default e-mail routing strategy, queue, and addresses", on page 237.

For each destination you create, you can specify whether the destination will be available for selection by a user when sending a new outgoing e-mail message. When this option is enabled, the destination appears in the From list of an outgoing e-mail message You can also specify whether the destination is to be monitored so that you can gather statistics and report on the destination.

When you are modifying an existing e-mail destination, you can change only the name and description of the destination. You cannot change the actual destination. If you need to change the destination, you must delete the e-mail destination and create a new one.

To configure an e-mail destination:

1. On the **File** menu, point to **New**, then **Design Center**, then **E-mail**, and then click **Destination**.
2. On the **General** tab, under **Details**, do the following:

- In the **Name** box, type a unique name for the destination.
- In the **Description** box, type a description for the destination.
- In the **E-mail address** box, type the destination e-mail address.
- In the **From text** box, type an alias for the destination e-mail address. This alias appears in the From box when a user replies to an e-mail message.
- To gather statistics for this destination for reporting purposes, select the **Monitored** check box. When you select this option, the Reports tab becomes active.

3. If you selected the **Monitored** check box, click the **Reports** tab and select the check box for each report that you want to display data about this destination. The list contains only the reports you own, or reports that are owned by users you can monitor.
4. Click **OK**.

Related topics

- "Configuring the e-mail resources"
- "Working with the e-mail feature"

14.1.6 Configuring a monitored source for e-mail

To gather statistics for a particular e-mail source, you must configure the source in OpenScape Contact Center so that it can be monitored.

NOTE: To create or change a monitored source for e-mail, you must have Full or Modify access, respectively, for the associated Manager permission.

NOTE: When you are modifying an existing monitored source, you can change only the name and description of the source. You cannot change the actual source. If you need to change the source, you must delete the monitored source and create a new one.

To configure a monitored source for e-mail:

1. On the **File** menu, point to **New**, then **Design Center**, then **E-mail**, and then click **Monitored Source**.
2. On the **General** tab, under **Details**, do the following:
   - In the **Name** box, type a unique name for the source.
   - In the **Description** box, type a description of the source.
   - In the **Source** box, type the e-mail address you want to monitor.
3. Click the **Reports** tab.
4. Under **Include this source in these reports**, select the check box for each report that you want to display data about this source. The list contains only the reports you own, or reports that are owned by users you can monitor.
5. Click **OK**.

Related topics

- "Configuring the e-mail resources"
- "Working with the e-mail feature"

14.2 Configuring the e-mail options

Use the e-mail options to configure the default settings for the e-mail feature. For details, see the following topics:

- Section 14.2.1, “Configuring the default e-mail routing strategy, queue, and addresses”, on page 237
- Section 14.2.2, “Configuring the e-mail error queue settings”, on page 238
- Section 14.2.3, “Configuring the e-mail routing schedule”, on page 238
- Section 14.2.4, “Configuring the e-mail message settings”, on page 240
- Section 14.2.5, “Displaying the e-mail confidence levels”, on page 241

NOTE: To configure any of the e-mail options, you must have Full or Modify access for the associated Manager permission.

14.2.1 Configuring the default e-mail routing strategy, queue, and addresses

You must specify the following defaults for the e-mail feature:

- **Routing strategy workflow** – The routing strategy workflow that is initially used to route all e-mail messages in the contact center. You can configure the default routing strategy workflow to link to subsequent routing strategy workflows, if required.
- **Queue** – The queue that you want to use as the default option for the no match found (*) entry in a Destination Table component.
- **Incoming e-mail address** – The default e-mail destination for all incoming e-mail messages.

Before configuring these settings, be sure to create the routing strategy workflow (see Section 9.4, "Configuring a routing strategy workflow", on page 168), queue (see Section 10.2, "Configuring a queue", on page 177), and e-mail destinations (see Section 14.1.5, "Configuring an e-mail destination", on page 234) that you want to use as the defaults.

To configure the default e-mail routing strategy, queue, and addresses:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **E-mail**.
3. On the **General** tab, under **Default**, do the following:
   - In the **Routing strategy** list, select the e-mail routing strategy you want to use to initially route all e-mail messages.
   - In the **Queue** list, select the e-mail queue that you want to use as the default option for the no match found (*) entry in a Destination Table component.
   - In the **Incoming e-mail address** list, select the e-mail destination that you want to use as the default e-mail address for all incoming e-mail messages.
   - In the **Outgoing e-mail address** list, select the e-mail destination that you want to use as the default e-mail address in the From list when a user creates an outgoing e-mail message. Only the e-mail destinations for which you have selected the **Available for outgoing** option are available in the list. If you select **<None>**, the user will be forced to select a From address before sending the e-mail message.
4. Click **OK**.

Related topics

- "Configuring the e-mail options"
- "Working with the e-mail feature"

14.2.2 Configuring the e-mail error queue settings

The error queue is the queue to which e-mail messages are routed in the case of recoverable system errors. Recoverable system errors are errors generated by the OpenScape Contact Center servers that cannot be handled by the **Exit on error** option provided in some of the workflow components. If the system detects a recoverable system error in a routing strategy workflow, the e-mail message is routed to the error queue where it can then be routed to an appropriate user.

To configure the e-mail error queue:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **E-mail**.
3. On the **General** tab, under **Error**, do the following:
   - In the **Queue** list, select the queue to which contacts are directed in the case of recoverable errors.
   - In the **Description** box, type a description for the error queue.
4. Click **OK**.

Related topics

- "Configuring the e-mail options"
- "Working with the e-mail feature"

14.2.3 Configuring the e-mail routing schedule

The e-mail routing schedule restricts the hours of operation during which e-mail messages can be sent and received within the contact center. You can configure the default schedule, as well as exceptions to the default schedule.

To configure the e-mail routing schedule:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **E-mail**.

3. On the **General** tab, under **Schedule**, click **Edit Schedule**.

4. In the **E-mail Routing Schedule** dialog box, double-click the day you want to configure, and then edit the active time range for the day.

> ***NOTE:*** You can also drag the start or end point of an active range to change the range.

5. Optionally, click the **Exceptions** tab to create an exception to the default schedule. An exception overrides the schedule for the entire day.

   a) On the calendar, click the day for which you want to schedule an exception, for example, a national holiday. The **Default** row shows the default schedule for that day.

   b) Select the **Override** check box.

   c) In the **Override** row, double-click a cell, edit the active time range for the override schedule, and then click **OK**.

6. Use the **Summary** tab to view the schedule by status or by day of the week.

   - To see the days and times when the schedule is active or inactive, expand **By Status**, and then click **Active** or **Inactive**, respectively.

   - To see the schedule for that day, expand **By Day**, and then click the day of the week.

   - To see the configured exceptions to the default schedule, click the **Exceptions** folder.

7. Click **OK**.

Related topics

- "Configuring the e-mail options"
- "Working with the e-mail feature"

14.2.4 Configuring the e-mail message settings

You can configure the default prolog, signature, labels and so on, for e-mail messages.

Before you begin, you must create the Prolog and Signature templates that you want to use in your e-mail messages (see Section 14.1.4, "Configuring an e-mail template", on page 230).

To configure the e-mail message settings:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **E-mail**.
3. Click the **Settings** tab.
4. Under **E-mail Message Settings**, do the following:
   - In the **Prolog** list, select the Prolog template that you want to use as the default prolog to an e-mail message.
   - In the **Signature** list, select the Signature template that you want to use as the default e-mail signature.
   - In the **Original message label** box, type the text that you want to appear above the original e-mail message when the user replies to an e-mail message, for example, **Original Message:**.
   - In the **Conversation ID label** box, type the text that you want to appear in front of the Conversation ID when the user replies to an e-mail message. The Conversation ID is an identifier inserted by the OpenScape Contact Center E-mail Server to identify the message thread.
   - In the **Reply prefix** box, type the text that you want to appear at the beginning of the Subject line when the user replies to an e-mail message, for example, **Re:**.
5. Under **Deferred E-mail Messages**, do the following:
   - In the **Maximum number** box, type or select the maximum number of e-mail messages that can be deferred by each user. This number can be exceeded when e-mail messages are automatically deferred by the system.
   - In the **Automatic defer time** box, type or select the amount of time in days, hours and minutes, after which an active e-mail message is automatically deferred. When an e-mail message is

automatically deferred, the user is placed in Unavailable routing state and the draft response (if one exists) is automatically saved.

- In the **Maximum defer time** box, type or select the maximum amount of time in days, hours and minutes, for which an e-mail message can be deferred. After this time has expired, the e-mail message is automatically requeued by the OpenScape Contact Center E-mail Server.

6. Under **Consulted E-mail Messages**, in the **Maximum consult time** box, type or select the maximum amount of time in days, hours and minutes, for which an e-mail message can be sent for external consultation. After this time has expired, the e-mail message is automatically requeued by the OpenScape Contact Center E-mail Server.

NOTE: When a user externally consults on an e-mail message, the reply is reserved for the user who initiated the consultation, and will be routed to that user ahead of all other contacts regardless of their priority in the queue.

IMPORTANT: Since the OpenScape Contact Center E-mail Server does not filter the e-mail messages for viruses, the corporate e-mail server should provide virus protection.

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7. Click **OK**.

Related topics

- "Configuring the e-mail options"
- "Working with the e-mail feature"

14.2.5 Displaying the e-mail confidence levels

You can choose to display confidence levels that are associated with e-mail categories. Confidence levels are used to express a level of certainty. They provide an additional and more precise means of categorizing e-mail messages for subsequent routing to the appropriate queue. When you turn on confidence levels, you can specify a confidence level for each e-mail category that you use to configure an expression in a Category Decision component. For details, see "Building a category decision expression".

IMPORTANT: Displaying e-mail confidence levels is a one-way operation. The system cannot be converted back after it has been changed.

The E-mail Server uses a default interface to categorize incoming e-mail messages. When displaying e-mail confidence levels, we recommend the use of a custom categorizer. The confidence levels returned by the default categorizer are simply occurrence ratios – they are not technically confidence levels. An occurrence ratio is calculated as the total number of occurrences in the e-mail message of any keywords defined for the category, divided by the total number of occurrences in the e-mail message of all keywords defined for any category. For example, if the sales category is found two times within an e-mail message, and three other categories are found within the e-mail message, the confidence level will be returned as 2/5 or 40%. For this reason, we recommend that you do not display confidence levels when using the default categorizer.

Custom categorizers are in the form of a .dll file.

NOTE: For more information in this area, contact your service representative.

To display confidence levels:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **E-mail**.
3. Click the **Advanced** tab.
4. Under **Confidence Levels**, click **Display Confidence Levels**.
5. In the **Enable Confidence Levels** dialog box, under **Do you want to show confidence levels?**, select **Yes**, and then click **OK**.
6. When the system prompts you to confirm that you want to enable confidence levels, click **Yes**. The system turns on confidence levels.
7. Under **Categorization**, select **Use custom categorizer**, and then specify the path and file name of the .dll file you want to use. You can click ... to locate the file you want to use.
8. Click **OK**.

Related topics

- "Configuring an e-mail category"

- "Configuring the e-mail options"
- "Working with the e-mail feature"

14.3 Conducting an e-mail history search

You can generate a list of e-mail messages that have been handled by the contact center over a specified time interval. You can search by e-mail message state, as well as by more specific parameters such as the Conversation ID, the handling user, the source or destination e-mail address, or the subject line. The resulting list allows you to open, view, and potentially resend the e-mail messages.

NOTE: To conduct an e-mail history search, you must have the **Perform e-mail history searches** Manager permission.

To conduct an e-mail history search:

1. On the **Actions** menu, click **E-mail History Search**.
2. Under **Date and Time**, do the following:
   - In the **Start** area, select the start date and time for the interval the search is to cover.
   - In the **End** area, select the end date and time of the interval.
3. Under **Status**, select the check box for each e-mail message state you want to search for.
4. Optionally, under **Advanced Parameters**, do the following for each parameter you want to use to refine your search:
5. Click a cell in the **Parameter** column and select one of the options from the list.
6. In the **Value** column, type or select the value that corresponds to the Parameter you selected. For example, if you select **Subject Line**, type the text that appears in the subject line of the e-mail messages you want to search for.
7. On the **Actions** menu, click **Find Now**.

NOTE: Email History Search performs the search on the original emails and not on the whole conversation history (for example, Externally forwarded e-mails)

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15 Configuring other global options

An OpenScape Contact Center configuration includes a number of options (such as application settings, intervals, calculations, and scheduled events) that impact routine operation, reporting, and the level of service experienced by customers. Initially, most customers start by using the default settings for many of these options, but you can reconfigure the settings at any time. You configure the settings globally, although you can override some settings in queues and routing strategy workflows.

IMPORTANT: Contact your service representative before making significant changes to the threshold and interval settings configured in your database.

To configure the options:

1. On the **Tools** menu, click **Options**. The Options dialog box is displayed.
2. In the left pane, click the category for which you want configure the options. Your choices are:
   - "Configuring the personal options"
   - "Configuring the user reporting options"
   - "Configuring the advanced options"
   - "Configuring the system options"
   - "Configuring the application options"
   - "Configuring the contact lookup options"
   - "Configuring the routing options"
   - "Configuring the Call Director options"
   - "Configuring the data management options"
   - "Configuring the statistics options"
   - "Configuring the system reporting options"
   - "Configuring the voice options"
   - "Configuring the callback options"
   - "Configuring the e-mail options"
   - ""

15.1 Configuring the personal options

You can configure several personal options, including:

- The appearance and behavior of the Manager application, such as the display of the Index bar.
- The display of system messages in the Messages window and in the status bar. The status bar is located at the bottom of the main Manager application window.
- The notification method used to indicate when a threshold in a real-time or cumulative report is reached.
- The default user template to be used when creating a new user. For more information on user templates, see Section 4.2, "About user templates", on page 37.

You can also configure the confirmation options (see Section 15.1.1, "Configuring the confirmation options", on page 247).

To configure the personal options:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **User Settings**, click **Personal**.
3. On the **General** tab, under **Show**, select the check boxes for the items you want to show:
   - **Index bar** – Displays the Index bar, which allows you to select from a subset of items in a list. To display the letters on the Index bar that have entries associated with them in bold text, select the **Display active Index bar letters in bold** check box.
   - **ToolTips** – Displays the function of the toolbar buttons in the Manager application window when you hold your mouse pointer over the button. This setting overrides the setting of the **Show ToolTips on toolbars** check box on the Options tab of the Customize dialog box. For details, see "Configuring temporary toolbar and menu options".
   - **Record hints** – Displays a description of the selected record. Record hints are displayed above the right pane in the main Manager application window.
4. Under **Messages**, do the following:
   - To specify the length of time system messages are displayed in the status bar, type or select the number of seconds in the **Hide status bar messages after** box.

- To have the application display the system messages in a separate window when they occur, select the **Display System Message window when new messages occur** check box. If you do not select this option, the system messages are recorded, but the window does not open.

NOTE: To view the System Messages window, on the **View** menu, click **System Messages**.

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5. Under **When a Threshold is Reached**, select the **Flash title bar or taskbar icon if Real-time Viewer is hidden or minimized** check box if you want the Real-time Viewer to flash when a threshold is reached. If the Real-time Viewer is hidden, the title bar will flash, and if the Real-time Viewer is minimized, the taskbar icon will flash.
6. Under **Default User Template**, in the **Select template** list, select the user template that you want to use as the default. The default template is used when you create multiple users and a user template is not specified. For details, see Section 4.2.5, "Creating multiple users by importing a text file", on page 44.
7. Click **OK**.

15.1.1 Configuring the confirmation options

You can configure the application to prompt you for confirmation when you perform various actions such as deleting a record or exiting the application.

To configure the confirmation options:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **User Settings**, click **Personal**.
3. Click the **Confirmations** tab.
4. Under **Show Confirmations When**, select the check box for each action that you want the Manager application to prompt you for:
   - **Deleting records** – The application will ask if you are sure you want to delete the record (that is, a resource or definition in one of the application centers).
   - **Exiting the Manager application** – The application will ask if you are sure you want to exit the application.

- **Removing a report from a report view** – The application will ask if you are sure you want to remove the report from the report view.
- **Historical reports were completed** – When you log on, the application will inform you that historical reports were completed while you were logged off.
- **Report changes cause thresholds to be deleted** – When you change a report (that is, change the report type, the resource reported by, the resource selected by, or the type of activity reported on), the application will inform you that the currently defined thresholds for the report will be deleted as a result of the change.
- **Report was successfully submitted** – The application will inform you that the report was successfully submitted to the Scheduler.
- **Background operations were completed** – The application will inform you when a background operation (such as deleting multiple users) is complete.

5. Click **OK**.

15.2 Configuring the advanced options

You can configure various advanced user-related options for the Manager application.

Related topics

- "Configuring the diagnostic settings"
- "Changing the password"
- "Restoring the default settings"

15.2.1 Configuring the diagnostic settings

You can configure the Manager application to log messages to a diagnostic file, which your administrator or service technician can use to track the operations of the applications and resolve problems, such as why an application disconnected from an OpenScape Contact Center server. You can turn diagnostic logging on and off, and also configure the contents of the diagnostic file. You should need to configure the contents only if problems occur within your contact center.

To turn diagnostic logging on:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **User Settings**, click **Advanced**.
3. Under **Diagnostics**, select the **Turn diagnostic logging on** check box.
4. Click **OK**.

To configure the diagnostic file contents:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **User Settings**, click **Advanced**.
3. Under **Diagnostics**, click **Details**. The **Diagnostics** dialog box is displayed.

   NOTE: The diagnostic files are saved to the folder specified in the **Location** box.

4. Under **Levels**, select the check box for each diagnostic level you want to include in the file:

   NOTE: By default, when you start any application, the **Event**, **ActiveX Component**, and **Function Entry/Exit** diagnostic levels are selected.

   - **Warning** – Saves messages related to errors that do not break down the connectivity.
   - **Information** – Saves messages related to normal connectivity operations.
   - **Event** – Diagnostic trace of event.
   - **ActiveX Component** – Saves messages related to OCX operations.
   - **Function Entry/Exit** – Diagnostic trace of the code workflow.
5. Click **OK**.

15.2.2 Changing the password

An administrator will provide you with a user name and password for logging on to the Manager application. For security, you should change your password the first time you log on, and then change it periodically to conform to security policies at your site. This guideline also applies to the default Master Administrator password. For more information on the Master Administrator user account, see Section 3.2.1, “About the Master Administrator”, on page 23.

To change the password:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **User Settings**, click **Advanced**.
3. Under **Password**, click **Change**.
4. In the **Change Password** dialog box, do the following:
   a) In the **Old Password** box, type your current password.
   b) In the **New Password** box, type your new password.
   c) In the **Confirm new password** box, retype your new password to verify that you entered it correctly.
   d) Click **OK**.
5. Click **OK**.

15.2.3 Restoring the default settings

You can restore certain user settings, such as custom shortcuts, toolbars and colors, to the default settings provided when you first installed the application.

To restore the default settings:

1. On the **Tools** menu, click **Options**.
2. Click the **Advanced** tab.
3. Under **Default Settings**, click **Restore**.
4. Under **Features**, do the following:
   a) Select the check boxes for the features you want to restore to the default settings.
   b) Clear the check boxes for the features that you do not want to restore to the default settings.

c) Click **OK**.

5. Click **OK**.

15.3 Configuring the system options

You can configure various system options related to the contact center.

NOTE: To configure any of the system options, you must have Full or Modify access for the associated Manager permission.

Related topics

- "Configuring the general system settings"
- "Activating product features"
- "Configuring the e-mail server settings"
- "Configuring the Web server settings"
- "Configuring the enhanced security option"

15.3.1 Configuring the general system settings

You can configure general system settings, such as the information related to the contact center's site and technical support, and the location of the ShareData folder.

The ShareData folder is a repository for storing and transferring various items in the contact center, such as design databases, historical reports, .wav files, and XML data.

IMPORTANT: We strongly recommend that you do not change the default location of the ShareData folder. Locating the ShareData folder on a machine other than the main server machine can adversely affect system performance. If it is absolutely necessary to change the default location, it should be changed only by your service representative.

To configure the general system settings:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **System**.
3. Under **Profile**, in the **Site** box, type the name of your contact center. This name appears on reports about the contact center, and when you monitor servers.
4. Under **Contact**, do the following:
   - In the **Name** box, type the name of the person responsible for the operation of the contact center. This person is usually the administrator who configures the OpenScape Contact Center database and provides technical support.
   - In the **Telephone number** box, type the telephone number for the person responsible for the operation of the contact center.
5. Under **ShareData**, in the **Location** box, type the path and name of the ShareData folder. This folder is usually located on the main server machine.
6. Under **360° Customer View**, check the **Enable** checkbox to activate the feature.
7. Click **OK**.

15.3.2 Configuring the e-mail server settings

Incoming e-mail messages are routed through the corporate e-mail server to the OpenScape Contact Center E-mail Server. The corporate e-mail server and the OpenScape Contact Center E-mail Server communicate using the IMAP4 protocol. Message attachments are retrieved using separate IMAP4 and MIME functions.

Outgoing e-mail messages are distributed using an SMTP interface. This includes completed historical reports that are distributed as attachments to e-mail messages. For more information, see Section 7.11.5, “Configuring the e-mail reports option”, on page 131.

IMPORTANT: When you are connected to the production database, if you change the e-mail server settings, you will be required to restart the OpenScape Contact Center E-mail Server on the main server machine.

To configure the e-mail server settings:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **System**.
3. Click the **E-mail Settings** tab.
4. Under **Corporate IMAP Server**, do the following:
   - In the **Host name** box, type the host name (or FQDN) of the machine where the IMAP server resides.
   - In the **Port number** box, type the port number of the IMAP server.
   - To secure the connection, select the **Use TLS** check box.
   - In the **User name** box, type the user name needed to log on to the IMAP server, for example, OSCCEmail.
   - In the **Password** box, type the password needed to log on to the IMAP server.
   - In the **Confirm password** box, retype the password to confirm that you entered it correctly.
   - In the **Maximum IMAP sessions** box, type the maximum number of allowed IMAP sessions. The value **0** means not limited.

   NOTE: Set the parameter **Maximum IMAP sessions** to 20 if the e-mail server is Office365.

5. Under **Corporate SMTP Server**, do the following:
   - In the **Host name** box, type the host name (or FQDN) of the machine where the SMTP server resides.
   - In the **Port number** box, type the port number of the SMTP server.
   - To secure the connection, select the **Use TLS** check box.
   - In the **Authentication** list, select one of the following:
     - **None** – Do not use any authentication.
     - **Use IMAP settings** – Use the same user name and password specified for the IMAP server.
     - **Use settings below** – Use the user name and password specified in the following boxes. The following three options are available only if you select this option.

- In the **User name** box, type the name of the user needed to log on to the SMTP server.
- In the **Password** box, type the password needed to log on to the SMTP server.
- In the **Confirm password** box, retype the password to confirm that you entered it correctly.
- In the **Heartbeat e-mail address** box, type a valid e-mail address that the SMTP server must be capable of using as the From address when creating a new e-mail message (for example, the outgoing e-mail address specified in the general e-mail options).
- In the **Message rate limit** box, type the maximum number of outgoing messages that can be processed per minute. You can enter a value between 0 and 1000. The default value is 0 and indicates that there is no limit.

IMPORTANT: We strongly recommend that you do not change the message rate limit from the default value of 0 unless you are using Microsoft Office 365 as the corporate e-mail server.

6. Click **OK**.

15.3.3 Configuring the Web server settings

The Web Interaction Server communicates with the corporate Web server to provide a direct interface for Web callbacks.

This section describes how to configure an unsecured port and a secured (TLS-enabled) port that the Web Interaction Server can use to connect to the corporate Web server. You have the option to configure one port or both ports.

IMPORTANT: When you are connected to the production database, if you change either of the port numbers, you will be required to restart the Web Interaction Server on the main server machine.

NOTE: Ensure that the port numbers you configure in the Manager application match the port numbers configured on the corporate Web server. For details, see the *System Management Guide*.

If you want to secure the connection between the Web Interaction Server and the corporate Web server, the system can be configured to use TLS certificate-based authentication.

To complete the TLS configuration, you must also do the following:

- Install a TLS certificate on the main server machine. For details, see the *Installation Guide*.
- Enable TLS security on the corporate Web server. For details, see the *System Management Guide*.
- Select a TLS-enabled port for the Web connection. For details, see Section 13.3.3, "Configuring the Web callback settings", on page 220.

NOTE: We recommend that you do not select an TLS-enabled port until all other Web Interaction Server configurations are complete.

To configure the Web server settings:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **System**.
3. Click the **Web Settings** tab.
4. Under **Port Settings**, do the following:
   - In the **Port number** box, type the number of the unsecured port that the Web Interaction Server uses to communicate with the corporate Web server.
   - In the **Port number (TLS)** box, type the number of the TLS-enabled port that the Web Interaction Server uses to securely communicate with the corporate Web server.
5. Click **OK**.

15.3.4 Configuring the enhanced security option

The enhanced security feature allows you to restrict access to the following resources to authorized personnel only:

- Users
- User templates
- Groups

- Departments
- Locations
- Profiles
- Call Director components (when Call Director is licensed)
- .wav files

When the option is enabled, the dialog boxes related to the applicable resources contain an additional Security tab where you can configure the security settings for the resource.

When you first enable the enhanced security option, only the Master Administrator user is able to access the applicable resources. For details on the Master Administrator user, see Section 3.2.1, "About the Master Administrator", on page 23.

To configure the enhanced security option:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **System**.
3. Click the **Advanced** tab.
4. Under **Enhanced Security**, select or clear the **Enable** check box, as required.
5. Click **OK**.

15.3.5 Configuring the network communication settings

You can configure the network communication settings for the OpenScape Contact Center components to use the Transport Layer Security (TLS) 1.2 protocol for encryption.

To configure the network communication settings:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **System**.
3. Click the **Advanced** tab.
4. Under **Network Communications**, do the following:
   a) In the **Encryption setting** box, select one of the following:
      - **Disabled** – Rejects any attempt to use TLS 1.2 encryption. The network communication will be unencrypted.

- **Allowed** – Accepts any attempt to use TLS 1.2 encryption. The network communication will be encrypted if requested.
- **Required** – Only accepts requests to use TLS 1.2 encryption for network communication.

NOTE: The **Required** encryption setting is not supported when using the OpenScape Contact Center IVR API integration.

b) In the **Cipher suite** box, select one of the following:

- TLS_RSA_WITH_AES_128_GCM_SHA256
- TLS_RSA_WITH_AES_256_GCM_SHA256
- TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
- TLS_ECDHE_RSA_WITH_AES_1256_GCM_SHA256

NOTE: The default encryption setting is **Disabled** and the default cipher suite is **TLS_RSA_WITH_AES_128_GCM_SHA256**.

5. Click **OK**.

15.4 Configuring the application options

The application options affect the operation of the Manager application. When you configure these options, the settings are implemented for all users in the contact center.

You can configure:

- The interval at which OpenScape Contact Center automatically refreshes information in the Manager application.
- The time-out interval for the Master Administrator account in the Manager application.
- The Broadcaster settings. For details, see Section 15.5, “Configuring the contact lookup options”, on page 259.

NOTE: To configure any of the application options, you must Full or Modify access for the associated Manager permission.

To configure the application options:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Application**.
3. Under **Contacts Waiting Indicator**, do the following for each media type:
   - In the **On** box, type the minimum number of contacts required to turn the indicator on.
   - In the **Slow flash** box, type the minimum number of contacts required to make the indicator flash slowly.
   - In the **Fast flash** box, type the minimum number of contacts required to make the Indicator flash quickly.
4. To use a key position on the telephone for the Contacts Waiting Indicator, select the **Use key position on telephone keypad** check box, and then in the **Position** box, type the integer that represents the key position you want to use. The default value is 25. or To select a different key position, refer to the communication platform documentation. Ensure that you do not select a key position that is already assigned to a communication platform feature.
5. Under **Manager Settings**, in the **Real-time refresh interval** box, type or select the number of seconds between data updates in the Manager application. Various statistics used in real-time and cumulative reports and visible properties in the application are refreshed at the specified interval. The default value is 30 seconds.

   NOTE: When setting the Manager real-time refresh interval, you should consider the system hardware and the volume of contacts in the contact center. For example, you should not use a low refresh rate such as 5 seconds if your hardware meets only minimum requirements and you have high contact volume. A refresh rate of 10 seconds or even 15 seconds will improve system performance.

6. Under **Manager Settings**, in the **Time-out** box, type or select the number of minutes of inactivity that can elapse before the Master Administrator account is automatically logged off. The default value is 60 minutes.
7. Click **OK**.

15.4.1 About the Contacts Waiting Indicator

The Contacts Waiting Indicator enables the user to gauge the number of contacts waiting for the user. It has three states: on, slow flash, and fast flash. As the number of contacts waiting for the user increases, the indicator moves through the three states.

You can configure the Contacts Waiting Indicator for each media type. For example, if you configure the three states as 1, 5, and 10 contacts:

- The indicator will be bright constantly when the number of contacts waiting is between 1 and 4.
- The indicator will flash slowly when the number of contacts waiting is between 5 and 9.
- The indicator will flash quickly when the number of contacts waiting is higher than 10.

NOTE: The Contacts Waiting Indicator shows reserved contacts if the reserved contact is for the user.

15.5 Configuring the contact lookup options

You can configure the Manager application in order for the Agent Portal Web applications to search in a specified directory when a contact is received and try to match an element from the contact data to a selected directory field. The contacts in the directory that contain a matching field will be displayed on the Directory tab in the Contact Details window. This limits the contact data the user sees when a contact is received. Setting the search criteria appropriately can reduce the number of records that are searched. The response time will improve if the directory search is simple.

Before you begin, you must configure the directory that you want to search (see Section 5.5, “Configuring a directory”, on page 67).

NOTE: To configure the contact lookup options, you must have Full or Modify access for the **Directories** Manager permission.

To configure the contact lookup options:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Contact Lookup**.

3. Under **Directory**, in the **Directory** list, select the directory to be searched for contact data. Only the directories that have been configured in the Manager application are displayed in the list.

4. Under **Search**, do the following:

   a) In the **Media** box, select the media type for which you want to configure the search, for example, **Voice**.

   b) Select the **Enable** check box.

   c) In the **Directory field name to search** box, type the name of the directory field on which you want to search.

   d) Select the contact data you want to compare to the specified database field name. You can choose one of:

   - **Source** of the contact.
   - **Destination** of the contact.
   - **Contact data key**, that is, a key in the contact data. If you choose **Contact data key**, type the name of the key from the contact data that contains the value that will be used in the search.

   For example, if you want to search for all entries in the database where the field "Calling From" matches the source of the current contact, you would type the database field name that corresponds to the display name "Calling From" in the **Directory field name to search** box, and then select the **Source** option.

5. Click **OK**.

15.6 Configuring the data management options

You can configure the options related to the management of data in the contact center, including the data retention periods.

NOTE: To configure any of the data management options, you must have Full or Modify access for the associated Manager permission.

Related topics

- "Configuring the data maintenance time"
- "Adding a data location"
- "Configuring the retention periods for reporting data"
- "Configuring the retention period for e-mail data"

15.6.1 Configuring the data maintenance time

The data maintenance time is a specified time during the day when the application performs automatic data maintenance procedures. During this time, the system performs various tasks, such as calculating daily, weekly, and monthly statistics, and deleting information that has been kept longer than the specified data retention periods. You cannot create reports while the data maintenance procedures are being performed.

By default, the application is configured to export the existing administration data to a Microsoft Access database at data maintenance time. A new database, named according to the time the database was created, is exported at each data maintenance time and is saved in the AdministrationData folder in the ShareData folder. The last 30 databases are saved. These databases can be used by your service representative to troubleshoot problems with the system. The structure of these databases is identical to a design database.

To minimize the impact on contact center operations, you should configure data maintenance to occur when the contact center is closed or during its least busy period. Be sure to consider the time zones of remote locations. For details, see Section 15.6.1.1, “Effect of different time zones on data maintenance”, on page 262.

OpenScape Contact Center**To configure the data maintenance time:**

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Data Management**.
3. Under **Data Maintenance**, in the **Maintenance time** box, type or select the hour of the day when the system begins to perform data maintenance procedures. The minutes cannot be changed.

4. Ensure that the **Export administration data** option is selected.

IMPORTANT: The **Export administration data** option is enabled by default and should be disabled only under the direction of your service representative.

5. Click **OK**.

Related topics

- "Configuring the data management options"
- "Configuring the retention periods for reporting data"
- "Configuring the retention period for e-mail data"

15.6.1.1 Effect of different time zones on data maintenance

The OpenScape Contact Center system allows you to run reports against different time zones. Because of this, we recommend that you ensure that the full day is complete at all locations that are in different time zones before data maintenance occurs. If the full day (or full week or full month) is not complete at all locations when the reporting statistics are calculated, reports that are based on the time zone of the user's location will not show any data for that day (or week or month). However, the data will be available the next day.

15.6.2 Adding a data location

To ensure that the system has enough data storage capacity, you should check the total data usage, and use the values provided to help you determine if you need to add a new data location.

NOTE: The Data Locations and Total Database Usage group boxes appear only when you are connected to a production database.

In the Data Management options, on the General tab under Total Database Usage, the following values are displayed as a guideline:

- **Maximum allowed space** – This is the maximum disk space allowed for data storage. This value cannot be changed.
- **Allocated space** – This is the total amount of disk space currently allocated by the system for data storage.
- **Estimated required space** – This is the amount of disk space currently estimated to be required for data storage, based on the current system usage and the total of the configured retention periods.

The new data location must be an internal hard disk drive that is intended exclusively for OpenScape Contact Center data storage. Before you begin, you must ensure that the disk drive you want to add is already installed.

NOTE: The System Monitor application displays a message when there is not enough disk space available to store the data that will be generated over the next two weeks or less. The estimation is based on the configured retention periods and the current system usage. You can also configure a notification to this effect. For details, see Section 5.3.3, “Configuring a notification”.

To add a data location:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Data Management**.
3. On the **General** tab, under **Data Locations**, click **Add**.
4. In the **Add Data Location** dialog box, select the disk drive you want to use for additional data storage.
5. Click **OK**.

Related topics

- "Configuring the data management options"
- "Configuring the retention periods for reporting data"
- "Configuring the retention period for e-mail data"

15.6.3 Deleting a data location

Before you can delete a specified OpenScape Contact Center data location, you must remove all data from the disk drive.

NOTE: The Data Locations and Total Database Usage group boxes appear only when you are connected to a production database.

To delete a data location:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Data Management**.
3. On the **General** tab, under **Data Locations**, select the disk drive in the table that you want to delete.
4. Click **Delete**.

15.6.4 Configuring the retention periods for reporting data

You can configure how long to store various OpenScape Contact Center reporting statistics and the error log.

The reporting statistics are described as follows:

- **Detailed statistics** – Detailed statistics include detailed contact and user statistics, and contact data. The following reports use the detailed statistics: user and source activity reports, contact and source historical reports, queue by user historical reports, and user by queue historical reports.
- **15-minute statistics** – Historical reports with no interval, 15-minute intervals, and hourly intervals, are generated using the 15-minute statistics.
- **Daily statistics** – Historical reports with daily intervals are generated using the daily statistics.
- **Weekly statistics** – Historical reports with weekly intervals are generated using the weekly statistics.
- **Monthly statistics** – Historical reports with monthly intervals are generated using the monthly statistics.

Under Database Usage for Reporting, the following values are displayed as a guideline:

- **Maximum allowed space** – This is the maximum disk space allowed for reporting data storage. This value cannot be changed.
- **Allocated space** – This is the total amount of disk space currently allocated by the system for reporting data storage.
- **Estimated required space** – This is the amount of disk space currently estimated to be required for reporting data storage, based on the current system usage and the specified retention period.

NOTE: The Database Usage for Reporting group box appears only when you are connected to a production database.

To configure the retention periods for reporting data:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Data Management**.
3. Click the **Reporting** tab.
4. Under **Retention Periods**, for each row in the table, click in the **Value** column and type a new value in the cell. You can also click ... to specify the retention period using the Retention Period Converter dialog box. For details, see "Specifying the retention period".
5. Under **Database Usage for Reporting**, the application updates the value of the **Estimated required space** based on your changes.
6. Click **OK**.

Related topics

- "Configuring the data management options"
- "Configuring the retention period for e-mail data"

15.6.5 Configuring the retention period for e-mail data

You can configure how long to store e-mail messages and contact information.

Under Database Usage for E-mail, the following values are displayed as a guideline:

- **Maximum allowed space** – This is the maximum disk space allowed for the storage of e-mail data. This value cannot be changed.
- **Allocated space** – This is the total amount of disk space currently allocated by the system for the storage of e-mail data.
- **Estimated required space** – This is the amount of disk space currently estimated to be required for the storage of e-mail data, based on the specified retention period.

NOTE: The Database Usage for E-mail group box appears only when you are connected to a production database.

To configure the retention period for e-mail data:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Data Management**.
3. Click the **E-mail** tab.
4. Under **Retention Period**, click in the **Value** column in the table, and type a new value in the cell. You can also click [...] to specify the retention period using the Retention Period Converter dialog box. For details, see "Specifying the retention period".
5. Under **Database Usage for E-mail**, the application updates the value of the **Estimated required space** based on your changes.
6. Click **OK**.

Related topics

- "Configuring the data management options"
- "Configuring the retention periods for reporting data"

15.6.6 Specifying the retention period

You can use Retention Period Converter dialog box to specify the length of time to store various data on the server machine. The application converts the value you specify to the units required in the Retention Periods table.

To specify the retention period:

1. Open the **Retention Period Converter** dialog box.
2. Under **Duration**, in the first **Retention period** box, type or select the retention value.
3. In the second **Retention period** list, select the required units. Your choices are **Days**, **Weeks**, **Months**, or **Years**.
4. Click **OK**.

15.7 Configuring the statistics options

The options you specify for the statistics affect the user performance calculations in the Manager application.

NOTE: To configure any of the statistics options, you must have Full or Modify access for the associated Manager permission.

Related topics

- "Configuring the service level interval"
- "Configuring the wait time"
- "Configuring the user calculation"
- "Configuring the shifts"
- "Configuring how contacts that are finished in Call Director or an IVR are considered"

15.7.1 Configuring the service level interval

The service level interval is a target set for the contact center to help monitor performance. The service level interval is the target amount of time within which a contact should be answered. This means that a contact should not wait in queue longer than the time specified to be considered answered successfully. You set the service level interval globally for each media type in the contact center; however, you can override this setting for a specific queue.

The application uses the service level interval to calculate the service level for all queues that route OpenScape Contact Center contacts. The service level is defined as the number of successfully answered contacts divided by the total number of contacts. The application calculates the service level based on the chosen service level calculation formula.

To specify the service level intervals:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Statistics**.
3. Under **Service Level Calculation**, for each **Media** type in the table, double-click the time and then type the time interval in which a user should be able to answer a contact. Note that the time interval for calls is in hours, whereas the time interval for callbacks and e-mail messages is in days.
4. Click **OK**.

15.7.1.1 Choosing the service level calculation formula

The application uses the service level interval to calculate the service level for all queues that route OpenScape Contact Center contacts. The application calculates the service level using one of four formulas, each of which defines “successfully answered contacts” and “total number of contacts” differently.

To choose the service level calculation formula:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Statistics**.
3. Click **Formula**.
4. In the **Service Level Calculation Formula** dialog box, under **Redirected Contacts**, select the **Include in service level calculations** check box if you want to include redirected contacts

in the formulas. Redirected contacts include calls redirected to an unmonitored device before being answered by a user, abandoned by the caller, or timed out.

5. Under **Details**, select the service level calculation formula you want to use to calculate the service level.For a description of the formulas, see the *Manager Administration Guide*.
6. Click **OK**.

15.7.2 Configuring the wait time

By default, wait time starts when a contact is placed in a queue. You can specify whether to include the time before a call is enqueued (such as when the contact is in an IVR) or the time when a callback or e-mail message is suspended by the system. This is reflected in the wait time statistics used in reporting.

The wait time includes the time a contact spends reserved for a specific user while enqueued. Reserved contacts that remain unanswered before proceeding to the queue steps could adversely affect the service level calculation. For more information, see Section 8.2.1, “Configuring the manual reserve time”, on page 158, and Section 15.7.1, “Configuring the service level interval”, on page 268.

To configure the wait time:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Statistics**.
3. Under **Wait Time**, do the following:
   - To have the wait time start when the call arrives at the first monitored resource, such as an IVR extension, select the **Include time before enqueue** check box. When this option is cleared, the wait time starts when the call is enqueued. This option only applies to calls.
   - To include the time when the contact is suspended by the system, select the **Include system suspended contacts** check box. The system suspends the routing of e-mail messages and callbacks when the current time is outside the configured routing schedule for the media type. This option only applies to e-mail messages and callbacks.
4. Click **OK**.

15.7.3 Configuring the user calculation

Statistics are monitored for every OpenScape Contact Center user who handles contacts. These statistics include the time spent in each state and utilization.

Utilization is the percentage of logged on time that a user spends handling routed contacts or otherwise working (for example, attending meetings):

> Utilization = (Routed Handling time + Busy time) ÷ Logged on time * 100

You can choose to include the time a user spends in Idle state in the Utilization calculation. For more information on the definition of user statistics, see the *Reporting Reference Guide*.

You can also specify the amount of time that must pass after a user contacts another person at the site, for the contact to be considered a consultation.

To configure the user calculation:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Statistics**.
3. Under **User Calculations**, do the following:
   - In the **Consider consultation after** box, type or select the number of seconds that must be exceeded after a user contacts another person at the site, for the contact to be considered a consultation.
   - To include the time that a user spends in Idle state in the Utilization calculation, select the **Include idle time in utilization** check box.
4. Click **OK**.

15.7.4 Configuring how contacts that are finished in Call Director or an IVR are considered

If the OpenScape Contact Center system has Call Director or an IVR as a front end, or if a contact is transferred to Call Director or an IVR from within a routing strategy workflow, the contact can be finished in Call Director or the IVR before it is enqueued. This can happen in two ways: by Call Director or the IVR disconnecting, or by the caller abandoning.

You can specify whether contacts that are finished in this way are considered as Answered or Abandoned. For example, if a customer gets all the information the customer needs from the IVR and then hangs up, you would want this to be considered Answered rather than Abandoned. Contacts that are redirected out of scope are also considered Answered when this option is enabled.

Contacts that finish in Call Director or an IVR while they are enqueued are considered Abandoned, regardless of this setting value.

To configure how contacts that are finished in Call Director or an IVR are considered:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Statistics**.
3. To consider the contacts that are finished in Call Director or an IVR as Answered, under **Call Director or IVR**, select the **Consider finished in Call Director or IVR as Answered** check box. If you do not select this option, these contacts will be considered as Abandoned.
4. Click **OK**.

15.7.5 Configuring the shifts

The real-time statistics are calculated for contacts based on time periods in the contact center normally defined as shifts. At the start of a shift, the real-time statistics for your contact center are set to 0 to start calculating new real-time statistics.

You can have a maximum of three shifts in a 24-hour period. You must specify the Shift 1 start time; the other two start times are optional. By default, the start time for Shift 1 is 00:01 (one minute past midnight). With only one shift configured, your site will have one 24-hour data set per day. The times are entered using the 24-hour clock.

The reports and views in the Manager application show the real-time statistics for the current shift only.

To configure the shift start times:

1. On the **Tools** menu, click **Options**.
2. In the left pane, under **System Settings**, click **Statistics**.
3. Click the **Shifts** tab.
4. Under **Shifts**, type or select the start time for **Shift 1**. By default, the **Shift 1** check box is selected and cannot be cleared.
5. To configure additional start times, select the check box next to the **Shift** label, and then type or select the required start time.
6. Click **OK**.

NOTE: To delete a shift start time, clear the check box next to the shift you want to delete.

7.

16 Microsoft CRM integration

The OpenScape Contact Center system can integrate with Microsoft CRM 1.2 or Microsoft Dynamics CRM 3.0. The integration allows to open a Microsoft CRM screen based on user permissions and the presence of specific contact data key/value pairs associated with a call.

16.1 Microsoft CRM user requirements

Each user for which the Microsoft CRM integration is to be enabled:

- Must have an account with access to the Microsoft CRM server machine.
- Must have the Microsoft CRM Integration software installed.

With these prerequisites satisfied, the user definition set up in the Manager application must be modified.

To enable a user for Microsoft CRM integration:

- When configuring the user definition, on the **Permissions** tab, set the **Enable Microsoft CRM integration** User permission to **Yes**. For details, see Section 4.1.2, "Configuring the user permissions", on page 28.

NOTE: We strongly recommend that identical user names be used in OpenScape Contact Center and Microsoft CRM configuration.

16.2 Microsoft CRM routing strategy workflow considerations

Whether a Microsoft CRM screen pop will be displayed in the Client Desktop application when a contact arrives depends on the presence of specific key/value pairs in the contact data associated with the incoming contact. Components that write to the contact data, such as a Contact Data Update component, can be configured to include this information in a routing strategy workflow.

To pop a Microsoft CRM form, the contact data for a call must include a MS_CRM_MATCH key/value pair, a MS_CRM_NOMATCH key/value pair, or both. In addition, if you use the Account or Case options with these keys, you can use the MS_CRM_ACC_NUM and MS_CRM_CASE_NUM key/value pairs to include a Case number or Account number for matching purposes. The following table provides details on these key/ value pairs.

NOTE: If a search matches multiple entries in the Microsoft CRM database, an Advanced Find window opens. The user can then enter search parameters manually to try to qualify the correct caller record.

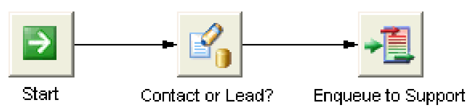
Key	**Purpose and legal values**
MS_CRM_MATCH	Specifies the form type displayed when information collected for the current contact matches a Microsoft CRM database record, as follows: • **Contact** – Pops a Contact form if the ANI associated with the contact matches the Business Phone, Home Phone, Mobile Phone, Fax, Pager, or Phone fields of a record in the Microsoft CRM database. • **Lead** – Pops a Lead form if the ANI associated with the contact matches the Business Phone, Home Phone, Mobile Phone, Fax, Pager, or Phone fields of a record in the Microsoft CRM database. • **Account** – P ops an Account form if the account number provided with the MS_CRM_ACC_NUM key matches an Account Number field of a record in the Microsoft CRM database. If no MS_CRM_ACC_NUM key is present, pops an Account form if the ANI associated with the contact matches the Business Phone, Home Phone, Mobile Phone, Fax, Pager, or Phone fields of a record in the Microsoft CRM database. • **Case** – Pops a Case form if the MS_CRM_CASE_NUM value provided matches an existing case number in a record in the Microsoft CRM database.
MS_CRM_NOMATCH	Specifies the type of form to be popped to the user if no match is found for the provided "MS_CRM_MATCH" specification or if no MS_CRM_MATCH is provided. The values you can provide are identical to those for the MS_CRM_MATCH key.
MS_CRM_ACC_NUM	Stores an account number used in conjunction with a MS_CRM_MATCH or MS_CRM_NOMATCH that specifies the **Case** option.
MS_CRM_CASE_NUM	Stores a case number used in conjunction with a MS_CRM_MATCH or MS_CRM_NOMATCH that specifies the **Account** option.

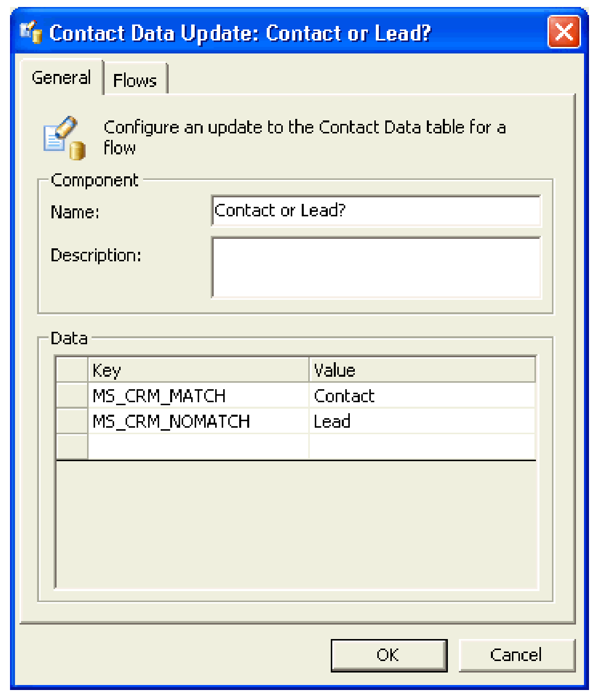
Table 5 Contact data key/value pairs

In a simple scenario, you may want to show one of two Microsoft forms:

- Display a populated Microsoft CRM Contact form if the ANI of an incoming contact matches a contact in your Microsoft CRM database.
- Display a new Lead form if no match is found.

The following diagram shows the routing strategy workflow and the configuration of the Contact Data Update component that sets the Microsoft CRM contact data key/value pairs for this scenario.

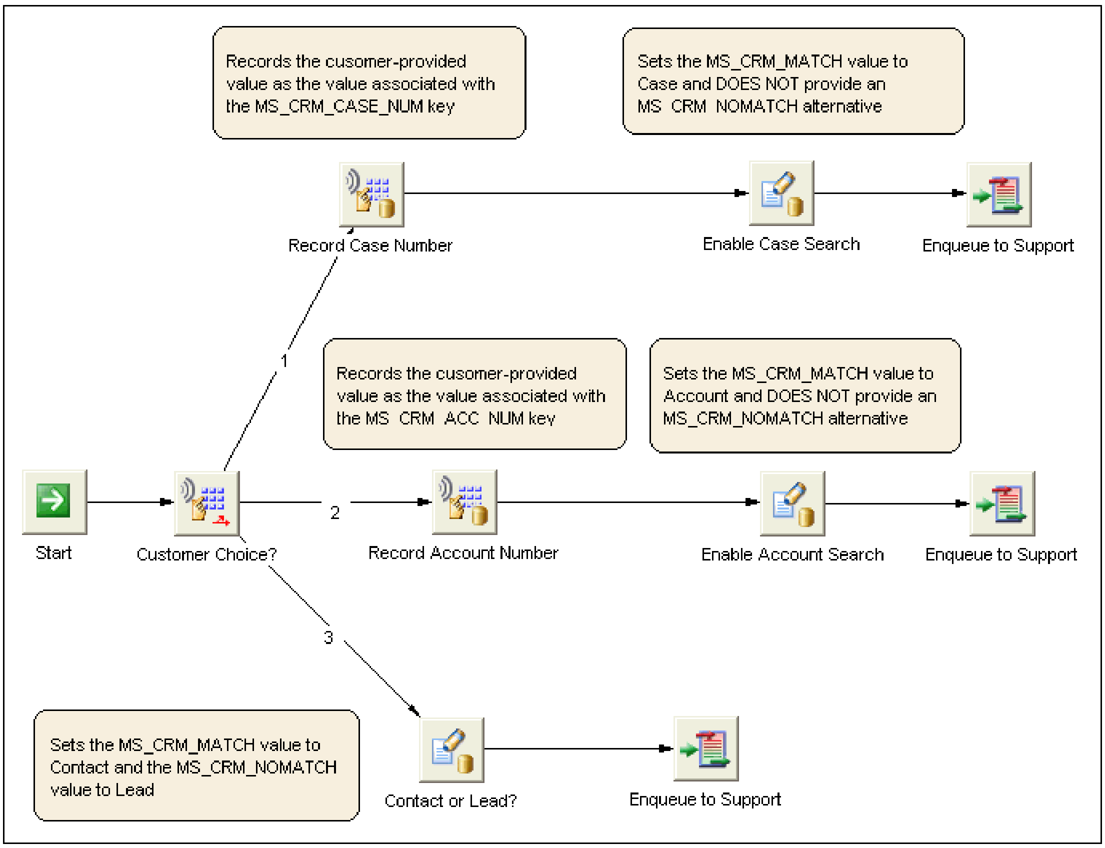




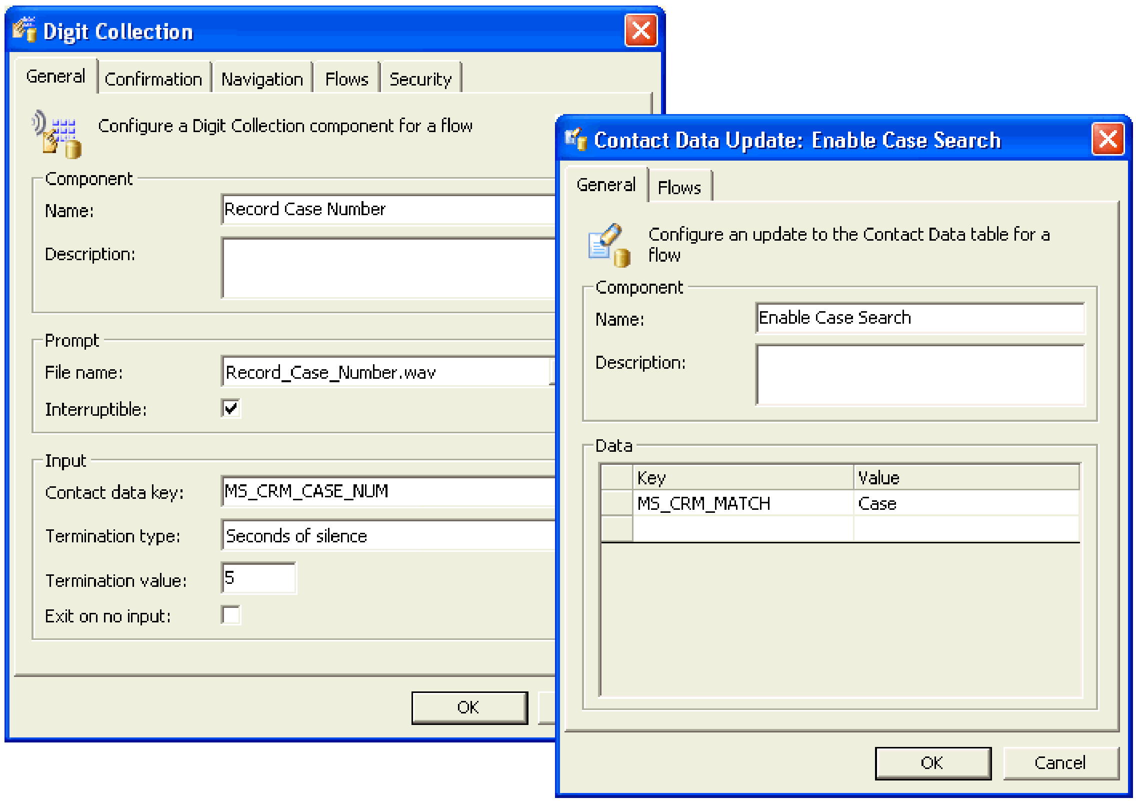
In a more complex scenario, you could initially use CallDirector menu prompts to offer a calling customer three choices:

- Offer the choice to enter a Case number. This would be useful when customers are provided a trouble ticket and subsequently call back to follow up on the issue. If the Case number matches a Case number in the Microsoft CRM database, a populated Case form is popped. If there is no match, the customer typed the number incorrectly for example, no form should be popped, forcing the user to locate the customer record manually.
- Offer the choice to enter an Account number. This would be the quickest way to have the user prepared to proceed where no Case number is involved. If the Account number matches an Account number in the Microsoft CRM database, a populated Account form is popped. If there is no match, no form should be popped, forcing the user to locate the customer record manually.

- Offer the choice to proceed without providing a Case number or Account number. If the ANI of the incoming call matches an ANI in the Microsoft CRM database, a populated Account form is popped. If there is no match, a Lead form should be popped, allowing the user to create a new record.



For the last option, component configuration is identical to that in the previous scenario. For the Account and Case number options however, since the Digit Collection components allow you to set only one contact data key/value pair, setting the relevant contact data key/value pairs must be performed in two steps. For example, the following diagram shows the key/value pair configuration for the **Record Case Number** and **Enable Case Search** components.



Note also that since a screen pop is not to be displayed if there is no matching Case number in the Microsoft database, the Enable Case Search component does not specify a MS_CRM_NOMATCH key/value pair.

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